

## Part II

# Japan's Industrial Structure For the 21st Century

By Kazuhiko Otsuka

**A**n outlook for Japan's industrial changes as we approach the 21st century has been mapped out in a major new government report.

The Planning Subcommittee of the Coordination Committee of the Industrial Structure Council (ISC), an advisory body to the Minister of International Trade and Industry (MITI), published, on May 26, the final version of its report "An Outlook for Japan's Industrial Society toward the 21st Century"—popularly called the "21st Century Report."

The ISC has published other reports, outlining basic thinking to support the formulation of official industrial policies. Its reports reflecting the socioeconomic background of the times have set forth the reasons behind Japan's emphasis first on the heavy and chemical industries, then more knowledge-intensive industries and, more recently, industries that demand concentrated creativity.

With the year 2001 now only 15 years away, the ISC geared up last summer to prepare the 21st Century Report. Three vital points were considered in the preparation of the report: Japan's expanding trade imbalance and related economic friction with other countries; domestic changes due to technical inno-

ventions and the rapid approach of an information-based society; and lifestyle changes impelled by the "greying" of Japan's population and the rapid diversification of social values.

## Basic thinking

Four points characterize the basic thinking behind the 21st Century Report: pursuit of innovative growth; maintenance of free trade and a free economy; contribution to international society; and global cooperation.

The report emphasizes the need for a grasp of market functions based on a stable exchange rate reflecting the fundamentals of the Japanese economy. But in basic research and development and in other areas subject to uncertain and ineffective market functions, government must take supplementary measures. The report points out that smooth adjustments must be made in Japan's economic structure as the nation moves toward the 21st century. To this end, government needs to take policy measures which will promote these adjustments as well as maintain a somewhat

higher level of economic growth based on increased domestic demand and maximum use of the nation's latent growth potential.

## Recommended directions

Based on this thinking, what paths should Japan follow in the evolution of its future industrial structure? The two main recommendations that emerge are international cooperation and innovative fusion of knowledge.

International cooperation refers to increased cooperation with other countries in areas including the expansion of imports, direct overseas investments and transfer of technology. Interdependence will be strengthened by promoting the international division of labor and revitalizing the world economy.

Innovative fusion of knowledge means expanding new industrial frontiers by promoting creativity in basic technology as well as integrating the tremendous stock of knowledge and technology that has accumulated in various fields.

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## **D**eveloping official measures

The basis on which governmental measures for the 21st century will be developed is the strengthening of Japan's ties with other nations. Thus macroeconomic policies stressing increased domestic demand and maintaining foreign exchange rates reflecting economic fundamentals can be formulated through joint efforts for policy coordination among the major industrial nations. In addition, direct overseas investments will be expanded and imports will be promoted to create an international economic order and a well-balanced international division of labor. An effort will also be made to increase Japan's share of international public goods. Promoting the innovative fusion of knowledge will expand new industrial frontiers via technological innovations, with efforts made to nurture service industries and so-called "high-touch" industries.

These, together with measures to stim-

ulate domestic demand, are policies to transform Japan's industrial structure so that employment opportunities lost as international division of labor progresses will hopefully open up in new areas.

The following are detailed explanations of each policy recommendation.

### **Expanded domestic demand**

Due to the recent rapid appreciation of the yen, the Japanese government has introduced a series of measures to stimulate domestic demand, including cuts in the official discount rate. There is a need to continue formulating policies to expand domestic demand effectively, so that economic activities can continue smoothly with no negative jolts caused by sudden up or down jumps in foreign exchange rates.

In order to rectify international trade imbalances, it is essential from the mid- and long-term viewpoints for Japan to achieve somewhat higher economic growth based on expanding domestic demand. This will not only contribute to rectifying trade imbalances, but will also

serve to shift the nation's industrial structure smoothly toward a pattern of greater international cooperation.

### **1. Boosting consumer spending**

#### **a. Increasing disposable income**

Wages are determined through labor-management negotiations. It is desirable particularly at this time when inflation has subsided that labor and management work out a way to reflect in wages the fruits of labor productivity rise. In other words, in industries where the labor productivity rise is high, wages should be increased correspondingly.

