

## Analysis of Trends in the Imports of Foreign Technology to Japan (1994 Fiscal Year)

Technology Imports Based on Foreign Exchange and Foreign Trade Control Law, and Actual Situations of Imports Relating to Technologies (including "software" and "trademarks")

(NISTEP Report No. 46)

Information Analysis Section

## 1. Introduction

The present investigation summarizes the imports of foreign technologies into Japan in FY 1994, and analyzes the trends of the recent technology imports.

The present report consists of Part 1 "Analysis of Trends in imports of Foreign Technologies", Part 2 "Analysis in the Trends of Technology Styles" and Part 3 "Statistics".

The categorized totalization and analysis of these import technologies are based on the reports and notifications submitted in conformity with "Report concerning the Conclusion (Revision) of Technological License Contract" and "Notification of the Conclusion (Revision) of a Technology Import Contract" under "Foreign Exchange and Foreign Trade Control Law".

## 2. Survey results

### (1) Number of new cases

The number of newly imported technologies was 3161, showing an increase of 4.4% (132 cases) compared to the previous fiscal year, and the technology imports did not change so much in these several years, continue to grow at this level (Fig. 1).

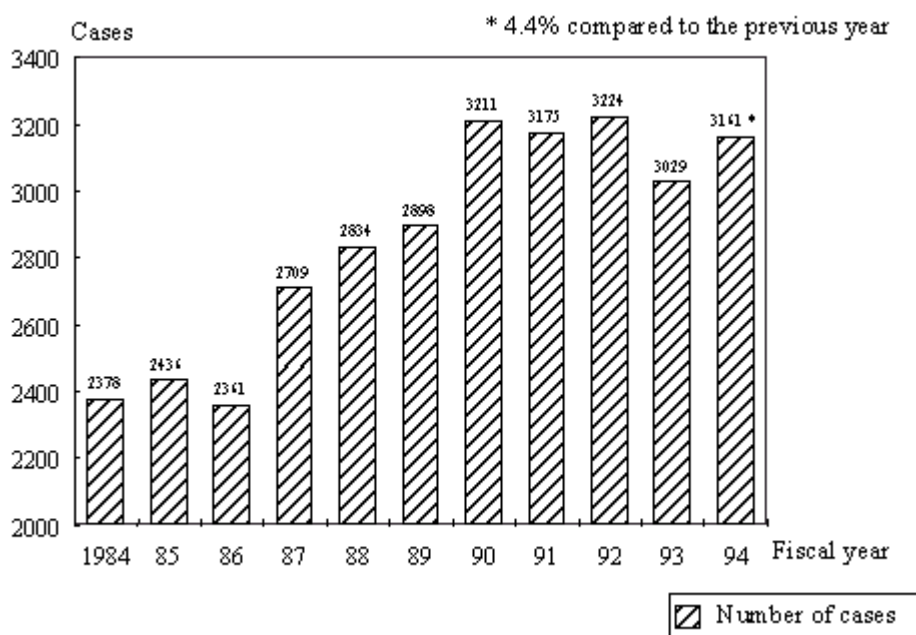


Fig. 1 Trends in number of imported technologies

### (2) Numbers of cases by country

As for the numbers of cases classified into respective countries, the number of cases from USA was 2056, accounting for two thirds of the total, to show intensive reliance on USA in the introduction of technologies. Great Britain was 2nd, accounts for only 9% of the total (Table 1).

About 65% (1327 cases) from USA were concerned with computers. The technology imports from Asia are rapidly growing quickly, especially in the software.

Table 1 Import from major countries

Country	FY 1994	Percentage (%)	Ratio to previous year (%)	FY 1993	FY 1989	FY 1984
USA	2056	65.0	3.6	1985	1808	1355
Great Britain	283	9.0	45.1	195	196	155
France	154	4.9	-4.3	161	187	240
Germany	127	4.0	-13.6	147	196	232
Netherlands	89	2.8	9.9	81	79	46

Note: Figures for Germany includes the technology exports from the former East Germany existing previous to unification.

### (3) Share of Imports by Technology Formats

For the numbers of cases classified into respective technology formats (hardware technology, software, trademark only), the number of cases relating to "software" was 1629, accounting for about 52% of all the cases. The software remains constant at about 50% in the recent 5 years. On the other hand, the cases relating to "hardware technology" was 1117, accounting for 35%, and it has been decreasing since 1992. (Fig. 2) (Fig. 3)

Therefore, the difference between "software" and "hardware technology" has been gradually increasing since 1991.

