



Japan faces many problems this decade, both domestic and foreign. One of the major domestic problems is that of the graying of the population. Compared to the populations of the United States and Europe, Japan's population is rapidly becoming middle-aged and older. According to the population age index (the proportion of people aged 65 and older as compared to those between the ages of 15 and 64) the proportion of middle-aged and older people was 8.3 in 1950. By 1980 this had grown to 13.4. The proportion is expected to rise to 16.8 in 1990, 20.1 in the year 2000 and 30.7 by 2010. In order to counteract the rising social and economic costs resulting from this aging, Japan must maintain a medium-speed growth rate (around 5%) centered on an expansion of domestic demand throughout the eighties.

Japan's work force is roughly expected to grow at an annual rate of 1% during the eighties, taking into consideration extend-

ed retirement age and the participation of women in the labor market. If employment opportunities are to be made available to these people, an economic growth rate of around 1% must be maintained. Since the end of the Second World War, a wage system based on seniority has firmly taken root in Japan. There have been some recent changes in this system, but if it does not break down completely, even if there is no increase in real wages, an annual growth rate of around 1% will still be necessary.

Also, as long as Japan offers economic assistance to other countries in the interests of better international relations and the development of the international community as a whole—thereby ensuring national economic security in a broad sense—a considerable amount of funds will have to be set aside.

Roughly speaking, an economic growth rate of around 3% is essential just to en-

sure the stability of Japanese society. If improvement of the standard of living is taken into account, a medium growth rate of around 5% appears necessary. Whether such a growth rate can be attained depends on problems of demand and energy supply. It will be necessary to seek economic growth mainly through an expansion of domestic demand if international trade frictions are to be avoided. There appears to be a strong growth potential for domestic demand. As regards energy, it seems quite possible to attain a 5% growth rate by developing and introducing alternative energy sources and by enforcing energy conservation measures.

(2) Future Prospects —Towards a Balanced Structure

How will Japan's industrial structure change as it pursues a medium growth rate based on domestic demand? As has al-

Table 2. One Industrial Structure Outlook

	(in 1975 prices, unit: ¥trillion)					
	FY 1970	FY 1975	FY 1979	FY 1980	FY 1990	1990/1980 growth rate
Agriculture, forestry & fishery	12.9 (4.8)	13.0 (3.9)	14.0 (3.4)	13.4 (3.2)	15.4 (2.3)	1.3
Mining	1.6 (0.6)	1.5 (0.4)	1.7 (0.4)	1.7 (0.4)	2.3 (0.3)	3.4
Basic materials	45.8 (17.0)	49.5 (14.9)	61.9 (15.3)	62.4 (14.9)	83.2 (12.4)	2.9
Other manufacturing	72.9 (27.0)	84.2 (25.3)	110.1 (27.1)	118.7 (28.4)	208.0 (30.9)	5.8
Processing & assembly	40.3 (14.9)	47.0 (14.2)	66.4 (16.4)	75.3 (18.0)	146.5 (21.7)	6.9
Construction	27.3 (10.1)	34.1 (10.3)	43.1 (10.6)	41.0 (9.8)	68.1 (10.1)	5.2
Energy conversion	12.6 (4.7)	16.3 (4.9)	18.7 (4.6)	18.7 (4.5)	25.0 (3.7)	2.9
Services	97.1 (35.9)	133.7 (40.2)	156.3 (38.5)	161.8 (38.7)	271.6 (40.3)	5.3
Total	270.1 (100.0)	332.2 (100.0)	405.8 (100.0)	417.6 (100.0)	673.6 (100.0)	4.9

ready been stated, there is a definite imbalance between Japan's basic materials industries and processing and assembly industries. There is a conspicuous bipolarization within Japan's industrial structure. This situation can only worsen if it is neglected in the name of preserving a free economy. The processing and assembly industries cannot expect to be allowed to develop unrestricted within the present realities of the world economy.

