

# Industrial Cooperation by Japan

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## Present Situation in The Developed Economies and Japan

In the advanced countries in general, the recession is continuing with only a very weak undertone of recovery and the employment situation is deteriorating further. This unhappy state in the developed economies was triggered in the short view by the skyrocketing of oil prices. However, fundamentally, it is largely attributable to structural problems, such as the slowdown in the improvement of labor productivity caused by the stagnation of plant and equipment investment and tech-

nical innovation, the inflexibility in determining wage levels, the confrontation between management and labor, and the overgrown government sector. At present, therefore, all developed countries are vigorously endeavoring to solve their structural problems from the medium- and long-range standpoints with the emphasis on supply-side economics, such as stepping up plant and equipment investment, raising labor productivity, and revitalizing the market economy.

The Japanese economy, on the other hand, is showing relatively good performance in such areas as growth, prices, employment, and its international balance of payments, although domestic demand is sluggish and there is unevenness in economic vigor among industrial sectors or regions.

Yet for the Japanese economy to continue to depend heavily on external demand for its growth could cause considerable friction with other countries, particu-

larly because Japan presently has a huge current account trade surplus. It has, therefore, become urgent for Japan to strive positively to expand domestic demand and to achieve equilibrium through expansion in her external economy by promoting the import of manufactured goods.

In their external economic activities, Japanese corporations have so far concentrated on exporting commodities. Recently, however, the manufacturing industries are gradually increasing their direct investment in the industrialized countries and their exports of technology (Tables 1 and 2). At the same time, the industrialized countries of the West have begun to show an interest in investment and technical tie-ups with Japanese firms, primarily in high-technology industries.

From the standpoint of building harmonious external relations, it is extremely important for all countries to make endeavors to revitalize their economies through exchanges not only in trade but also in a wide range of areas, including capital and technology. It is important for Japan to make positive efforts to cooperate in revitalizing the economies of the United States and the industrial countries of Europe through exchanges of capital, technology, and know-how in the fields of Japanese strength.

## Present State and Effects of Industrial Cooperation

Concrete forms of industrial cooperation conceivable are (1) local production through direct investment, (2) technical tie-ups and joint research and development, (3) joint construction of industrial plants in third countries, and (4) OEM (original equipment manufacture) exports involving the manufacture and export of goods under the importer's brand name.

Industrial cooperation in these forms has increased steadily in various fields between Japan and other countries, particularly between Japan and the European countries.

Among the examples are direct Japanese investment in European countries and mutual investment between Japan and the U.S. in electronic machinery and appliances (semiconductors, IC), technical exchanges such as joint production in the automobile industry, the supplying of technology and manufacturing techno-

Table 1. Japanese Direct Investment in North America and Europe (Units: \$ million, %)

Fiscal Year	Investment in North America		Investment in Europe	
	Total direct investment	Manufacturing industries (% of total investment)	Total direct investment	Manufacturing industries (% of total investment)
1971	230	33 (14.2)	84	21 (24.9)
72	406	53 (13.1)	935	6 ( 0.7)
73	913	270 (29.6)	337	90 (26.6)
74	550	102 (18.6)	189	58 (30.8)
75	905	140 (15.4)	333	40 (12.1)
76	749	223 (29.7)	337	49 (14.5)
77	735	217 (29.5)	220	58 (26.2)
78	1,364	329 (24.1)	323	162 (50.2)
79	1,438	447 (31.1)	495	162 (32.7)
80	1,596	398 (25.0)	578	161 (27.9)

Source: Bank of Japan

Table 2. Japan's Technology Trade by Region (Units: ¥100 million, %)

Fiscal Year	North America		Europe		Receipts/Payments	
	Receipts	Payments	Receipts	Payments	North America	Europe
1973	59	1,060	103	650	5.6	15.9
74	65	1,030	168	503	6.3	33.4
75	142	1,075	140	599	13.3	23.4
76	129	1,175	218	594	11.0	36.7
77	134	1,211	247	680	11.1	36.3
78	168	1,252	187	664	13.4	28.2
79	230	1,561	222	810	14.8	27.4

Source: Statistics Bureau, Prime Minister's Office: Report on Science and Technology Survey

