

This shift can be seen in the evolution of Japanese exports. In the 1960s and early 1970s, the heavy and chemical industries dominated exports, climbing to an 82% share of Japan's total. Today, the list is topped by non-electrical and electrical machinery and equipment (\$232.5 billion in 1989) and motor vehicles (\$57.6 billion). Since 1983, the fastest growing industrial sectors have been consumer electronics, semiconductor integrated circuits, and passenger cars.

Japan Focuses on Technology

In the past, most of Japan's manufacturing know-how was imported from other countries through licensing agreements. For example, in 1969, payments made by Japan for foreign technology were eight times its technology receipts. However what was once a heavy dependence on foreign technology is being transformed. By 1988, Japan's technology payments were three times the amount of its technology receipts.

There are still those who argue that Japan's strong suit is to copy and adapt the technology invented by others. To prove them wrong, Japan is now focusing on doing its own basic research to reinforce its product and process technology and reduce its dependence on foreign solutions. Basic research now accounts for 13.3% of all the R&D performed in Japan and these efforts are being concentrated in fields such as biotechnology, medicine, satellites, telecommunications, computer software, and the environment. More than 80% of this R&D is done by private research establishments, though the government sets an overall direction through incentives and national programs in strategic areas.

The Japanese recognize, however, that they cannot do everything themselves. Japan's White Paper on Science and Technology 1989 stresses the need for technological cooperation and scientific

exchanges with other countries. Japan is in a strong position. Today, it holds 50% of the world's patents, putting it in a powerful bargaining position as it seeks technology partners abroad. The White Paper also recommends developing offshore R&D facilities that can enhance the access of Japanese firms to technology around the globe. A desire to acquire technology has become an important factor driving Japanese investment overseas.

II. Japan's Overseas Investment Boom

Performance

Japanese investment abroad skyrocketed in the late 1980s. Total investments made between 1986 and 1988 surpassed the cumulative value of all Japanese foreign direct investments between 1951 and 1985. And investments made in 1989 were 450% higher than those made just four years earlier in 1985. By the end of 1989, the cumulative value of all Japanese FDI exceeded \$295 billion.

The Boom in Japanese Foreign Direct Investment

	Amount (\$ billions)	Growth Over Previous Year (%)
1985	16.7	—
1986	30.9	85.0
1987	44.3	43.4
1988	57.8	30.5
1989	79.6	37.7

Source: Japanese Ministry of Finance.
(notification basis)