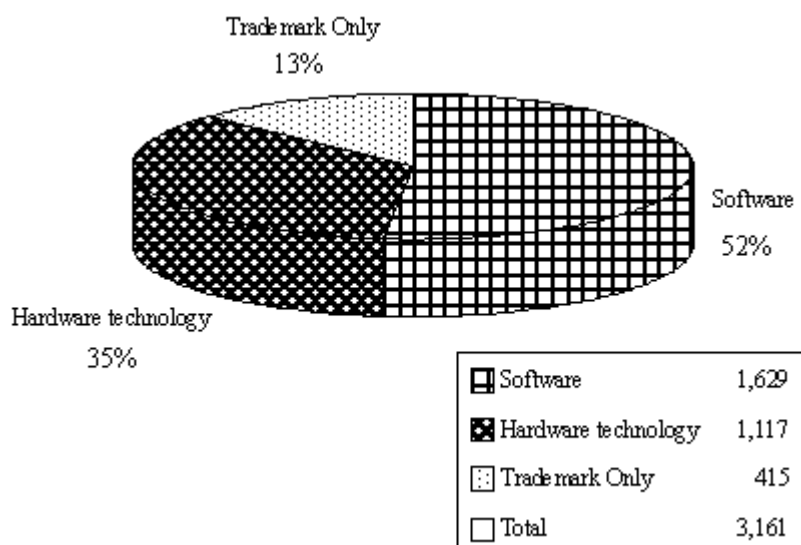


Fig. 2 Share of Imports by Technology Format

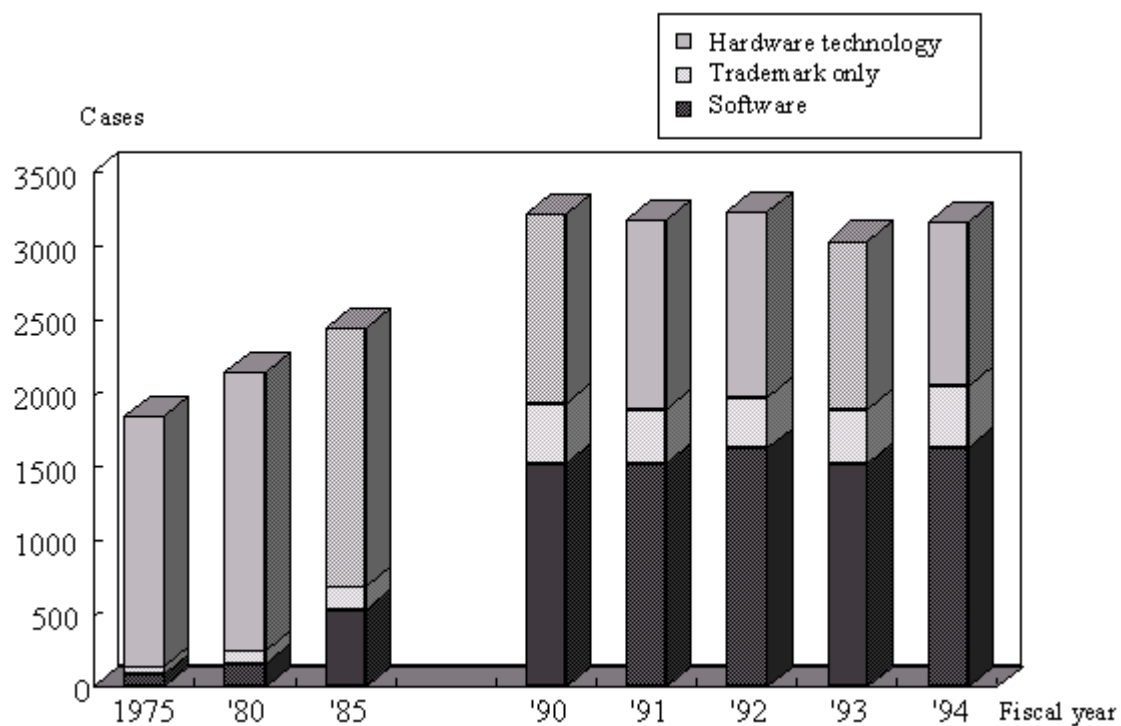


Fig. 3 Trends in Number of Imports Cases

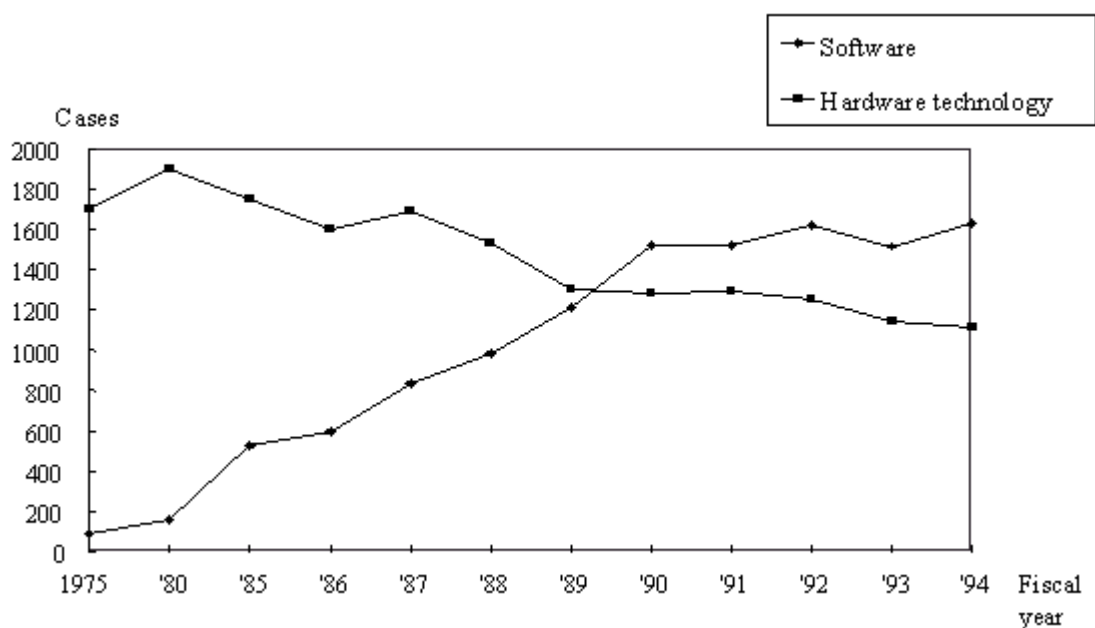


Fig. 4 Trends in Number of Import by Technology Formats

(4) Numbers of cases by technological category

For the numbers of cases classified into respective technological categories, "electronic computer" accounts for 55% of the total for technology imports. So, the "electronic computer"-led technology import continues (Table 2).

In reference to the respective technology imports, more than 92% of technologies relating to

"electronic computer" were imported as "software", and the technology imports relating to computers have been being shifted from hardware to software year by year. Therefore, the technology imports can be said to be led by "software (Fig. 5).