**Table 3. Industrial Cooperation between Japan and European Countries**

Country	Investment Exchange, etc.	Joint Research and Development	Cooperation in Third-Country Markets	Government-to-Government Exchange, etc.
<b>U.K.</b>	<ul style="list-style-type: none"> <li>• Cooperation in the field of consumer electronics                             <ol style="list-style-type: none"> <li>1 Direct investment (Matsushita Electric Industrial Co., Toshiba Corporation, Hitachi Limited, Mitsubishi Electric Corporation, Sony Corporation, and Sanyo Electric Co.)</li> <li>2 OEM Contract (Victor Co. of Japan and Thorn EMI)</li> <li>3 Cooperation in VTR apparatuses (Victor Co. of Japan and Thorn EMI of UK, Telefunken of West Germany, and Thompson Plant of France) under study</li> </ol> </li> <li>• Cooperation in the field of passenger cars                             <ol style="list-style-type: none"> <li>1 Technical tie-up contract (Honda Motor Co. and BL)</li> <li>2 Construction of production plants (Nissan Motor Co. now making feasibility study)</li> </ol> </li> <li>• Cooperation in the field of IC Direct investment (Nippon Electric Co.)</li> <li>• Technical tie-up in the field of sheet glass (Asahi Glass Co., Nippon Sheet Glass Co., Central Glass Co. with Pilkinton Co.)</li> <li>• Cooperation in the field of computers (Fujitsu furnishing technology to ICL, etc.)</li> <li>• Cooperation in the field of industrial robots (Fuji Fanack establishing sales and technical tie-ups with 600 groups)</li> <li>• Dispatch of an investment Feasibility Study Mission (March 1980)</li> </ul>	<ul style="list-style-type: none"> <li>• Joint development of civil aircraft engine—XJB (Rolls-Royce with Ishikawajima-Harima Heavy Industries, Kawasaki Heavy Industries, Mitsubishi Heavy Industries)</li> <li>• Joint development of city gas manufacturing technology (Osaka Gas Co. with British Gas Co.)</li> </ul>	<ul style="list-style-type: none"> <li>• Conclusion of Joint Insurance Agreement (June 1981)</li> <li>• Exchange of information through regular consultations between EEF (Engineering Enterprises Federation) and Japan Machinery Exporters' Association (held in March 1981 and November 1981 so far)</li> <li>• Ghana Hydro Power Plant (order received jointly by Toshiba and Bobbing)</li> <li>• New Zealand fertilizer plant (order jointly received by TEC and Capital Plant International)</li> <li>• Abu Dhabi offshore oil field development project (order for part of engineering work received jointly by Nippon Steel Corporation and Wally)</li> </ul>	<ul style="list-style-type: none"> <li>• Exchange of opinions between the Ministry for Industry of the U.K. and MITI regarding industrial cooperation (first meeting held in September 1981)</li> <li>• Fields in which the UK Ministry for Industry has shown interest for industrial cooperation:                             <ul style="list-style-type: none"> <li>—computers</li> <li>—communications equipment</li> <li>—biochemistry</li> <li>—robots</li> </ul> </li> </ul>
<b>France</b>	<ul style="list-style-type: none"> <li>• Cooperation in the field of machine tools (Joint venture by Toyoda Machine Works and Sommers)</li> <li>• Cooperation in the field of consumer electronics OEM contract (Victor Co. of Japan and Thomson Plant)</li> <li>• Cooperation in VTR apparatuses (Thompson Plant of France, Thorn EMI of UK, Telefunken of West Germany) under study</li> <li>• Cooperation in feed lysine (Ajinomoto Co. and LAFARGE Group)</li> <li>• Cooperation in toys (Joint venture by Bandai and CGJ)</li> </ul>	<ul style="list-style-type: none"> <li>• Expert-level exchange under Japan-France Science and Technology Agreement</li> <li>• Joint development of carbon fiber (Feasibility study of joint development by Toray Industries and Elf Acquitine made)</li> </ul>	<ul style="list-style-type: none"> <li>• Joint Insurance Agreement concluded (January 1981)</li> <li>• Exchange of information through regular consultations between GEIF (French plant engineering group) and Japan Machinery Exporters' Association. (Held in May 1980 and in March 1981 so far)</li> <li>• Egypt port and harbor project (order jointly received by Mitsui &amp; Co. and SGE)</li> <li>• Saudi Arabia oil refinery project (order received jointly by Chiyoda Chemical Engineering and Construction Co. and Technip)</li> </ul>	<ul style="list-style-type: none"> <li>• Proposal for joint development in the IC, computer, carbon fiber, biochemistry, and energy conservation fields made by the French Ministry of Industry (June 1980)</li> <li>• French Government and MITI exchanged opinions on industrial cooperation (First Japan-French Industrial Cooperation Committee meeting held in November 1981)</li> </ul>
<b>West Germany</b>	<ul style="list-style-type: none"> <li>• Cooperation in the field of passenger cars (Tie-up between Nissan Motor and Volkswagen)</li> <li>• Cooperation in the field of computers (OEM contract concluded between Fujitsu and Siemens)</li> <li>• Cooperation in the field of machine tools Tie-up between Makino Milling Machine Co. and Hydenliech &amp; Hurbeck Co. (acquisition of stock)</li> <li>• Cooperation in the field of consumer electronics                             <ol style="list-style-type: none"> <li>1 Direct investment (Sony)</li> <li>2 OEM contract (Victor Co. of Japan and Telefunken)</li> <li>3 Cooperation in video equipment now under study between Victor of Japan and Thorn EMI of UK, Thompson Plant of France.</li> </ol> </li> <li>• Cooperation in the field of medical instruments (Joint venture by Olympus Optical Co. and Binta &amp; Ibe)</li> <li>• Cooperation in the field of ICs (Local manufacture by Hitachi)</li> <li>• Cooperation in timepieces (Local manufacture by the Seiko Group)</li> </ul>	<ul style="list-style-type: none"> <li>• Expert-level exchange under the Japan-West Germany Science and Technology Cooperation Agreement</li> <li>• Joint development of helicopters (Kawasaki Heavy Industries and MBB)</li> </ul>	<ul style="list-style-type: none"> <li>• Exchange of information between VDMA (German Machinery Industrial Association) and Japan Machinery Exporters' Association (first exchange held in October 1981)</li> <li>• Iraqi dam project (order received jointly by Toshiba and BBC)</li> <li>• Indonesia condensor project (order received jointly by Mitsui &amp; Co. and Walhinton)</li> <li>• East Germany cold-rolled mill project (order received jointly by Mitsui and Dringer)</li> </ul>	