With a view to boosting consumer spending, the Tax Commission should recommend appropriate revisions in the present tax system.

#### **b. More free time**

Another important objective is to provide more free time for both white- and blue-collar workers. The total number of annual working hours should be reduced to a maximum of 1,900 hours, which is below the level in the United

States and the United Kingdom today. This reduction can be achieved by introducing the five-day work week in all industries and giving workers longer vacations over the "golden week" holidays in late April-early May, during the summer and over the New Year holidays.

### 2. Revitalizing investments

There is a strong grass-roots demand for housing investment in Japan. This predicated a need to promote more effective use of land by, for instance, revising the financing and tax systems in housing, building more high-rise housing in urban areas, and making greater use of land trusts. Additional steps should be taken to promote renovations and improvements in existing housing.

With the government greasing the wheels for a higher quality of life for the Japanese people, it will be more important to promote repletion of social capital, including improvements in the nation's high-speed transportation network covering airports, expressways and other facilities, and in the system of public parks, shopping facilities, data communications and other aspects of the environmental infrastructure, such as

sewer and water supply systems. This will give rise to strong demand for a new industrial infrastructure to promote such activities as international exchange and the R&D needed to revitalize regional economies and put Japan's system of social capital into better order, for example, by relocating industries.

The central and local governments are gradually beginning to utilize private-sector vitality to put social capital facilities into order. It is still important, of course, to continue moves to reduce the national debt, but the economic situation must be carefully monitored, especially because the rapid appreciation of the yen can have a negative effect on domestic economic activities. The advisability of increasing construction bond issues must be studied to promote on a priority basis the construction and improvement of the social infrastructure.

### International policy coordination

#### 1. International coordination in economic policy management

Due to increasing economic interdependence along with the trend toward multi-polarization in the international

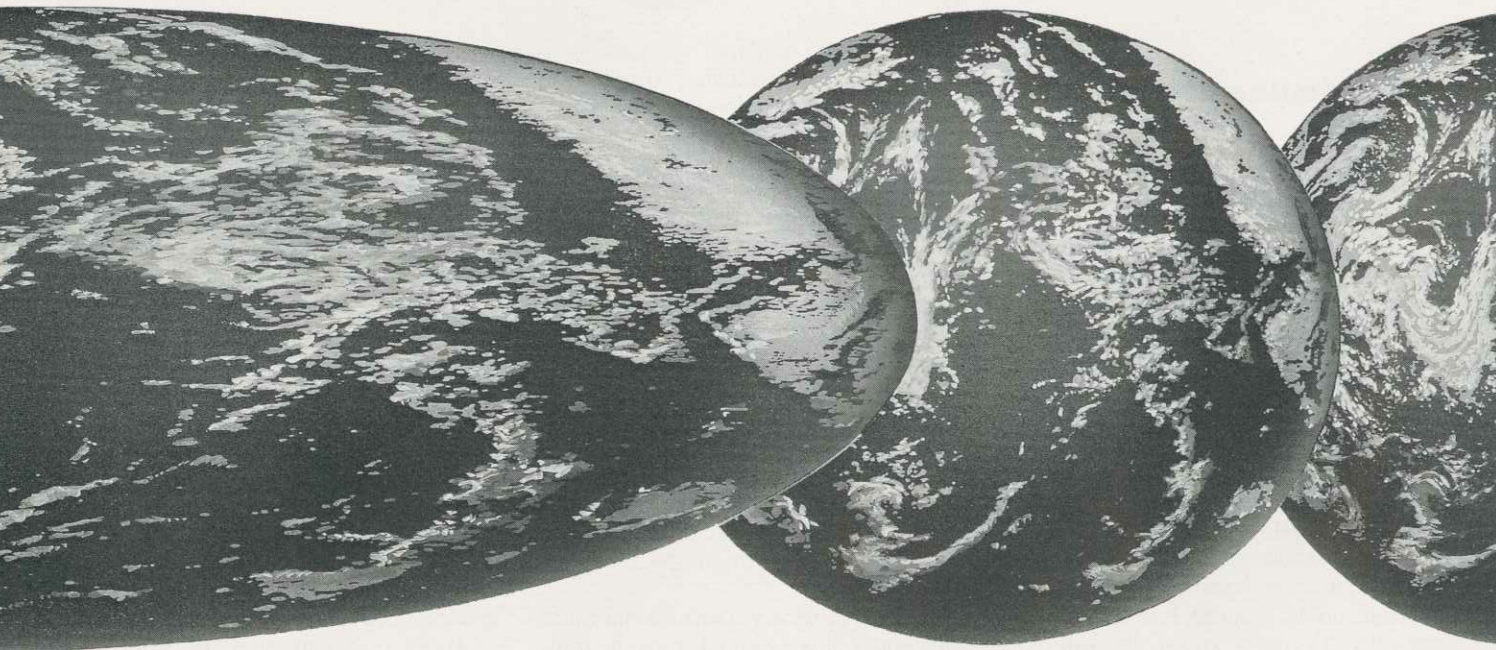
community, Japan must cooperate with the world's major countries in international measures to rectify trade imbalances and to foster international economic growth.

