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Structural Components of Japan's International Trade

by Angelina Helou, Oxford*

In the last issue of INTERECONOMICS Nobumitsu Kagami analysed Japan's behavioural pattern and role in the international monetary sphere. The following complementary article covers the field of the country's foreign trade.

General changes in Japan's export structure took effect in line with turnings in its industrialisation since the Second World War. Industrial development since then may be seen in terms of three phases:

- the predominance of light industries until the early sixties;
- the phenomenal growth of the heavy and chemical sectors, particularly in machinery and equipment, between 1965 and 1973; and
- the current effort to convert into knowledge-intensive industries exemplified in the concentration in the heavy and chemical sector on high value added production activities, the promotion of electronics as core sector and the development of new knowledge-intensive industries.

An impression of the second phase, to which the country's export behaviour corresponded mostly, may be formed from Table 1.

The figures reflect, for instance, the increasing disparities in production levels between the heavy and chemical (e. g., machinery, iron and steel, chemicals) and the light industries (i. e., textiles and food) as well as the comparatively high rises of the production level in the machinery sector.

Export Structure

Trends witnessed in Japan's export structure are illustrated in Table 2. Accordingly, for example:

□ The share of heavy and chemical products in total exports increased from 43.3 % in 1960 to 83.3 % in 1975 and is expected to reach 86.5 % in 1985. By contrast the percentage of light industrial products decreased from 33.8 % in 1960 to 8 % in 1975 and is projected at 4.2 % in 1985.

□ Among the heavy and chemical exports the proportion of machinery and equipment more than doubled between 1960 and 1975, i. e., from 25.3 % to 53.8 %; the respective figures for textile products were 30.2 % and 6.7 %. The contrasting tendencies are expected to continue in the eighties.

□ Within the field of machinery and equipment outstanding export performance was registered in the case of motor vehicles and electrical machinery. The export achievement of the motor vehicle industry has been due to the proportionate increase in the export of passenger cars. The exports of electric machinery have so far been dominated by consumer electronics (e. g., TV, radio receivers and magnetic recording/playback equipment), but industrial electronics are gaining in weight¹.

Corresponding with the present phase in industrial growth (i. e., knowledge intensification) the objectives, in terms of exports, were enumerated by MITI's Industrial Structure Council as:

¹ Cf. Guide to Japan's Electronics, Japan Fact Book 1979, Tokyo 1979, pp. 12, 17, 59; Yotochi Nakamura: The Business Climate Around the Electronic Industry of Japan, Digest of Japanese Industry & Technology, No. 137, 1979, p. 10.

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"Enhancing the level of and the diversification of export of the products of heavy and chemical industries such as exporting industrial plant;

Table 1
Index Numbers of Industrial Products
(weight by value added; 1960 = 100)

	Total Manuf.	Machinery	Iron & Steel	Chemicals	Textiles	Food
1952	56.4	41.4	53.3	59.8	73.7	81.8
1959	79.6	72.6	76.3	83.2	84.8	94.8
1965	177.2	198.8	177.7	208.0	147.1	134.4
1968	284.2	383.9	299.2	318.9	187.1	164.6
1973	503	789.8	535	545.1	259.8	214.2

Source: Ministry of Foreign Affairs: Statistical Survey of Japan's Economy, Tokyo, p. 19.

Table 2
Developments in Japan's Export Structure
(in %)

	1960	1965	1970	1975	1980 ^a	1985 ^a
Foodstuffs	6.6	4.1	3.4	1.4	1.3	1
Machinery & Equipment	25.3	35.2	46.2	53.8	61.2	67.7
General Machinery	5.5	7.4	10.4	12.1	17.7	21.8
Electrical Machinery	6.8	10.2	14.8	12.4	18.4	21.3
Transport Equipment	10.7	14.7	17.8	26.1	21.2	20.5
Motor Vehicles	2.6	2.8	6.9	11.1	10.8	9.8
Vessels	7.1	8.8	7.3	10.3	7.3	5.8
Precision Instruments	2.4	2.9	3.2	3.2	3.8	11.1
Metal Goods	13.8	20.3	19.7	22.5	14.3	9.3
Iron & Steel	9.6	15.3	14.7	18.3	10.2	5.7
Chemicals	4.2	6.5	6.4	7	8.9	9.5
Textile Goods	30.2	18.7	12.5	6.7	5	3.2
Non-ferrous Metals	3.6	3.1	1.9	1.3	1.2	1
Others	16.3	12.1	9.8	6.1	8.2	8.3
Total	100	100	100	100	100	100

^a Estimated.