Table 2 Trend in number of import cases for top five technological classification entries (bottom level)Technology classification entry (bottom level)

Technology classification entry (bottom level)	FY 1994	Shear	Compared to previous year	FY 1993	FY 1989	FY 1984
Electronic computer	1740	55.0	3.4	1683	1268	587
Outer garment	148	4.7	43.7	103	117	158
Electronic parts and devices	125	4.0	-13.8	145	106	76
Drugs and medicines	95	3.0	1.1	94	121	65
Precision instrument	90	2.8	30.4	69	63	68

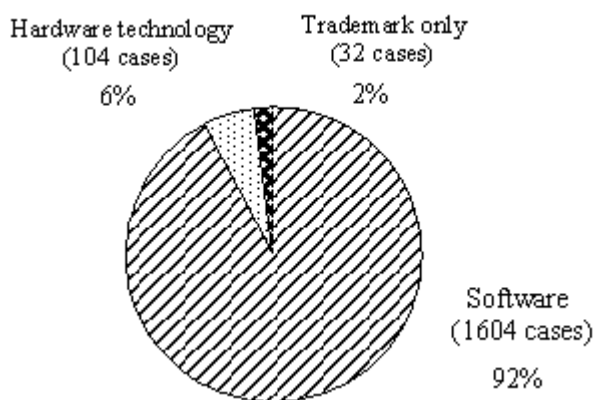


Fig. 5 Percentages of respective technology styles in "electronic computer"

(5) Payment conditions

As for the payment condition, 80% of the royalties for "software" were paid based on unit prices, and in the cases of rate setting, 70% of cases were contracted at high rates (Fig. 6).

