

Hollowing-out of Japanese Industries and Creation of Knowledge-Intensive Clusters

Introduction

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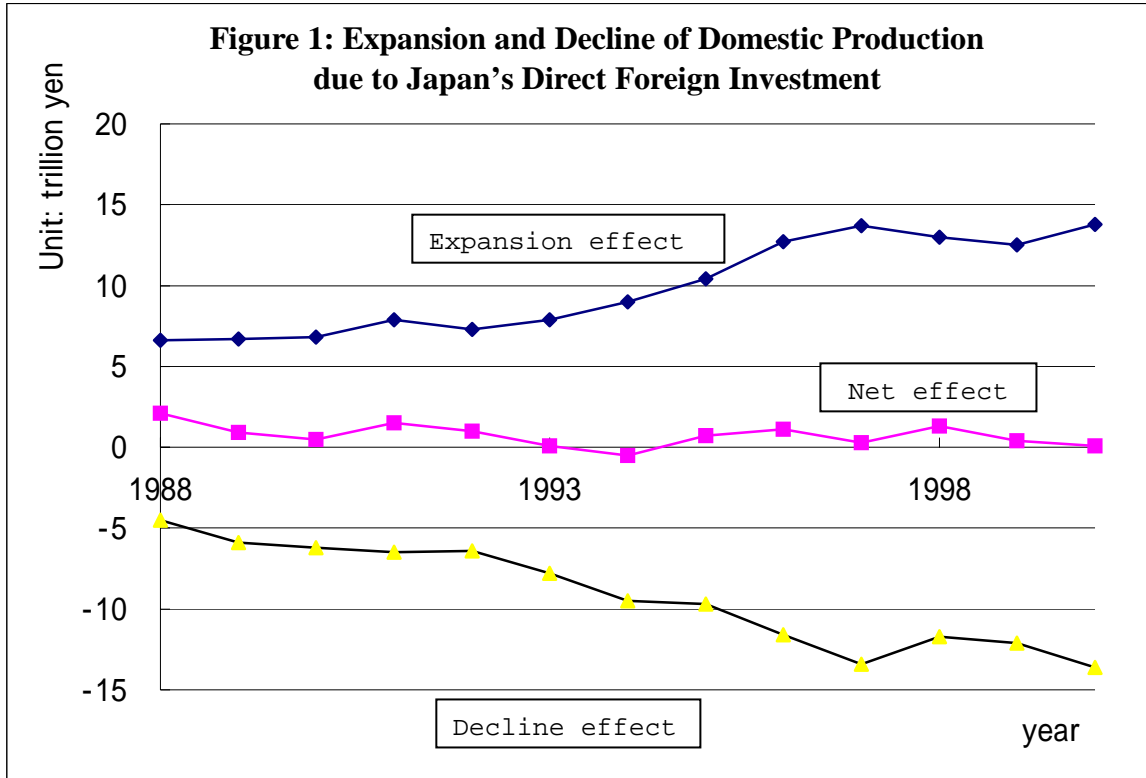
Introduction

This paper offers a general view on changes in Japan's employment structures and summarizes trends in the economic policy measures taken within Japan to encourage new industries. The institutional conditions will also be discussed in order to ensure the vitality and effectiveness of the creation of new industries. Section 1 deals with the electric machinery and appliance manufacturing industry as an example of industrial hollowing-out. This section reveals the quantitative changes in employment which occurred amongst Japanese multinational firms during the 1990s, by comparing data from Census of Manufactures (Kougyo Toukei Hyo) and data from annual financial reports. Section 2 traces the manner in which boards of director members changed within the Japanese banking industry during the restructuring process of the 1990s. Section 3 searches for those conditions that enable political measures to function favorably while at the same time reviewing government measures that encourage the creation of new businesses and their effects on employment.

As surveyed by Horaguchi (1997, 1998a, 2002a), arguments associated with industrial hollowing-out are complicated. The definition of the term differs from a researcher to a researcher. The definition of industrial hollowing-out includes the broad as well as the narrow sense. Industrial hollowing-out in the broad sense implies a state of industrial decline demonstrated by a decline in the domestic market caused by increased imports. Another way of describing this phenomenon is "changes in industry structure" according to changes in the structure of competitive advantage. In contrast, industrial hollowing-out in the narrow sense implies lowered employment levels in domestic industries caused by direct foreign investment by Japanese manufacturing companies, establishing a local head office in a specific country.¹

Those situations in which the definition of industrial hollowing-out differs according to an analyst are not mentioned here since they have already been discussed in detail by Horaguchi (1997). Instead, as for the actual status of hollowing-out, the description here is limited to the introduction of those facts that emerged after 1997. For example, according to Itami (2004), industrial hollowing-out was not observed when viewed over Japan as a whole. He explains that the net effect had a slight positive effect because the reduction in domestic production in Japan, due to direct foreign investment, was well offset by an increase in procurement of parts and raw materials to overseas production bases (see Figure 1).