Sources: The Japan Economic Research Center: The Future of World Economy and Japan, Feb. 1975; Japan External Trade Organisation: White Paper on International Trade - Japan 1977.

Table 3
Developments in Japan's Import Structure
(in %)

	1960	1965	1970	1975	1980 ^a	1985 ^a
Foodstuffs	12.2	18	13.6	15.2	12.3	10
Raw Materials	49.1	39.4	35.4	20.2	17.9	16.1
Textile	17	10.4	5.1	2.6	2.2	1.4
Metal	15	12.5	14.3	7.6	7.2	7.5
Others	17.2	16.6	16	4.5	8.6	7.3
Mineral Fuels	16.5	19.9	20.7	44.3	42.6	38.6
Chemicals	5.9	5	5.3	3.6	4.7	6.1
Machinery	9.7	9.3	12.2	7.4	9.5	11.1
General	6.3	5.5	6.7	—	4.9	5.4
Electrical	.8	1.4	2.5	—	2.5	3.2
Transport Equipment	1.9	1.9	2.2	—	2.5	3.2
Precision Instruments	.7	6.5	.8	—	.9	1.2
Miscellaneous Manufactured Products	6.6	8.4	12.8	8.9	12.9	18
Total	100	100	100	100	100	100

^a Estimated.

Sources: See Table 1.

"Promotion of export of research and development products;

"Making commodities including light industrial products which are of high quality and fashion;

"Export of products, including anti-pollution ocean development and educational machines and equipment, for which demand is expected to grow in domestic markets in the future; and

"Export of knowledge related commodities such as intangible or general system commodities including consulting services."²

Composition of Imports

Central in the country's import structure has been the share of raw material and fuel supplies. This is illustrated in Table 3. Hence in 1960, the percentage of raw material supplies, in total imports, was 49.1 % and that of mineral fuels 16.5 %. The two combined represented 65.6 %. By 1975, the share of mineral fuel increased to 44.3 % (of which crude oil and semi-refined oil was 33.9 %, coal 6 %, and oil products 2.3 %)³. The same year the share of raw material supplies, however, dropped to 20.2 % and is expected to reach an even lower level, i. e., 16.1 %, in 1985. This decline is a consequence of

□ rising constraints in industrial growth such as limited land sites and pollution problems;

□ moves to locate abroad first and intermediate stages of manufacture while concentrating in Japan itself on the high value added;

□ increase in the production of semi-finished products locally, prompted by the country's involvement in resource development abroad; and

□ moves on the part of Japanese manufacturers to undertake local operations (e. g., production of parts) because of cost and marketing advantages.

Still, in total, imports of raw materials and mineral fuels added to 64.5 % in 1975 and are seen to constitute more than half (i. e., 54.7 %) of the country's imports in 1985. Moreover, with foodstuffs included the share of primary products for the two years (1975, 1985) increases to 79.9 % and 64.7 % respectively. (By comparison the 1977 share of primary products in

² Ministry of International Trade and Industry: Japan in the World Economy, Japan's Foreign Economic Policy for the 1970s (Report of the Industrial Structure Council), Tokyo 1972, p. 51.

³ Japan External Trade Organisation: White Paper on International Trade, - Japan 1977, Tokyo, p. 77.