Japan managed to achieve remarkable development as an exporter of processed goods after the war because of the politically and economically stable international environment. The favorable expansion of the world economy, centered around Europe and the United States, made it easy for markets to absorb exports from a small country like Japan. Today, however, Japan holds a 10% share of the world's GNP and has the second-largest economy in the free world. Japan's trade volume accounts for nearly 10% of the world's total.

Japan, with such a large economy, can no longer maintain its industrial activity with its domestic market alone. The growth of the world's markets, including those of Europe and the United States, is slowing down. The international economic environment is no longer capable of absorbing all of Japan's exports. Already, it is gradually becoming difficult for Japan to attain the kind of economic growth thought necessary only through the export of products offered by the processing and assembly industries without inviting frictions with its trade partners.

From this standpoint, it is all the more necessary to maintain certain levels of production facilities within the basic materials industries, and to create an industrial structure in which the basic materials industries and processing and assembly industries are better balanced.

Table 2 presents one possible outlook for a future industrial structure which meets both macro and micro economic needs.

This kind of industrial structure can become a reality if Japan's medium and long-term economic policies are properly steered, and if industrial policies, such as those suggested for the basic materials industry, and trade and energy policies are properly handled.

The Price Mechanism and Industrial Policies

The basic idea behind Japan's industrial policies is to tap the vitality of Japan's private corporations, which already have a predisposition towards competitiveness, by means of market mechanisms. The Ministry of International Trade and Industry's policies are indicative. However, when adjustment through market mechanisms proves inadequate, other supplementary policies are employed. Here I would like to take up the problem of the basic materials



industries as an example of “a failure of market mechanism” and discuss the role of supplementary industrial policies taken to counteract the failure.

My conclusion here is that while the problems of the basic materials industries ought to be fundamentally left to market mechanisms, certain policy considerations need to be made because the market mechanisms do not always function perfectly as we will see below.

For reasons given below, market mechanisms have not functioned well to cope with the sudden rise in relative costs for the basic materials industries. The result has been a “market failure” in which corporations have had difficulty dealing with the problem on their own.

If the market mechanisms functioned as they ideally should, those industries placed at a disadvantage by the change in relative costs, would, first of all, respond by decreasing their production over the short term (during this time capital would lie idle

and adjustments would be made in employment.) At the same time efforts would be made over the long term to shift towards new production technology (consisting of a new combination of capital, labor and technology) which could respond to the changes in the relative costs. Should their efforts fail to offset the long-term average costs, these industries would inevitably decline.

For the market mechanisms to function in such a way and to ensure good economic performance, from both the long-term and dynamics point of view, certain conditions must be met. Let us look at each of these conditions and how they relate to the basic materials industry.

(1) Price Fluctuation and the Mobility of Production Elements

The first condition for market mechanisms to work is the smooth mobility of production elements such as capital and

labor. The situation in Japan, however, makes for very little mobility over the short term, though the possibilities may be better over the long term. Capital is tied up in equipment and installations. (Especially in the case of the basic materials industries, which tend to have large-scale plants, transfer of capital is very difficult). Japan's lifetime employment system and corporate management's reluctance to lay off employees also contribute to the lack of mobility.

(2) Predictability of Relative Price Changes

The second condition required for the proper functioning of the market mechanisms is the possibility of foreseeing future price changes. When price fluctuations can be predicted, there is plenty of time to cope with the situation. But when such changes cannot be foreseen, as was the case with the first and second oil crises, industry's response comes too late and businesses are

unable to cope with the problems on their own.

(3) Gradualness of Environmental Changes

The third condition is that environmental changes need to be gradual. If the market mechanisms are to function effectively, changes in business environments, such as relative price changes, must be gradual ones. The market adapts to change by the gradual building up of measures adopted to counteract minute fluctuations. This kind of system does not work when sudden changes occur over the short term.

The situation in the basic materials industries is a case in point. With the second oil crisis, the price of petroleum, on which these industries are highly dependent, shot up some 40% in the seven months from November 1978 through May 1979. Because the basic materials industries were unable to adjust production and pass along these sharply higher costs over the short term, they suffered conspicuous profit deterioration.