RJ500 Engine (Model)



Nissan/VW Santana

Country	Investment Exchange, etc.	Joint Research and Development	Cooperation in Third-Country Markets	Government-to-Government Exchange, etc.
	Cooperation in tires (Commercial tie-up between Toyo Rubber Industry and Continental)  Cooperation in NC equipment (Sales and technical tie-up between Fuji Fanack and Siemens)			
Italy	Cooperation in the field of passenger cars (Joint venture between Nissan and Alfa Romeo)	• Next generation of civil air transport Joint development by Japan, U.S., and Italy under way (YX)	Regular consultation for the exchange of information between Assolombarda and the Japan Machinery Exporters Association first meeting in October 1981)  Oil refinery project in Algeria (Marubeni procuring some machinery from Toshidale)	
Holland	• Dispatch of investment study mission (March 1981)  Cooperation in the field of plate glass (direct investment by Asahi Glass)	• Invitation by Fokker and MacDonnell Douglas to participate in the development of the next generation of civil air transport (YXX)	Regular meeting between FME (Dutch machine industry association) and Japan Machinery Exporters' Association to exchange information. (held in October 1980 and in February 1981 so far)  East German TV color TV cathode ray tube plant (cooperation between Toshiba and Foreck Farness)  Indonesia condenser project (order jointly received by Mitsui & Co. and Thomassen)  • Conclusion of Joint Insurance Agreement (September 1981)	• Visit to Japan of an economic mission (October 1980)
Belgium	Cooperation in the field of consumer electronics (direct investment by Pioneer)  Cooperation in the field of plate glass 1 Joint venture (Nihon Glass and Belgium Government) 2 Direct investment by Asahi Glass  • Dispatch of investment study mission (March 1981)		• Conclusion of Joint Insurance Agreement (June 1980)  Regular meetings to exchange views between Fabrimetal (metal machine industry federation) and the Japan Machinery Exporters Association. (Held in September 1979, in March 1980, and in February 1981 so far)  Fertilizer plant for the Philippines (order jointly received by Marubeni, Mitsubishi Heavy Industries, and Koppels)	• Visit to Japan of an economic mission (May 1981)  • Exchange of views between the Belgian Government and MITI on industrial cooperation

**Table 4. Motives for Direct Investment in Industrialized Countries**

(Unit: % age of total)