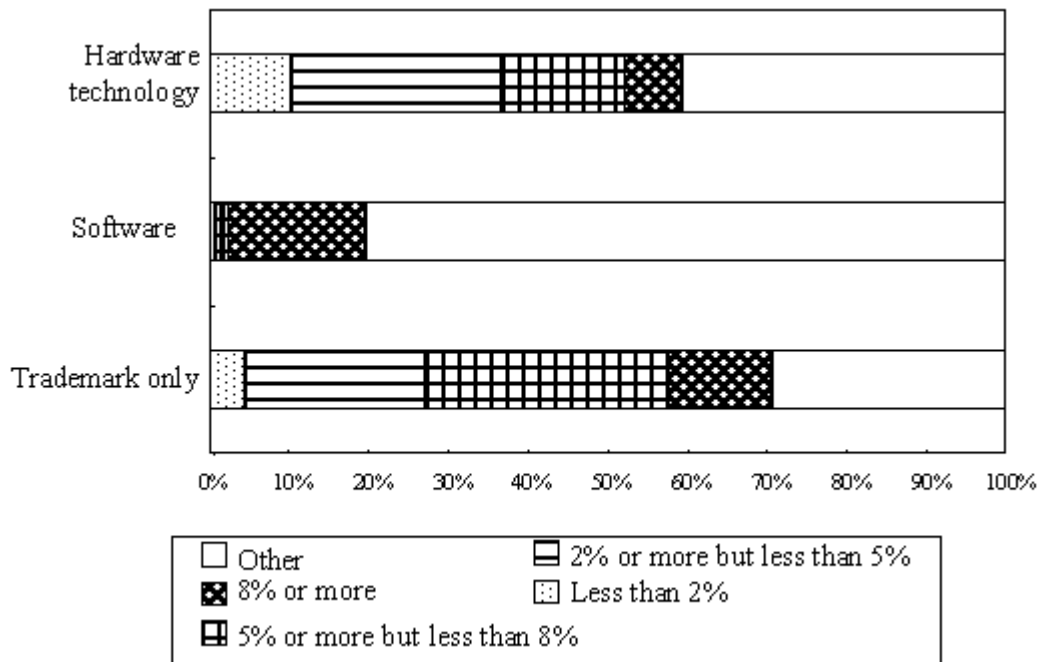


Fig. 6 Rates of running royalties

(6) Contract term

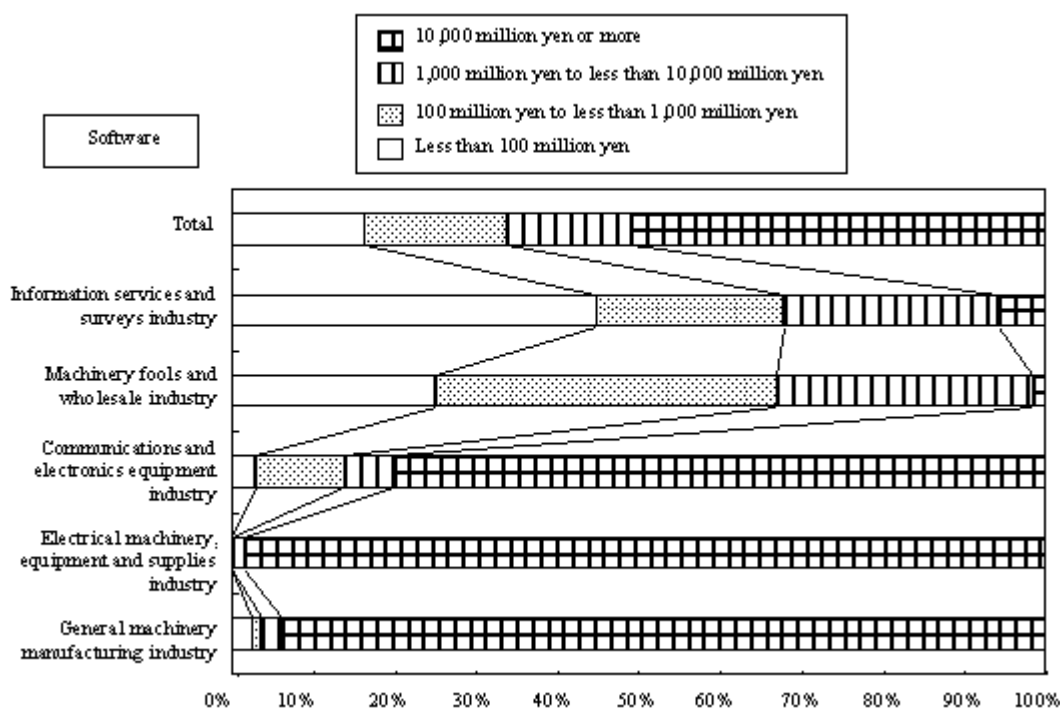
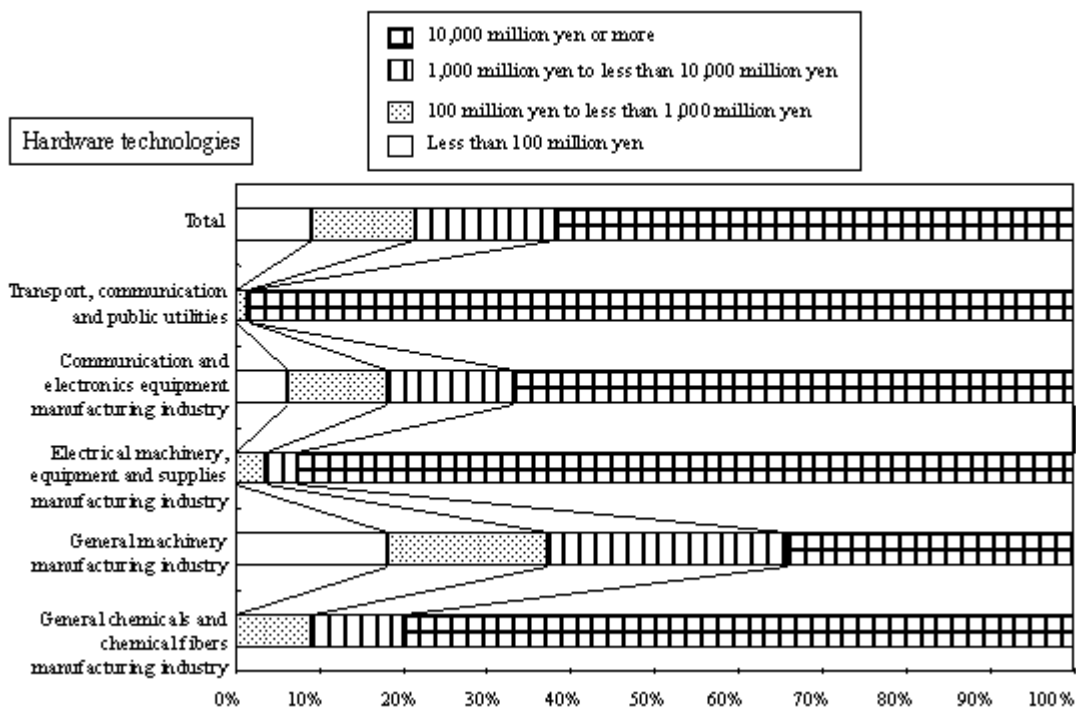
As for the contract term, "one year or more but less than five years" was the most numerous, accounting for 37% of the total (Table 3).

Table 3 Situation contact terms

Contract term	FY 1994	Shear (%)	Compared to previous year (%)	FY 1993	FY 1989
Less than 1 year	118	3.7	-15.7	140	116
1 year or more but less than 5 years	1163	36.8	28.7	904	779
5 years or more but less than 10 years	376	11.9	2.5	367	332
10 years or more but less than 15 years	155	4.9	-14.4	181	241
15 years or more	48	1.5	-46.7	90	78
Through expiration of patent, etc.	240	7.6	-1.2	243	296
Others	1061	33.6	-3.9	1104	1056

(7) Numbers of cases by capital scale by industry

With regard to the numbers of cases classified into respective capital scales and respective industries, companies larger in capital scale were generally larger in the number of cases, but small scale companies engaged in information service grew mainly in software. (Fig. 7)