¹ Horaguchi (2002a), pp. 115-116



Source: Itami (2004), p.26; original data from JETRO's *Trade and Investment White Paper*, 2002.

Other studies also support this stance. Matsumura and Fujikawa's estimation (1998) used the Input-Output Table and compared the situation in 1970, 1980, 1990 and 1995. As a result, it was revealed that the domestic production ratio of manufacturers in the Japanese processing and assembly industry was rising or fairly stable, but not declining. The automobile industry, for example, saw the ratio increasing from 88.3% in 1980 to 93.2% in 1995. This was also true for the computer industry as the ratio increased from 87.1% to 90.6% during the same period. Moreover, the ratio increased slightly in the "other electric machinery" industries with an increase from 84.1% to 91.3% and the "radio, television and telecommunications equipment" industry with an increase from 87.3% to 89.6%.² The fact that the domestic production ratio increased in industries where they invested aggressively in foreign countries might suggest that hollowing-out, in the broad sense, did not occur when pervasive effects on industry in general are considered.

It is true that Japan has been experiencing a long-term recession in the 1990s since the collapse of the bubble economy, and its macroeconomic growth rate has been slowing down. If industrial

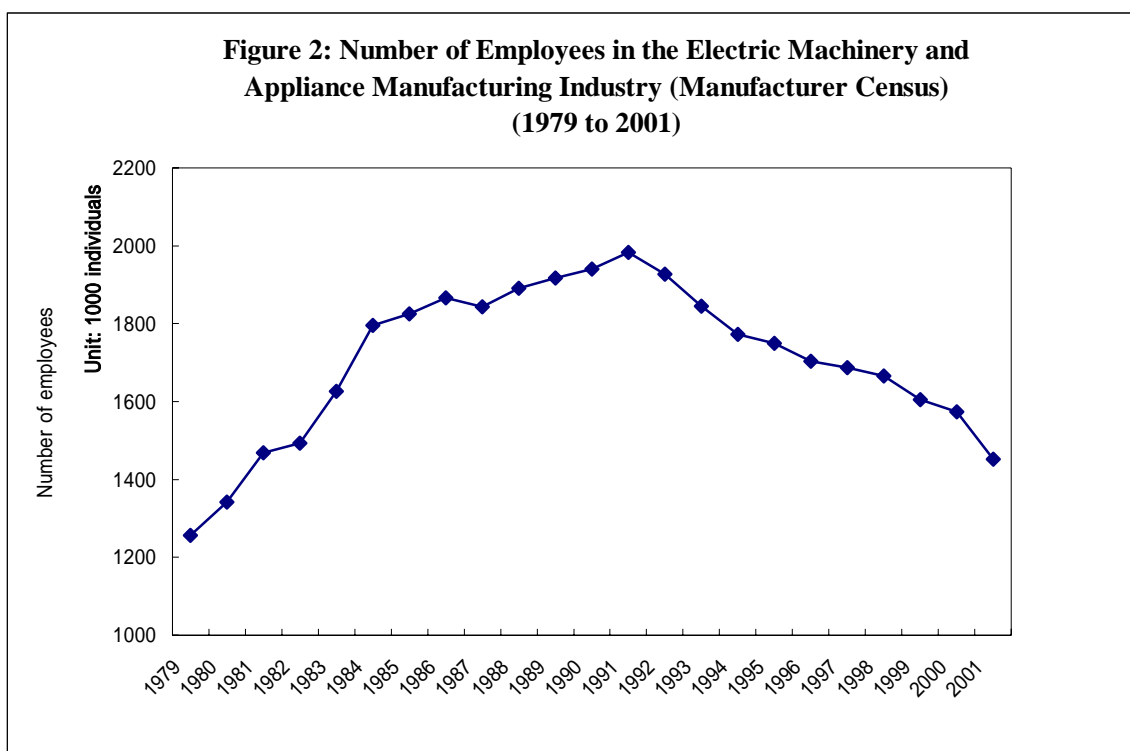
² Matsumura and Fujikawa (1998), p.112.

hollowing-out is narrowly defined, the effect of direct foreign investment must be limited to that on employment in a particular industry. However, the above studies suggest that an increase in the number of unemployed due to worsened macroeconomics is more significant when observing the country's economic condition.

Section 1 analyses individual industries in ways beyond the macroeconomic viewpoint. The electric machinery and appliances manufacturing industry is analyzed first.³

1. Hollowing-out of the electric machinery and appliances manufacturing industry

1-1. Analysis of the electric machinery and appliances manufacturing industry using Census of Manufactures (Kougyo Toukei Hyo) data