Foreign exchange rates need to be stabilized at levels that reflect economic fundamentals. Monetary, fiscal and other macroeconomic policies must be made more flexible and monitored closely for necessary policy adjustments.

At the recent Tokyo Summit, agreement was reached on ways to strengthen cooperation among the major nations. There is also a need to conduct wide-ranging studies on the possibility of improving the international monetary system.

Rectifying trade imbalances, stabilizing foreign exchange rates at appropriate levels, and revitalizing the world economy call for essential adjustments in the economic structure and macroeconomic policies of each country.

The U.S. Congress has recently passed legislation that demands balancing the federal budget by reducing deficit spending, a clear change in policy. From the standpoint of softening the possible deflationary effect of such U.S. policy



change and from the standpoint of revitalizing the world economy, a switch in economic policy management not only by Japan but also by other advanced countries toward domestic demand expansion is required.

Mid- and long-term perspectives suggest that, even as the major nations consider adjusting their economic structures, there must be mutual understanding of each nation's policy objectives. As moves are made to implement those policy "packages," it can be worthwhile to study the feasibility of setting up a mechanism for close cooperation that will bring the major nations together for regular policy reviews. In that sense, it is significant that the recent Tokyo Summit concluded with an agreement to create a new mechanism for comprehensive cooperation concerning overall economic policies. Japan needs to participate vigorously in this cooperative experiment.

## 2. International research on industrial structure

In the light of the current situation in which corporate activities are being internationalized, high technology is the leading factor in inducing dynamic changes in

industries, and the industrial structures of various countries have become closely bound up with the stability and vitality of the international economy, it has become increasingly important for countries concerned to cooperate with one another to create the best environment for industrial activities.

The leading industrial countries need to conduct continuous studies on such matters as the international supply and demand outlook for principal industries, exchange of information concerning the inflow of investments, and the feasibility of cooperation in joint research projects. International symposiums should be sponsored to discuss industrial structure, with participation by experts, scholars and government officials—including those at ministerial level. Promoting international surveys and other research related to industrial structure will help to make analyses and forecast evaluations more precise. Measures should also be taken to make structural adjustments among nations more orderly.

Japan must conduct serious studies on the international industrial structure in order to determine how its industrial structure should be revised in the mid-

and long terms. Making effective use of industrial policy experience gained in the past, Japan should contribute to the creation of new frameworks for international studies and adjustments.

## 3. International public goods

In order to contribute to innovative growth in the world economy, Japan needs not only to promote international cooperation in policy formulation but also to play an active role in creating a new international economic order and providing for international public goods—the maintenance and operation of the international monetary and trading systems, economic cooperation and so on. Japan must be actively involved in the New Round of Multilateral Trade Negotiations; promote economic assistance that encourages the self-help efforts of developing nations; intensify industrial cooperation; help to resolve problems related to accumulated foreign debt; and set up joint research and development projects such as the Human Frontier Program.

## International division of labor

Japan can rectify its trade imbalances with other countries by maintaining



stability in foreign exchange rates at levels that reflect economic fundamentals. High economic growth must continue, based mainly on expanding domestic demand. An appropriate system for the international division of labor must be established in cooperation with the advanced Western nations, the newly industrialized countries of Asia and the less developed countries.