Table 4
Regional Distribution of Japan's Foreign Trade
(in %)

	Exports				Imports			
	1960	1965	1970	1975	1960	1965	1970	1975
Developed Areas	47.3	50.9	54	40.6	57.3	51.3	55.2	40.1
USA & Canada	30	31.9	33.7	22.1	39	33.3	34.4	24.4
West Europe	11.8	12.9	15	14.4	8.8	8.9	10.4	7.5
Australia	5.5	6.1	5.3	4.1	9.6	8.9	10.5	8.3
New Zealand								
South Africa								
Developing Areas	52.9	43.5	45.9	59.4	39.9	42.3	40.1	54.7
Southeast Asia	32	26	25.4	22.5	20.4	17.2	16	18.3
Latin America	7.5	5.8	6.1	8.5	6.9	8.7	7.3	4.4
Middle & Near East	4.4	4.2	3.3	10	10	13.6	12.4	28
Africa	6.2	7.1	5.2	10	1.7	2.3	3.7	4
Others	.8	.4	.5	—	.8	.5	.8	—
Social. Countries	1.8	5.7	5.4	8.4	2.8	6.5	4.7	5.2
Total	100	100	100	100	100	100	100	100

Sources: Bureau of Statistics, Office of the Prime Minister: Japan Statistical Yearbook – 1976, pp. 280-281; Japan External Trade Organisation: White Paper on International Trade – Japan 1977, p. 78.

US imports was 45 %, in Germany 40.8 %, in the UK 40.4 % and in France 42 %).⁴

Japan's imports of manufactured goods reached a peak level in 1973 accounting for 30.1 % of her total imports⁵. Thereafter the general recession following the oil crisis as well as the rise in the share of oil imports affected the import level of these goods so that their share dropped to 19.9 % in 1975. In the meantime however it has shown a recovery and is expected to reach 35 % in 1985.

Prospects for a higher level of imports in industrial products relate, e. g., to

- the appreciation of the yen which is prompting Japanese manufacturers to buy finished products from abroad and/or establish local operations overseas and export back to Japan;
- more imports from Japanese local manufacturing operations, e. g., imports of labour-intensive low-technology goods from Southeast Asian countries,

which have the advantage of low cost labour. These imports are, in a way, encouraged as a means for curbing inflation;

□ the reduction in tariff rates. As a result of the Tokyo Round agreements Japan is cutting tariffs, during the next eight years, on approximately 2,600 industrial products by an average of 50 % from the rates set by the Kennedy Round⁶;

□ measures introduced at different levels to promote such imports (e. g., an eight point programme announced by the authorities in December 1977; JETRO's campaign to increase imports from industrialised and developing countries; and the establishment of the Manufactured Imports Promotion Organisation (MIPRO) by Japan's business community).

Export Destinations

Table 4 reflects the general manner in which Japan's exports and imports have been distributed by region. It can be seen that the two main export markets have been North America and Southeast Asia. Their shares, however, have been declining particularly since 1973. An increase has been registered, since 1970, in exports to West Europe. The same applies to Japan's exports to the socialist countries. The export shares of both markets are expected to further increase in the future. Exports to the Middle East rose appreciably in recent years. This corresponded with the steep increase in Japan's imports from the area.

Focusing on the regional distribution of Japan's exports by commodity group, available data allow the

⁴ Japan External Trade Organisation: Basic Facts On the Economies of Seven Industrialized Nations Participating in the Tokyo Summit Conference, Tokyo 1979, p. 19.

⁵ Japan External Trade Organisation: Focus Japan (Building Up Japan's Import Structure), Tokyo, March 1978, p. 14.

⁶ Japan External Trade Organisation: Focus Japan, Tokyo, June 1979, p. 9.

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following observations: The country's leading exports, i. e., electric machinery and motor vehicles, particularly passenger cars, concentrate on developed markets. For example, in 1977, 46 % of the exports of consumer electronic products went to the US, 24 % to West Europe, only 15 % to Asia; the respective figures for industrial electronics were 37 %, 24 % and 22 %. Asia, however, represented the main market for electronic parts with a share of 38 % in contrast with 31 % for the US and 20 % for West Europe⁷.