Motive	Actual	Plan
To diversify and to internationalize	62.3	59.5
To diversify export market	45.6	35.7
To expand service	39.5	36.9
To overcome obstacles related to trade friction	23.7	36.9
To secure raw material resources	11.4	23.8
To seek advantages of lower production costs, apart from reduced labor cost	10.5	20.2
To enjoy preferential treatment offered by host governments	7.0	8.3
To enjoy customs privilege advantages exporting to third countries	4.4	3.6
To enjoy lower labor costs	0.9	0.0
Other reasons	7.0	8.3

Remarks: Percentage of companies, out of total responding companies, selecting indicated replies (multiple answers)

Source: MITI: Survey Concerning Export Environment, Overseas Investment, and Technological Development

logy (continuous sintering technology and overall technical assistance) in the steel industry, and technical tie-ups and joint ventures in the fields of machine tools and industrial robots. Industrial cooperation

is also spreading steadily to the joint development of civil transport jet engines by Japan and the United Kingdom (the XJB Project), international joint development of the fifth-generation computer, OEM exports, and cross-investment in color TV sets, large-scale computers, and VTRs.

As the scale of industrial plant exports has become larger, the need for joint financing, mutual supplementation of technology, and joint procurement of machinery and equipment has increased. Consequently, the number of cases in which Japan cooperates with the industrialized countries of the West in third-country markets, such as the developing countries and the East European countries, is also increasing. Table 3 and 4 lists cases of Japanese industrial cooperation in various fields.

In surveys conducted by the Ministry of International Trade and Industry (MITI), as many as 130 of the 166 companies (about 78%) which responded have had experience in industrial cooperation with foreign firms, while 95 of 154 responding firms (about 62%) said that they had plans for industrial cooperation in the future. 94 of 167 responding companies (about 56%) said that they thought indus-

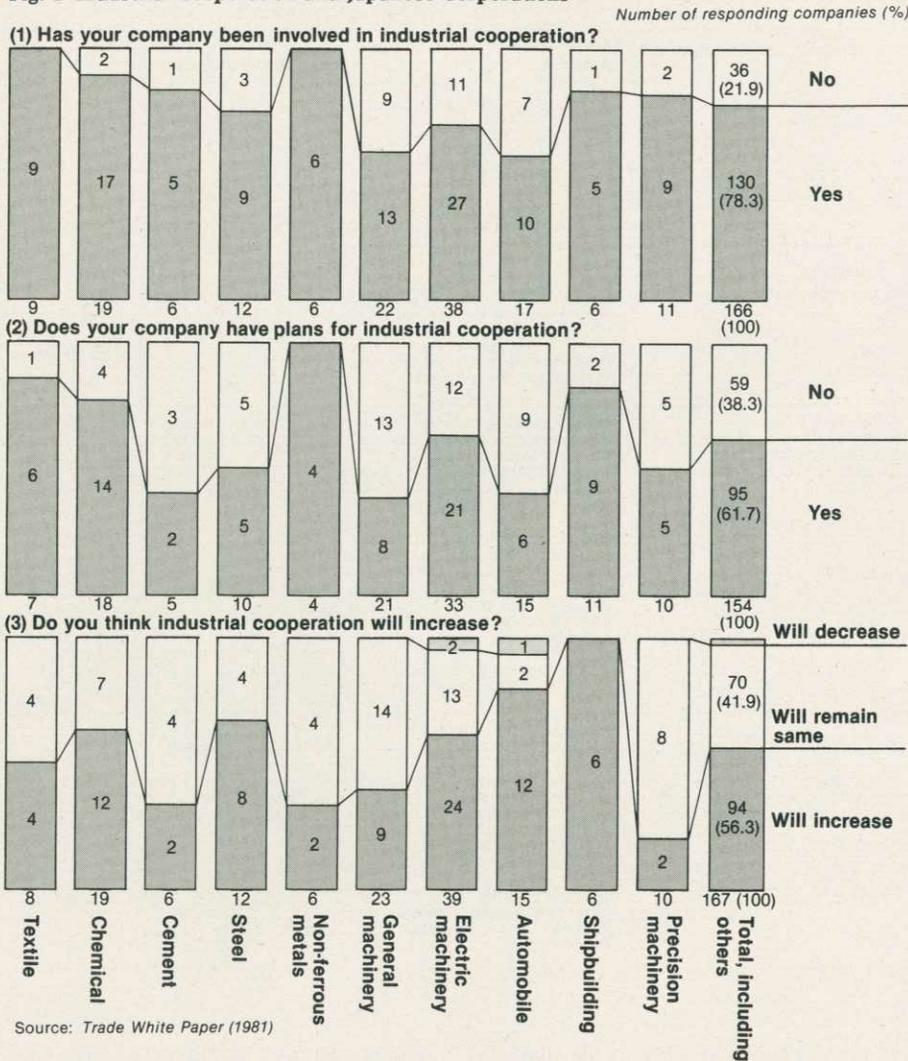
trial cooperation would increase throughout the decade of the 1980s (Fig. 1).