## 1. Increasing imports

Imports should be expanded in a way that contributes to formation of an international division of labor, including product importing.

Japan has made a number of recent moves to promote imports. For example, import duties have been lowered, import restrictions have been eased, and import procedures and certification standards have been improved. The openness of the Japanese market to foreign products has reached a considerably high level as compared with European countries and the U.S. To increase Japan's imports still further, the government must proceed in implementing the "Action Program" it announced in July last year as a means of improving market access. At the same time, Japan must step up efforts to create a better import environment by, for example, reviewing the tariff escalation system applicable to some manufactured and semifinished goods and relaxing import restrictions.

As corporate activities are internationalized, revisions can be made in the tax and financing systems to include complete imports, parts and semifinished goods in the production system. Direct overseas investments should also be expanded, so that imports become tied to a system of international division of labor.

## 2. Expanding direct overseas investments

Direct overseas investments should ideally create job opportunities, raise the level of technology, and promote economic development. They can also play a major part in rectifying Japan's trade imbalances.

The results of one MITI survey (Table 1) show that Japanese companies expect to increase their cumulative direct overseas investments (nominal terms) at a rate of about 12% annually as the year 2001 approaches. A computation based on that figure shows that such investments could reduce Japan's balance of payments by about \$53 billion. In addition, direct overseas investments by Japanese companies in the advanced, newly industrializing and less developed countries will lead to

new job opportunities in those countries more numerous than jobs lost in Japan.

Investment exchanges involve a much wider range of contacts than product exchanges and therefore investment friction could occur. It is important to increase investments while paying close attention to the effects they have on the host country's economy and industry.

## 3. Foreign direct investments in Japan

Although foreign direct investments in Japan are on the increase, there is still a substantial imbalance compared to Japan's direct investments overseas. The ratio stood at 0.13:1 in Japan's favor at the end of 1983.

Mutual exchange of direct overseas investments does not only contribute to stability in international relations. Foreign direct investment in Japan can also lead to the introduction of new technology and increase understanding between Japan and other countries.

Countries investing in Japan can benefit from the development of new markets, increased exports to Japan, the acquisition of high-quality labor and exchange of advanced technology.

## 4. Promoting technological exchange

In the past, Japan adopted foreign technology. In the future, however, Japan should play the role of not only a "goods supply center" but also of a "technology supply center," particularly for developing countries. In order to accomplish this, receiving countries must make policy efforts to raise their technical standards by flexibly operating restrictions on technology import. At the same time, Japan should improve its system for receiving foreign trainees and sending specialists abroad.

## Maintaining industrial vitality

### 1. Furthering innovative basic research

In order to vigorously promote an international division of labor and contribute to a new leap forward for the world economy, there is a need to maintain the vitality of the industrial sector.

An era of technological innovation, such as microelectronics (ME), new materials and biotechnology, is now dawning. The market related to technical innovation is expected to expand enormously in the future, reaching an estimated ¥230 trillion or so in the year 2000 (assuming that the ¥61-trillion market of 1980 will grow by 6.9% annually).

The first thing for Japan to do to make maximum use of the potential of technical innovation in the future is to make independent efforts to pursue technology development mostly at the stage of basic research. Japan can no longer hope to raise its technological level by importing technology from more advanced countries as she did in the process of catching up with them. Instead, the country must more than ever before open up new technical frontiers on its own from a long-term viewpoint.

To achieve this, it will be necessary to expand support measures to provide more funds for R&D at the stage of basic research and to promote greater exchanges of personnel, capital and facilities among industry, universities and government, so as to increase the efficiency of innovative R&D activities.

So far, Japan's R&D efforts have largely been commercially oriented and geared to the development of new products, which perhaps has accelerated the increases in Japan's external trade imbalances. In the future, therefore, R&D

**Table 1**  
**Forecast of Cumulative Value of Japanese Direct Overseas Investments (manufacturing; report basis) Based on Survey of Companies**  
(¥ billion, % in parentheses)

	FY 1982	FY 2000	Average annual growth rate (%)
<b>U.S.A.</b>	951.9 ( 22.5)	10,460.5 ( 32.4)	14.2
<b>S. Korea</b>	209.4 ( 4.9)	873.9 ( 2.7)	8.3
<b>Indonesia</b>	499.5 ( 11.8)	2,936.4 ( 9.1)	10.3
<b>World</b>	4,231.9 (100.0)	32,326.5 (100.0)	12.0

Source: MITI "Survey of Internationalization Strategy of Japanese Companies and Impact on Domestic Industrial Structure," Oct. 1985

activities should cover not only business but also the field of basic science with the aim of improving national welfare and expanding the frontiers of science and technology, with industry, universities and government fulfilling their respective roles.