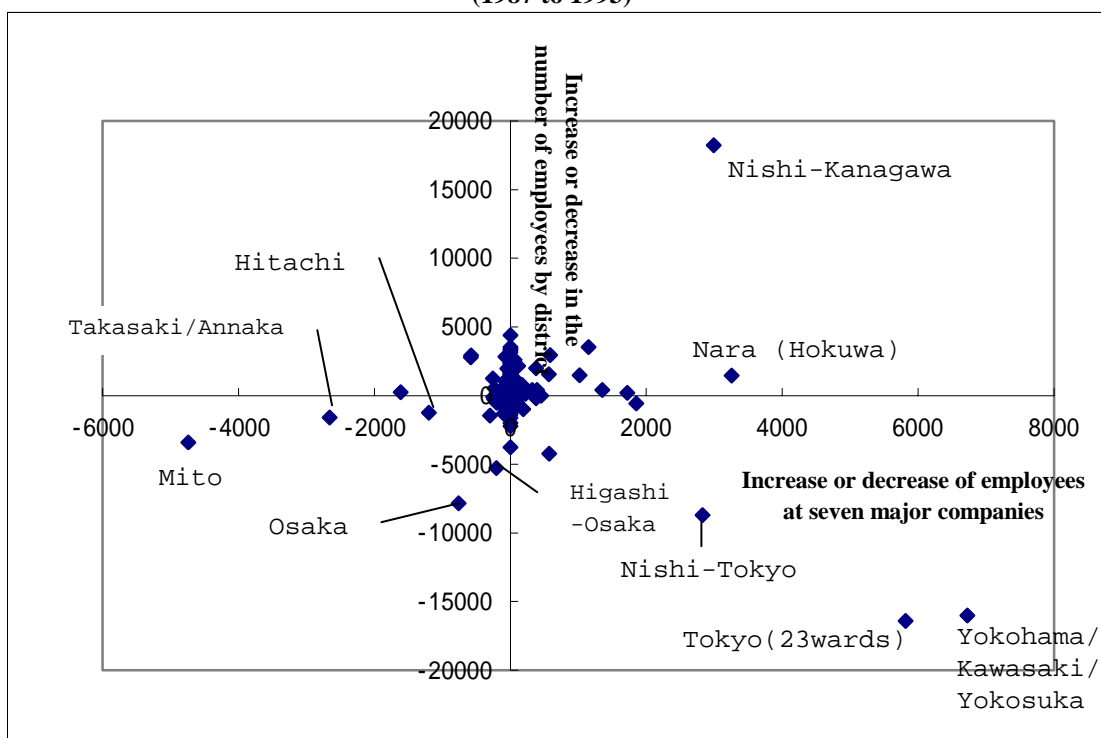
Source: Compiled by the author using the annual Census of Manufactures (Kougyo Toukei Hyo)

³ *Classification in the Census of Manufactures (Kougyo Toukei Hyo), Report by the Industrial District, Research and Statistics Department, Ministry of Economy, Trade and Industry (formerly Ministry of International Trade and Industry).*

According to the Census of Manufactures (Kougyo Toukei Hyo) data, employee numbers, when limited to the electric machinery and appliances manufacturing industry, peaked in 1991 at 1,982,887 employees, as shown in Figure 2. The electric machinery and appliances industry has been relatively prosperous in terms of new product development, such as mobile telephones, liquid crystal and digital home electric appliances. However, in the so-called post-bubble period of the 1990s, employee numbers fell to 1,573,683 in 2000, and then to 1,451,804 in 2001, a decrease of more than 500,000 employees.

When compared with the number of employees in the industry in 1979 (1,256,275) and in 1980 (1,341,722), the 2001 figure of 1,451,804 was at a higher level, although it was lower than that 20 years previously, i.e. 1,468,796 in 1981.

Figure 3: Correlation between Number of Employees in Large Manufacturers and Data from Electric Machinery and Appliance Manufacturing Industry Census (1987 to 1993)



Source: Horaguchi (1998), p.152.

The evaluation of the present level of employee numbers differs depending on the year taken as the standard level for comparison, e.g. either the peak year of the 1991 level, or the 1979 level, the time of the second oil crisis. However, it seems that the fact that 500,000 employees have experienced restructuring over the past ten years has imposed a policy challenge that should not be ignored.