Of the exports of motor vehicles 44 % (in 1978) were destined to North America and 16.2 % to West Europe; the respective percentages for passenger cars were 50.2 % and 21.4 %. Developing markets received a larger share of commercial vehicles, e. g., 55.1 % in trucks and 87.2 % in buses⁸.

Japan's exports of metal products were, on the whole, mainly destined to developing markets, with a substantial share to socialist countries. In 1976 the share of Southeast Asia was 21 %, West Asia 14 %, Latin America 7.7 % and Africa 3.8 %; 16.7 % went to socialist countries; North America received 24 %, West Europe 11 % and Oceania 2.6 %⁹.

Other exports of the heavy raw material consuming industries (e. g., chemicals) also tend to concentrate on developing countries. For example, in 1976, 49 % of the chemical products exported were destined to Southeast Asia and 10 % to other developing countries. The shares of the socialist countries, North America and Europe were roughly equal, i. e., 11.6 %, 11.8 % and 11.9 % respectively¹⁰.

Sources of Imports

North America and Southeast Asia represented also the two main import sources. However, since 1972 a declining trend has been registered in regard to imports from North America. By contrast, imports from Southeast Asia have been on the increase, especially with respect to manufactured products. One reason for this is the concentration of Japanese local manufacturing operations in the area. In 1970 40 % of Japan's total imports of industrial products came from

Table 5

Japan's Main Import Sources by Commodity Group (in %)

	North America	Southeast Asia	Oceania	Latin America	West Asia	West Europe	Socialist Countries
Foodstuffs	36	24.7	15	7.8	—	—	—
Textile Raw Materials	15	—	34	19.5	—	—	14
Metal Raw Materials	16	20	37	18.6	—	—	—
Other Raw Materials	49	32	—	—	—	—	8.7
Mineral Fuel	7.4	17.6	5.5	—	48	—	—
Chemical Products	43	7.5	—	—	—	37	—
Machinery	50	12.8	—	—	—	34	.5
Other Manu- factured Goods	20	33	—	—	—	19.4	8.3

Source: Japan External Trade Organisation: White Paper on International Trade – Japan 1977, Tokyo, pp. 116-142.

Table 6

Japan's Trade Surplus (Balance of Payments Statistics; in mn US \$)

	Exports	Imports	Balance	Balance in % of Exports
1964	6,704	6,327	377	5.6
1965	8,332	6,431	1,901	22.8
1966	9,641	7,366	2,275	23.6
1967	10,231	9,071	1,160	11.3
1968	12,751	10,222	2,529	19.8
1969	15,679	11,980	3,699	23.6
1970	18,969	15,006	3,963	20.9
1971	23,566	15,779	7,787	33
1972	28,032	19,061	8,971	32
1973	36,264	32,576	3,688	10.2
1974	54,480	53,044	1,436	2.6
1975	54,734	49,706	5,028	9.2

Sources: Bureau of Statistics, Office of the Prime Minister: Monthly Statistics of Japan; Japan Statistical Yearbook – 1976.

the US, 30 % from West Europe and 9 % from Southeast Asia. The respective percentages for 1975 were 36 %, 35 % and 12 %¹¹.

By commodity group the country's main import sources are roughly illustrated in Table 5 from which it can be seen that the two main sources of Japan's leading imports (metal raw materials and mineral fuel), Oceania and West Asia, are not identical with the main markets for her leading export commodities (electrical machinery, passenger cars and iron and steel).

Development of Trade Surplus

Since the mid-sixties Japan's trade surplus has become a relatively established aspect of the country's international trade. Its achievement may be seen connected with the manner in which Japanese industrial development took place since the Second World War, i. e., specifically with the life cycle pattern

⁷ Guide to Japan's Electronics, Japan Fact Book 1979, op. cit., pp. 28-30.

⁸ The Business Trends of Japanese Automobile Industry, Digest of Japanese Industry & Technology, No. 138, 1979, p. 15.

⁹ White Paper on International Trade, – Japan 1977, op. cit., p. 101.

¹⁰ Ibid. p. 95.