## 2. Promoting technology fusion

Trends in recent technical innovations show greater diversification and ties between different industries. International ties between companies, exchanges between small companies in different industries and business ties related to venture business are all increasing. These trends are particularly noticeable in high-tech fields such as microelectronics, new materials and biotechnology. Fusion of technology and further diversification in technological development should be vigorously promoted.

Feasibility studies on future possibilities for fusing technologies, along with symposiums to exchange information between different industries are needed. Technical databases should also be consolidated and joint development projects between companies in different industries should be promoted.

## 3. New moves toward an information-oriented society

To create a high-level, information-oriented society as we move toward the 21st century, new data and communications systems must be incorporated into society with a minimum of disruption. A healthy coexistence should obtain between human beings and new information systems. Permeation of information-oriented thinking into industry, society and daily life will take place as changes occur in Japan's economy with expansion of domestic demand.

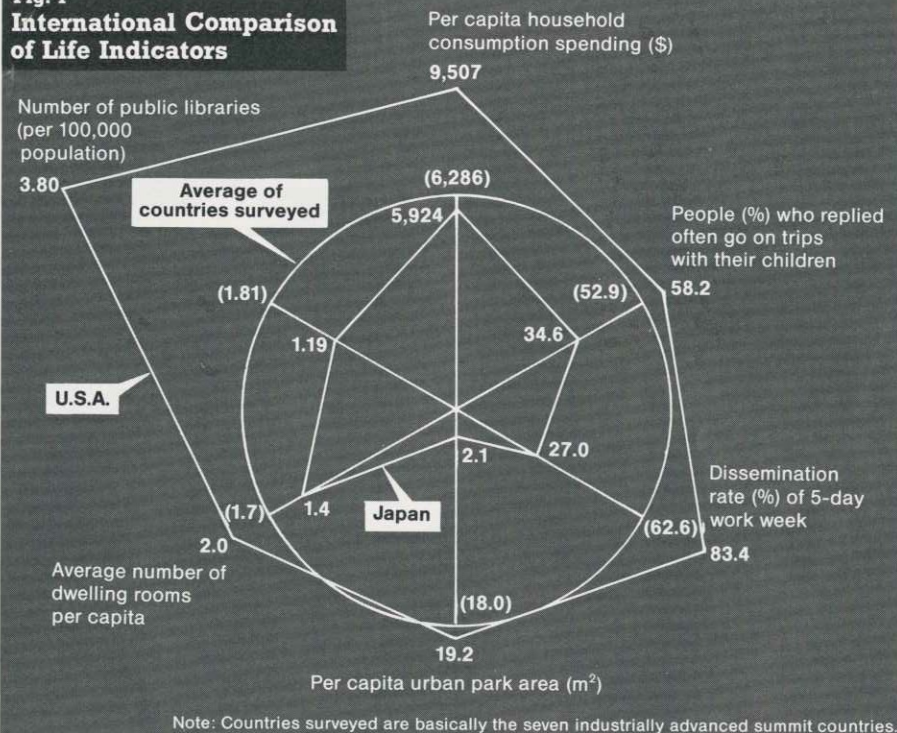
To welcome the information age an efficient system for developing technology related to information must be set up, as well as systems for producing and distributing software. Software programmers must be trained, business protocols must be integrated, and interoperability assured. Standardization is needed between different industries, along with a program to develop human resources.

The final program should include development of stronger ties between industry, universities and government, and establishment of new institutions of higher education.