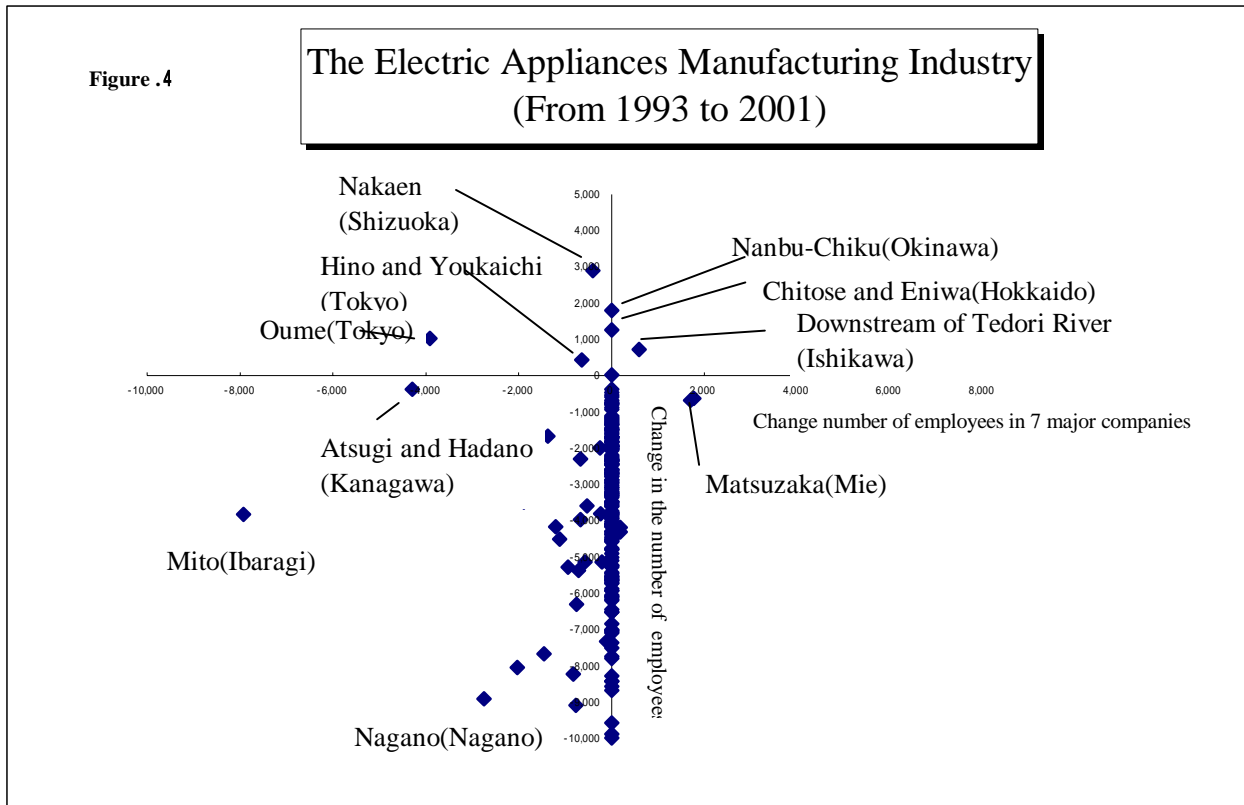
1-2. Employment Adjustment by Multinational Enterprises

Horaguchi (1997, 1998a) compiled data for figure 3. The figure 3 shows the changes in employee numbers at seven major electric appliance manufacturers by horizontal axis and changes in employee numbers in all size of companies included in the *Census of Manufacturer (Kougyo Toukei Hyo)* by vertical axis. When years 1987 and 1993 are compared, the numbers of employees from the *Census of Manufactures (Kougyo Toukei Hyo)* data were almost identical, showing 1,844,011 and 1,844,725, respectively. In contrast, seven major manufacturers, or Hitachi, Mitsubishi, NEC, Fujitsu, Matsushita, Sharp and Sony that are actively promoting business globalization, increased their employee numbers from approximately 226,000 to about 241,000 over the same period.

As illustrated in Figure 3, Nishi-Kanagawa(West Kanagawa), Nara (Kitawa), and Kumamoto Kita(North Kumamoto) saw an increase in employee numbers, according to both *Census of Manufactures (Kougyo Toukei Hyo)* data and annual financial reports from the seven major electric appliance manufacturers. On the other hand, in Nishi-Tokyo, Tokyo (23 wards), and Yokohama/Kawasaki/Yokosuka, the number decreased according to the *Census of Manufactures (Kougyo Toukei Hyo)*, while the seven major electric appliances manufacturers increased their employees. This implies that some production sites were being moved from Tokyo's 23 wards and Nishi-Tokyo to Nishi-Kanagawa.

Figure 4 shows a similar analysis for the period 1993 to 2001. Most of the data is concentrated in the minus zone along the vertical axis, reflecting the decreased number appearing in the *Census of Manufactures (Kougyo Toukei Hyo)*. The data in the third quadrant involves districts where employment levels decreased even for the major electric appliance manufacturers. Particularly noticeable is the employment cut at Mito in Ibaraki Prefecture, where Hitachi's plants are located, and Nagano, Fujitsu's production base district. On the other hand, the *Census of Manufactures (Kougyo Toukei Hyo)* showed increased employment in some districts such as Nakaen (Shizuoka) and Nanbu-chiku (the southern district) of Okinawa. While the *Census of Manufactures (Kougyo Toukei Hyo)* showed decreased employment, employee numbers increased in the Matsuzaka District of Mie prefecture due to good performance of Sharp plants in the area, which have increased