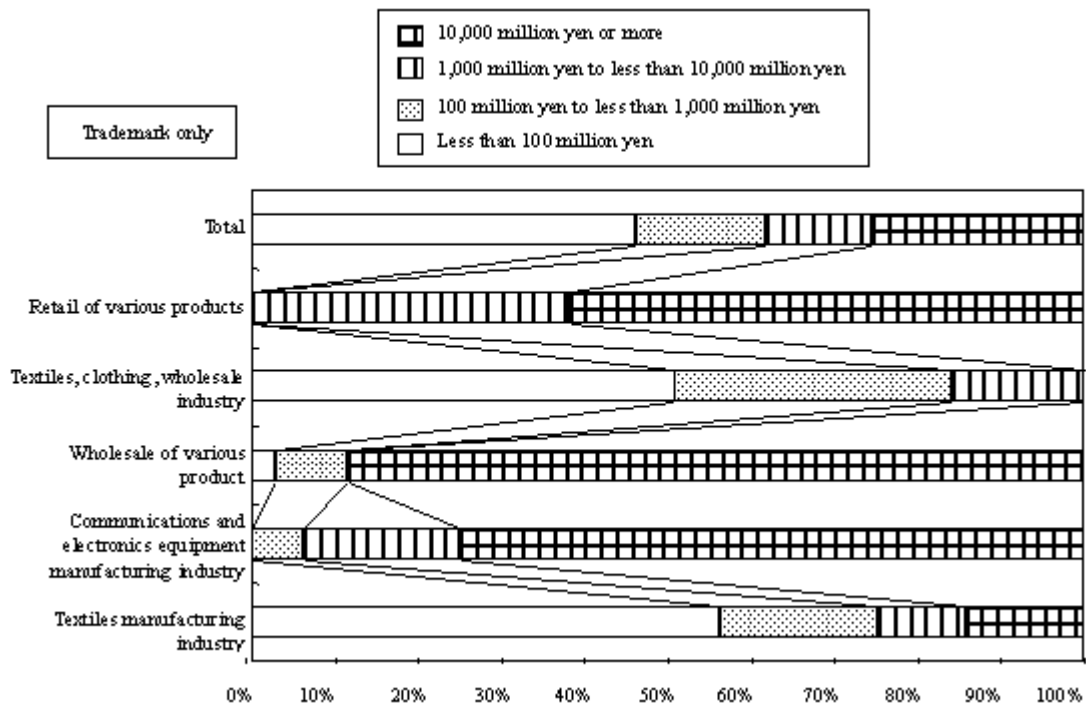


Fig. 7 Ratio of Imports by Type of Business and Size of Capital

(8) Technology trade balance

With regard to technology trade balance, the value of payments by Japan for technology imports in fiscal 1994 was increased by 18% (1288 million dollars) compared to the previous fiscal year, and the value of receipts for technology import 1994 was increased by 35% (1431 million dollars) compared to the previous fiscal year. The technology trade balance ratio (received amount/paid amount) for fiscal 1994 was greatly increased from 0.55 of the previous fiscal year to 0.64 by 16.4% (Fig. 8).

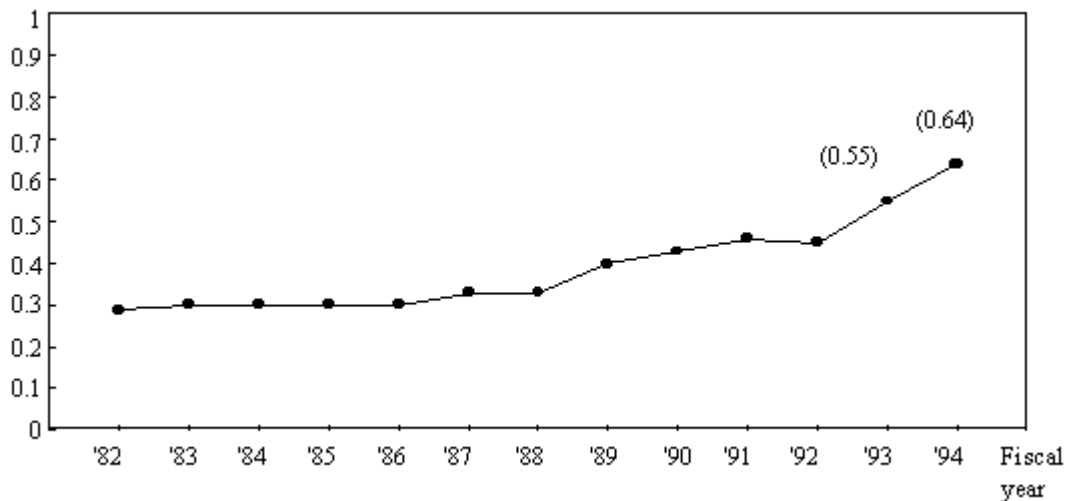


Fig. 8 Trend of Technology Trade Balance of Japan  
(Source: "Balance of Payments Monthly" compiled by the Bank of Japan)