## New infrastructure for new culture

Compared to the situation in the Western industrial democracies, living stan-

**Fig. 1**  
**International Comparison**  
**of Life Indicators**



dards in Japan are still low (Fig. 1). This comparison includes the living environment, amount of leisure time and other factors. The amount of land area set aside in cities for public parks is one example; another is the extent to which the five-day work week is in effect. Each person has the freedom to choose his or her own lifestyle. But the government should make efforts to upgrade the basic public infrastructure as related to daily life.

In order to improve housing quality, which remains at a lower level than counterparts in the West, there is a special need to improve the tax and financing systems related to housing.

Social capital related to daily life, including parks, shopping facilities, sewage systems and so forth, should be improved. It is also important to make greater use of private-sector vitality in such areas as providing more recreational facilities to deal with the increased leisure time that Japanese workers are expected to have in the future and building "silver cities" for the increased number of elderly people expected as the average age of Japan's population increases.

As shifts occur in Japanese society, from changes in the consciousness of workers to the aging of the population, it becomes ever more necessary to review the existing employment system. Some areas to be reviewed include adoption of a system where workers will be given choices concerning additional education, specific jobs and leisure time. A system allowing for sab-

batical leaves should be introduced, and overall working hours shortened.

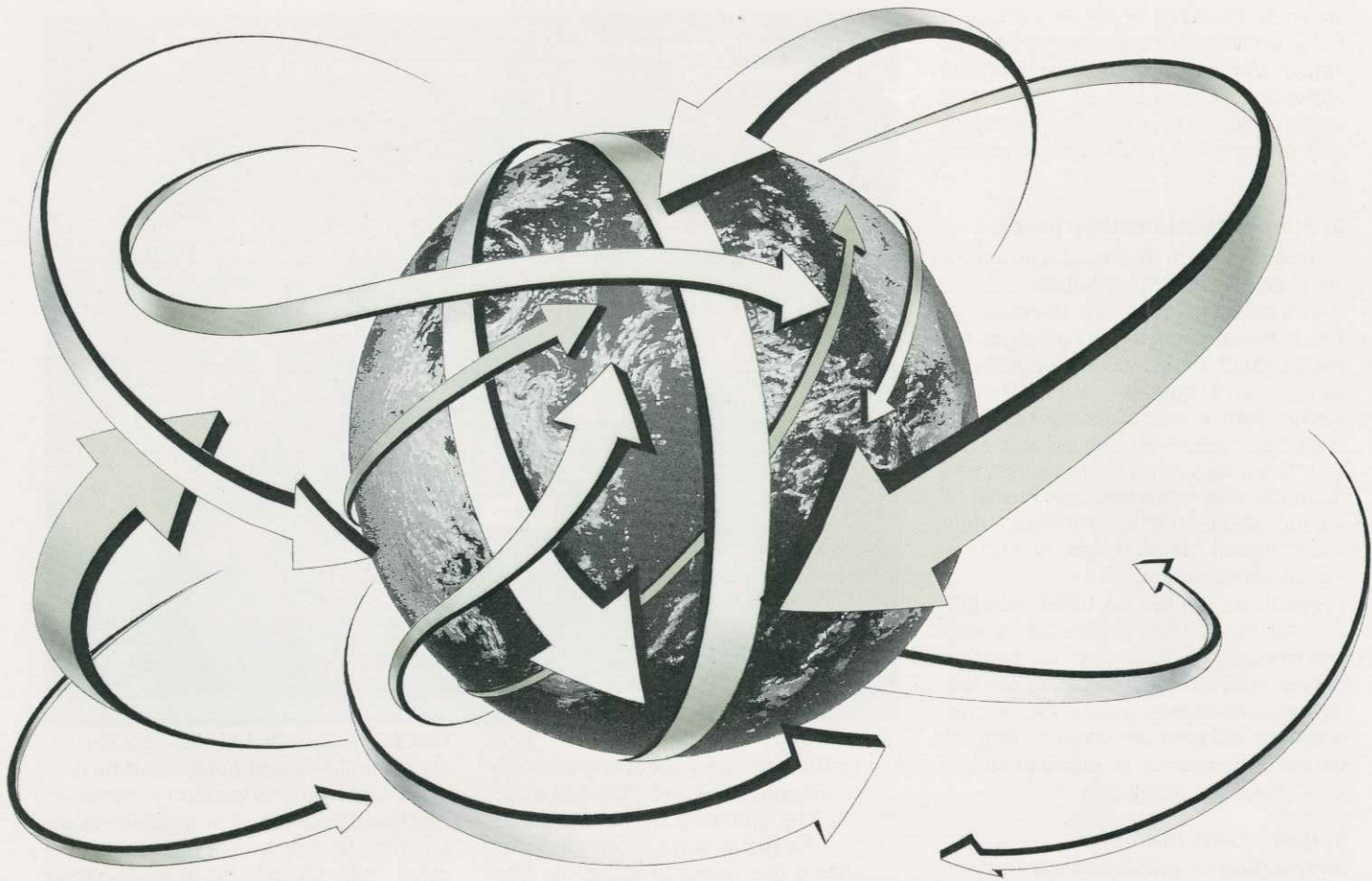
To satisfy the diversifying consumer needs and to cater to new lifestyles industry must take measures to become ever more "high-touch" and in much closer contact with customers. New businesses are needed that respond sensitively to market demand. Recent examples of such businesses are the *takuhai* system for home delivery of parcels, and telephone services that transfer incoming calls to a customer at a location of his choice when he is not at home.