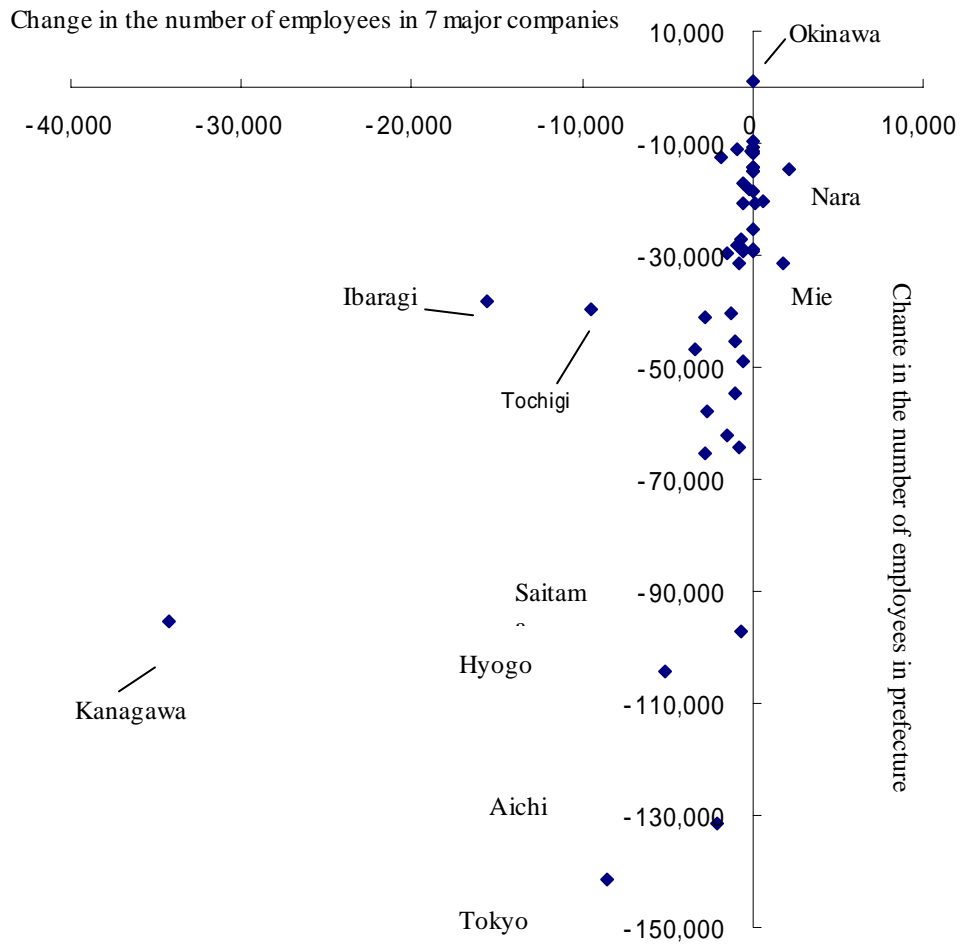
production of liquid crystal business.



Source: Compiled by the author using the *Census of Manufactures (Kougyo Toukei Hyo)* and companies' annual financial reports.

Figure .5

The Electric Appliances Manufacturing Industry



Source: Compiled by the author using the *Census of Manufactures (Kougyo Toukei Hyo)* and companies' annual financial reports.

The *Census of Manufactures (Kougyo Toukei Hyo)* is comprised of 253 districts. Its data was re-arranged by 47 prefectures, as shown in Figure 5. According to this census, Tokyo, Aichi, Hyogo, Kanagawa and Saitama prefectures, recorded a considerable decline in employee numbers during 1993 to 2001. On the other hand, according to the annual financial reports of the seven major

electric appliance manufacturers, a considerable decline in employee numbers was observed in Kanagawa, Ibaraki and Tochigi. This result corresponds to the fact that Hitachi Ltd. stopped including its factory employee numbers in its annual financial reports.

During a period when 500,000 people lost their jobs in Japan, electric appliance manufacturers were continuing their investment in China and the United States.⁴ These trends are shown in Table 1. In terms of amount, investment in the US exceeded that in China, while the number of investment cases in China exceeded that in the US from 1993 to 1995 and 2000 to 2003. These two periods overlapped the periods of the appreciation of the yen and the depreciation of the US dollar.

**Table 1: Number of Cases and Amount of Direct Investment in China and the US
by the Japanese Electric Appliance Industry**

(Units: cases; 100 million yen)

	Investment in China		Investment in the US	
	Number of cases	Amount	Number of cases	Amount
1989	14	107	87	3,635
1990	11	33	85	3,438
1991	22	167	47	1,155
1992	34	246	44	922
1993	57	386	51	1,586
1994	66	516	33	885
1995	94	904	49	2,277
1996	29	445	58	3,638
1997	21	518	52	4,686
1998	11	163	29	2,004
1999	14	82	31	16,061
2000	33	358	30	1,271
2001	50	639	24	1,726
2002	44	381	18	2,999

Source: Compiled by the author based on the Ministry of Finance website <http://www.mof.go.jp/fdi/sankou03.xls>

Horaguchi (2003a) compiled field survey results in Shanghai City and Suzhou and reported that the Japanese companies' investment in China showed a regional concentration. As shown in Table 2, the three combined districts: Shanghai City, Guangdong Province, and Jiangsu Province, account for 53.2% of Japan's investment in China in terms of company numbers and 49.1% in terms of

⁴ Field surveys concerning Japanese companies' direct foreign investment during these periods are summarized in Horaguchi (2001a, 2001c, 2002b, 2002c, 2003a, 2003b).

employee numbers. Although the data in Table 2 is not limited to the electric appliance industry, the total number (577,241) of employees of Japanese affiliates in the country, is almost the same size as the decline in electric machinery and appliance manufacturing employee numbers within Japan. This decrease from 1.98 million in the peak year, 1991, to 1.45 million in 2001, is illustrated in Figure 2.