¹¹ Japan External Trade Organisation: Japan As An Export Market, (Marketing series 1), Tokyo, p. 12.

of the heavy and chemical sector: The timing of realising a trade surplus corresponded with a certain growth period of the heavy and chemical industries, i. e., since 1965. The surplus was particularly high during a stage of maturity, e. g., between 1969 and 1972 (as seen in Table 6).

A trade surplus was needed to cover chronic deficits witnessed in the invisible account of the balance of payments. The level of these deficits, between 1965 and 1975, is illustrated in Table 7.

Table 7
Japan's Invisible Account
(in mn US \$)

	Credits	Debits	Balance
1965	1,563	2,447	-884
1966	1,931	2,817	-886
1967	2,182	3,354	-1,172
1968	2,607	3,913	-1,306
1969	3,261	4,660	-1,399
1970	4,009	5,794	-1,785
1971	4,840	6,578	-1,738
1972	6,238	8,121	-1,883
1973	8,493	12,003	-3,510
1974	12,031	17,873	-5,842
1975	13,499	18,852	-5,353

Sources: See Table 6.

The main items covered under payments were transport and insurance expenses which accounted, on average, for 52 % of the total annual payments during the 1965-1975 period. One reason for this is the high degree of Japan's dependency on the import of primary resources. Another significant item is the royalties and fees account in which case the ratio of receipts to payments, over the given period, did not exceed 12 %. This has been basically due to a post-war policy to industrialise through the import of technology.

During the 1965-1975 period deficits were witnessed also in investment income (except in 1972, 1973). The average was \$ -193.6 mn for 1965-1971 and \$ -363 mn for 1974-1975¹². This may be seen in relation to a number of factors:

□ comparatively the Japanese overseas sector is still at the formative or experimental stage;

□ a substantial part of overseas investment (more than a third) is in resource development, i. e., in activities where resources are necessarily consumed during initial stages before incomes are earned;

□ investments abroad by manufacturing industries largely fall to the share of the textile sector – a declining industry in Japan – in which case the “localisation” factor is more important than remitting funds for investment in Japan;

□ in general a good percentage of Japanese local operations are established by small and medium companies, i. e., parent firms investing normally with a local partner and also interested in pooling resources locally;

□ large companies investing abroad often represent general trading companies (*sogo shoshas*) whose objective in undertaking and/or participating in local operations is normally a part of an overall trading strategy, i. e., not in earning investment income as such.

Regional Distribution of Trade Results

From Table 8, which shows Japan's trade results by region, it can be seen that the surpluses achieved in the trade with developed areas were partly needed to offset deficits vis-à-vis the group of developing countries. These deficits are largely a result of the fact that a third of Japan's imports represent petroleum of which 97 % originate in developing nations, particularly in countries to which the level of Japanese exports is very low.

Table 8
Japan's Trade Balance by Region
(in \$ 1,000 mn)

	1965	1970	1971	1972	1973	1974	1975	1976	1977
Developed Areas	.4	.04	9.5	11.2	-2	2	-1.3	16.5	27.8
USA & Canada	-.1	-.05	8.3	9.1	-2.2	-2.7	-5.3	8	16.1
West Europe	1.3	3.4	4.6	7	6.8	9.9	11.2	17.7	20.2
Australia									
New Zealand									
South Africa									
Developing Countries	.8	.9	4.5	3.9	-.9	-23	-10	-15	-7
Latin America	-8	-7	.8	1.7	2.2	7	7	8	9
Southeast Asia	3	7	8.2	7	2.5	.7	5.8	1.9	5.3
Middle & Near East	-3	-6	-7.7	-7	-9	-36	-31	-34	-32
Africa	1.5	1.1	3.3	2.8	3.3	5.7	8.8	10.1	11
Socialist Countries	-2	-6	-.7	.7	-9	2.3	5	5.5	4.3

Sources: See Table 6.

¹² Bureau of Statistics, Office of the Prime Minister: Monthly Statistics of Japan; Japan Statistical Yearbook – 1976.