To respond successfully to diversifying consumer demands, new hardware and software technologies must be developed, and industry must promote more informational exchange with consumers. Venues can be set up to stimulate new business opportunities, including "fashion community centers."

## Changing Japan's industrial structure

As Japan heads toward the 21st century, dynamic changes anticipated in its industrial structure will move it toward increased international cooperation and innovative fusion of knowledge. Basic to such changes in the industrial structure is the realization of market functions resulting from changes in such factors as foreign exchange rates.

But economic growth cannot rely solely on market functions. Short-term volatility of exchange rates can only harm the steady development of industrial



activities. The government must introduce measures that supplement market functions. There is a particular need to add appropriate measures for assisting medium-size and smaller industries.

In order to shift Japan's industrial structure toward an emphasis on international cooperation and innovative fusion of knowledge, a number of new government measures are needed.

One is promotion of industrial adjustments that will reflect greater international cooperation. To create an industrial structure that provides for greater international cooperation, the mid- and long-term outlook on the relative superiority of industries and products must be clarified. Foreign companies will hopefully supply products that respond to the real requirements of the Japanese consumer, meaning that domestic Japanese production in those same areas can be curtailed. There is also a need to change the business lines of companies in response to the growing sophistication of the industrial structure, the internationalization of Japanese industries, the growing interdependence of the world economy and the industrialization of neighboring Asian countries.

Promoting international division of

labor will have various impacts on the Japanese domestic economy, including employment. Steps must be taken to prevent the erosion of the domestic industrial base. One way is to promote joint research projects between companies in different industries. This can increase the possibility of creating new business opportunities via the innovative fusion of knowledge and promotion of a smooth shift to new business operations.

International division of labor will also affect the labor situation in Japan. Although the outlook is not pessimistic at present, there is still a possibility that a mismatch may occur in terms of particular industries and particular occupations as companies expand into new technological frontiers. Such cases of mismatch should be prevented through vocational training, education and other means.

Promoting international division of labor will stimulate needed changes in Japan's industrial structure. It is possible that it will have a strong impact on medium-size and smaller companies with heavy export ratios, companies that compete with imports and suppliers dependent on large corporations. As a result, in some geographical areas where less competitive companies are located,

there is a danger that emerging unemployment problems may reduce regional economic vitality. To minimize the adverse effects of such a situation, the government should assist affected companies so they can transfer business activities to other fields.

Progress in technological innovation and a greater information orientation in business could also result in wider disparities between regions in regard to technology or emphasis on information. From the viewpoint of maintaining balanced growth among different regions, their respective foundations may need to be reinforced in terms of technological innovation and the growing information orientation in business, thus bolstering the capability of each region to develop on its own. To respond to the increasing trend for people to remain in rural areas rather than move to urban centers, it is also quite important to create more job opportunities in non-urban regions.

To resolve such problems in the rural areas, new information services and research and development activities must be promoted. Such measures will attract high-tech companies and allow the regions to strengthen their own capabilities for economic development. ●