Table 2: Regional Distribution of Japanese Companies' Investment in China

	Number of employees at Japanese affiliates	(%)	Number of Japanese affiliates	(%)
Shanghai City	105,477	18.3	663	26.3
Guangdong Province	100,887	17.5	327	13.0
Jiangsu Province	76,758	13.3	352	13.9
Liaoning Province	67,975	11.8	246	9.7
Tianjin City	59,081	10.2	149	5.9
Beijing City	42,276	7.3	252	10.0
Shangdong Province	38,217	6.6	155	6.1
Zhejiang Province	20,232	3.5	90	3.6
Hebei Province	11,253	1.9	39	1.5
Fujian Province	8,945	1.5	51	2.0
Other	46,140	8.1	201	8.0
Total	577,241	100.0	2,525	100.0

Source: Nagaoka (2002), p.24. The figures are based on the 2001 version of the overseas transplant overview by Toyo Keizai Shinpo-sha.

2. Restructuring of Banking Industry and the Boards of Directors

In Japan, the electric appliance industry was not the only industry that prompted a rapid restructuring. The banking industry was also forced to promote a rapid employment adjustment during the period following the collapse of the bubble economy. Restructuring in the industry was necessitated due to the disposition of non-performing loans (bad loans), which were being held during the bubble economy period, and due to the reduction of debtors, who became additional sources of bad loans during the post-bubble period. In Japan, after the Asian currency crisis which began in July 1997, Yamaichi Securities, the Hokkaido Takushoku Bank and Sanyo Securities and some others went bankrupt when their off-balance sheet debts were revealed (Horaguchi (1998b)).

Table 3 shows the reduction in employee number by major Japanese banks during the period 1993 to 2001. From a total of 14 banks, 55,000 employees were involved in the “streamlining” process,

resulting a decline in employee numbers from approximately 165,000 to 110,000. This drastic personnel cut reduced the employees scale by a third. Being transferred into public management in 1998, the total employee number decreased by 48,584 from 158,998 in 1993 to 110,414 in 2001. These figures excluded the Long-term Credit Bank of Japan and the Nippon Credit Bank, later renamed the Shinsei Bank and Aozora Bank, respectively.

The banking industry was not the exception in terms of large-scale restructuring. The trend, however, should be understood not as the result of the internationalization of their business but as the influence imposed by the macroeconomic condition in Japan. It is difficult, in the case of financial services, to explain that establishing branches or local offices in foreign countries can lead to reduced domestic employment.

Major city banks experienced two types of restructuring. The first type admits managerial failure and accepts its business to be transferred to public management. In this case, the responsibility of the directors who were running the bank at the time that the business bankrupted, is pursued directly. A shareholder representative suit or a penal action may arise. The Hokkaido Takushoku Bank falls in this category. It failed in 1997, and transferred its business to Hokuyo Bank and Chuo Trust & Banking. Afterward, the two former presidents of the Hokkaido Takushoku Bank were arrested on suspicion of special malfeasance under the commercial law, while a civil suit at the Sapporo District Court ordered a 5 billion yen reimbursement from the eight former directors.⁵

In terms of loans by the failed Long-term Credit Bank of Japan (Nihon Choki Shinyo Ginko, currently known as the Shinsei Bank), the Resolution and Collection Corporation (RCC) won about 90 penal actions that claimed the four former directors of the bankrupt banks and credit unions as being responsible for the malfeasance. RCC meantime raised its own lawsuits in addition. By July 2002, RCC had won 13 cases at the first trial.⁶ The Special Investigation Department of the Tokyo District Public Prosecutor's Office arrested the three directors, including the former president, on suspicion of violation of the securities business law (false statement in their financial report).⁷

⁵ It is said that the largest factor in the bankruptcy of the Hokkaido Takushoku Bank was the loan to a construction and real estate company, Kabutodekomu (Sapporo City). On December 25, 2002, Sapporo District Court acknowledged the irrecoverable amount of about 87.6 billion yen and ordered that a total of 5 billion yen be reimbursed, as demanded by RCC, to the eight former directors. (Cited in December 26, 2002 issue Asahi Shimbun morning paper.)

⁶ Cited in July 18, 2002 issue Asahi Shimbun evening paper.

⁷ Cited in June 30, 1999 issue Asahi Shimbun morning paper. According to September 18, 2002 issue Asahi Shimbun morning paper, the former president and directors of the Long-term Credit Bank of Japan appealed to the Tokyo High Court objecting to the sentence of two years' penal servitude with two years probation at the first trial at Tokyo District Court.