(4) Unrestricted Adoption of Production Technology to Offset Long-Term Cost Increases

The fourth condition is that there be no restrictions on attempts to shift towards new production technology which would help to offset relative cost increases. For the market mechanisms to operate, not only short-term, but long-term costs must be covered. This must be done by a smooth transition to new production technology.

The steel and cement industries were able to mitigate the pressure of increased oil costs by adopting energy conservation measures and introducing alternative energy sources to replace the oil they needed for heating purposes. Other basic materials industries, for which oil is a principal raw material, however, were limited in the measures they could put into effect on such short notice. The industries affected in this manner included the petrochemical industry and industries which consume oil in the form of electric power.

A relatively long period of technical development is necessary for the basic materials industries to cope with rising raw material and energy costs. Enormous funds are required for technical develop-

ment and for the installation of new production facilities incorporating the technology developed. The basic materials industries today have neither the time nor the money.

Another factor to note is that the market mechanisms for the input of raw materials and energy supplies into the basic materials industries are also restricted.

The aluminum refining industry, a basic materials industry dependent on electric power, currently faces great difficulties. The electric power so necessary to this industry is not a tradable commodity. Unlike the aluminum rolling industry which can import aluminum ingots from overseas, the industries relying on electric power cannot seek cheaper power sources abroad. As in other countries, electric power in Japan is considered a public utility unsuited to free market competition. It is strictly regulated. The cost of electric power, therefore, is not determined by supply and demand, but by cost calculations.

As for those basic materials industries dependent on oil, such as the petrochemical industry, competition in the supply of their raw materials such as naphtha has been effectively restricted at the source by OPEC, an international cartel of oil producing nations, and the major oil companies.

All the factors discussed above indicate that market mechanisms cannot function satisfactorily to adjust the problems facing the basic materials industries. If this situation is left unattended under laissez-faire policies, industries which would be able to survive over the long term will be forced to die simply because they cannot adapt to changing circumstances in a short period. The result will be a misallocation of resources over the long term.

This is why it is necessary to adopt certain measures to complement the functioning of the market mechanisms so that the problems of the basic materials industries can be resolved. Policy considerations should be made to facilitate not only short-term production and employment adjustments but also a switch to long-term systems (such as new production systems) which can absorb future changes in relative costs. Policies should also be instituted which will ensure Japan's economic security and the proper allocation of resources for the maintenance of a balanced national

economy.

The malfunction of market mechanisms is also evident in international trade. According to trade theory, all countries should be able to improve their economic performances by discarding weaker industries for stronger industries. This would also contribute to a more effective allocation of world resources. But this kind of international market mechanism cannot work unless the conditions outlined above are met.

The international economic community is made up of countries at different stages of economic development and with different growth rates, whose economic and political interests involve complicated relationships. Problems cannot be solved simply by economic rationality. There is a tendency for each country's industrial structure to reflect that nation's artificial economic and political considerations.

This is evident in the automobile industry, for example. The Americans and Europeans, while perhaps knowing that their cars cannot fully compete with Japanese cars, are not ready to abandon their own automobile industries because to do so would have a far-reaching impact on their national economies. They are therefore reluctant to continue to allow unrestricted imports of Japanese cars into their markets.

The artificial restrictions nations impose on the market prevent it from functioning as it should.

In this situation industries which are stronger in terms of relative production costs cannot be allowed to develop unbridled. For a balance to be maintained, something must be done for the weaker industries such as the basic materials industries in Japan. It will be necessary that Japan, by taking measures to lower raw material and energy costs, creates a situation in which import restrictions can be avoided. In any case, it is clear that the theory of market mechanisms does not always work in either international or domestic economies. Technological development must be accelerated. Without the stimulation of technical innovation, all of the world's economies, especially those of the advanced industrialized nations, will continue to meander in a tunnel without an exit.