The remarkable extent to which Japanese corporations are engaging in industrial cooperation is due to a number of background factors. The basic factor is the accumulation by Japanese corporations of such so-called "management resources," as technology, know-how, financing ability, and information-gathering capability, making it possible for Japanese firms to pursue their internationalization strategies actively. However, it cannot be denied that industrial cooperation on the part of Japanese companies represents

An agreement is reached between Japanese and British company officials.



Fig. 1 Industrial Cooperation and Japanese Corporations



Source: Trade White Paper (1981)

Table 5 Cases of Overseas Investment and Technical Cooperation between Japan and the U.S.

Steel Industry	Automobile Industry	Semiconductor Industry	Machine Tools Industry
Technical cooperation between Nippon Steel and U.S. Steel, Armco and Bethlehem Steel	Nissan Motor building a small truck factory in U.S.	Hitachi, Nippon Electric, Fujitsu and Toshiba advance into U.S.	Yamazaki Tekko (iron works) advances into U.S.
Management and technical cooperation between Kawasaki Steel and Republic Steel.	Honda Motor building a passenger car assembly factory in U.S.		Hitachi Seiki to embark on production in U.S.
Technical cooperation between Nippon Kokan and Kaiser Steel	Mitsubishi Motors supplies engines to Chrysler.		Capital and technical tie-up between Makino Milling Machine and Revlond.
	Toyo Kogyo supplies engines to Ford.		

Source: Japan External Trade Organization, White Paper on Overseas Markets, 1981

a realistic response to the trade friction that has occurred at numerous times since the 1960s over textile, steel, home electric appliance, and automobile exports (Table 5).

Moreover, in order to revitalize and strengthen their corporations, the United States and EC countries are making moves to study advanced technology con-

cerning industrial robots and communication equipment as well as the production management system employed by Japanese companies. This trend has resulted in overseas inquiries for technical tie-ups with Japanese firms, determined attempts by foreign countries to attract Japanese companies, and foreign firms, sending trainees to Japan.

## Japanese Government's Role in Promoting Industrial Cooperation

Some Japanese, no doubt, are worried that promotion of industrial cooperation might result in a decrease in Japanese exports or a decrease in employment opportunities in Japan as a result of overseas manufacture or technology transfer. However, the Japanese Government believes it is essential to promote industrial cooperation vigorously for the following reasons:

(1) There is naturally a limit to which developed countries, which have identical industrial structures, can engage in external economic activities depending exclusively on exports of their manufactured products.

(2) Industrial cooperation is effective in alleviating trade friction.

In order to promote industrial cooperation overseas, the Japanese Government will render active assistance to help Japanese firms solve problems which are beyond their corporate capacities, by (i) collecting information about host countries, furnishing information on the effects and impact of industrial cooperation, and exchanging opinions with the governments of host countries, and by (ii) making active use of the information network of JETRO (Japan External Trade Organization), helping business organizations in the exchange of information, and holding mutual consultations and putting their results to full use.

From this standpoint, MITI established in September last year the Industrial Cooperation Policy Planning Office within its International Trade Policy Bureau in order to vigorously promote industrial cooperation. Moreover, MITI established the Foundation for International Trade and Industrial Cooperation to provide support to private enterprises in dispatching trade missions, receiving missions from abroad, holding seminars, and supplying information.

As for the exchange of views with the governments of other countries, MITI has already discussed concrete matters concerning industrial cooperation with the Ministry for Industry of the United Kingdom and the Trade Ministry of France. It is also studying the possibility of holding regular discussions with Belgium and other countries. Japan has already concluded joint insurance agreements with the United Kingdom, France, and Belgium in order to facilitate cooperation in third-country markets. Also, exports and specialists are being exchanged actively between Japan and West Germany and France under bilateral science and technology cooperation agreements. ●