**Table 3: Employee Number Reduction at Japanese City Banks
and Long-term Credit Bank of Japan**

(Unit: individuals)

	March 1993	March 1998	March 2001	
Mitsubishi Bank ¹	15536	} 18386	} 18979	-1777
Tokyo Bank ¹	5220			
Dai-ichi Kangyo Bank ²	18849	16965	12863	-5986
Fuji Bank ²	15953	14615	11909	-4044
Industrial Bank of Japan ²	5357	4971	4302	-1055
Sumitomo Bank ³	17710	15111	12173	-5537
Sakura Bank ³	22274	17420	12558	-9716
Sanwa Bank ⁴	14517	13695	12331	-2186
Tokai Bank ⁴	12319	11407	9180	-3139
Asahi Bank ^{5,6}	15103	12688	9967	-5136
Daiwa Bank ⁶	9831	8091	6152	-3679
Hokkaido Takushoku Bank ⁷	6329	4717	N.A.	N.A.
Total of 12 banks	158998	138066	110414	-48584
Long-term Credit Bank of Japan ⁸	3771	3499	N.A.	N.A.
Nippon Credit Bank ⁹	2618	2290	N.A.	N.A.
Total of 14 banks	165387	143855	110414	-54973

Notes:

1. Merged with Tokyo-Mitsubishi Bank in April 1996. Reorganized into Mitsubishi Tokyo Financial Group in April 2001, when integrated with Mitsubishi Trust & Banking and Nippon Trust & Banking whose employees are not included in the above table.
2. Established the holding company, Mizuho Holdings in September 2000. Established Mizuho Financial Group in April 2002.
3. Mitsui Bank and Taiyo Kobe Bank merged with Taiyo Kobe Mitsui Bank in April 1990. Renamed Sakura Bank in 1991. Merged with Mitsui Sumitomo Bank in April 2001.
4. Established UFJ Holdings, including Toyo Trust & Banking, in April 2001.
5. Saitama Bank and Kyowa Bank merged with Kyowa Saitama Bank in April 1991, renamed Asahi Bank in September 1992.
6. Daiwa Bank and Asahi Bank integrated their business under Daiwa Bank Holdings in March 2002. Renamed Resona Holdings in October 2002.
7. Became bankrupt in 1997.
8. Under special public management from 1998. Special public management finished in March 2000. Renamed Shinsei Bank in June 2000.
9. Special public management from 1998. Special public management finished in September 2000. Renamed Aozora Bank in January 2001.

Source: The number of employees was compiled by the author using annual financial reports. The notes were produced referring to Takayasu (2001, p.11) and Nikkei Telecom of the Nihon Keizai Shimbun database.

Special Investigation Department of the Tokyo District Public Prosecutor's Office and Investigation Section No. 2 of Tokyo Metropolitan Police Department arrested six suspects of the Nippon Credit Bank, including the former chairman and former president on July 23, 1999, on suspicion of business security law violation (false statement in their financial report) with a window-dressing account for the March 1998 fiscal term settlement of account. The former chairman and others were suspected of assessing the account too liberally, and varnishing a loss of approximately 80 billion yen by making irrecoverable loans to affiliated companies look like recoverable loans.⁸

The Long-term Credit Bank of Japan and the Nippon Credit Bank were relieved by the government and went under special public management. However, these restructuring cases in which managerial responsibility was defined were very rare in the Japanese banking industry. Another option for restructuring was prompted by mergers, reducing employee numbers, and closing unprofitable branches, while trying to dispose of bad loans. In such cases, executive responsibility is not questioned. Executives can continue holding their power by taking support in a general meeting of shareholders.

Tables 4 and 5 show the process of industrial reorganization for five bank groups: Mitsubishi Tokyo Financial Group, Mizuho Financial Group, Mitsui Sumitomo Bank, UFJ Holdings and Resona Holdings, by tracing changes in board members.

The two tables show the changing numbers of board directors, i.e. chairman, president, vice president, executive director, managing director, director, full-time and part-time auditors. The original data for Sanwa Bank is given in Appendix Table 2 as an example. As can be seen in Table 4, Sanwa Bank had 47 directors in 1988, the peak year of the bubble economy. Five years later in 1993, 16 directors remained out of 47, and 25 new directors had joined. Another five years later, in 1998, six directors remained from 1988, nine from 1993 and 25 new directors had taken on the post.

Of the 12 banks listed in Table 4, only three banks: Dai-ichi Kangyo Bank, Mitsui Bank (Sakura Bank) and Hokkaido Takushoku Bank, recorded zero directors, as of 1988. Hokkaido Takushoku Bank, as mentioned above, became bankrupt in 1997, but its directors who were engaged in settling debts, are included in the table.

⁸ July 24, 1999 Asahi Shimbun morning paper.

A similar pattern was observed for another nine banks. The few directors, mostly presidents or chairmen, remained from 1988 to 1998. This fact was also true for the three banks, including the Long-term Credit Bank of Japan, listed in Table 5. Appendix Table 1 shows names of board members in Sanwa Bank from 1988 to 1998. Sanwa Bank⁹ is shown as an example that Japanese banks are characterized by “the long-term involvement of a president.”

Table 4 suggests two characteristics. Firstly, that a retirement age-limit system for bank directors is strictly applied. Once someone is promoted to board director level, he can stay in the bank only if he becomes the president before he reaches retirement age or is transferred, either temporarily or permanently to a subsidiary or affiliated company¹⁰. Secondly, a president tends to remain in post until all directors of the same age quit the board.

During the period covered in Table 4, the Japanese bank was required “to solve a simultaneous equation”. In other words, the management had to evade managerial responsibility while at the same time meet the requirement to dispose of bad loans. If the sole problem is to dispose of bad loans, this can be achieved by making the bank bankrupt. However, in such cases, managerial responsibility becomes manifest. Therefore, it is necessary to prompt the disposal of bad loans while continuing the banking business without questioning the managerial responsibility of the directors.

The solution to the above question was as follows. Until the mid-1990s bank directors were replaced once they reached retirement age. The huge amount of bad loans must be disposed of and, at the same time, employee numbers must be reduced. Those who were directors during the bubble economy period were retiring from the banks. At the end of the 1990s, when there was no-one apart from the president or chairman who were directly responsible for bank management during the bubble period, a scenario was implemented in which banks merged with each other thus enabling the president and chairman to retire from the bank. A merger brought about increased financial assets, accelerated disposal of bad loans, reduction in worker numbers through the streamlining of banking business by closure of unprofitable branches or other means. Thus, directors in the banking industry change from one generation to the others, as it can be expressed by the phrase “And Then There Were None”.

⁹ This was already pointed out by Horaguchi (2002b).

¹⁰ Board members of banking sector in Japan were overwhelmingly dominated by male during the 1990s.

Table 4: Changes of Directors and Auditors in Japanese City Banks

(Unit: individuals)

		1988	1993	1998
Kyowa Bank (Asahi Bank)	1988	31	9	1
	1993 (new)		42	7
	1998 (new)			24
	Sub-total	31	51	32
Sanwa Bank	1988	47	16	6
	1993 (new)		25	9
	1998 (new)			25
	Sub-total	47	41	40
Sumitomo Bank	1988	48	13	4
	1993 (new)		37	16
	1998 (new)			24
	Sub-total	48	50	44
Dai-ichi Kangyo Bank	1988	42	8	0
	1993 (new)		37	0
	1998 (new)			37
	Sub-total	42	45	37
Taiyo Kobe Bank (Sakura Bank)	1988	39	10	1
	1993 (new)		52	8
	1998 (new)			42
	Sub-total	39	62	51
Daiwa Bank	1988	33	9	2
	1993 (new)		26	2
	1998 (new)			25
	Sub-total	33	35	29
Tokai Bank	1988	34	9	1
	1993 (new)		25	5
	1998 (new)			9
	Sub-total	34	34	15
Tokyo Bank (Tokyo-Mitsubishi Bank)	1988	40	12	3
	1993 (new)		29	4
	1998 (new)			53
	Sub-total	40	41	60
Fuji Bank	1988	38	8	2
	1993 (new)		34	6
	1998 (new)			33
	Sub-total	38	42	41
Hokkaido Takushoku Bank	1988	24	8	0

	1993 (new)		23	6
	1998 (new)			6
	Sub-total	24	31	12
Mitsui Bank (Sakura Bank)	1988	36	9	0
	1993 (new)		53	9
	1998 (new)			42
	Sub-total	36	62	51
Mitsubishi Bank (Tokyo-Mitsubishi Bank)	1988	44	19	4
	1993 (new)		24	10
	1998 (new)			46
	Sub-total	44	43	60
Total of 12 banks	1988	456	130	24
	1993 (new)		407	82
	1998 (new)			366
	Sub-total	456	537	472

Source: Compiled by the author using each bank's annual financial reports.

Table 5: Changes of Directors and Auditors at the Long-term Credit Bank of Japan

(Unit: individuals)

		1988	1993	1998
Nippon Credit Bank	1988	26	12	1
	1993 (new)		19	7
	1998 (new)			8
	Sub-total	26	31	16
Long-term Credit Bank of Japan	1988	28	8	3
	1993 (new)		26	5
	1998 (new)			2
	Sub-total	28	34	10
Industrial Bank of Japan	1988	45	12	3
	1993 (new)		31	8
	1998 (new)			25
	Sub-total	45	43	36
Total of 3 banks	1988	99	32	7
	1993 (new)		76	20
	1998 (new)			35
	Sub-total	99	108	62

Source: Compiled by the author using each bank's annual financial reports.

A huge amount of public funds has been injected into banks. This caused a financial burden on the nation because these bills must be paid by future generations. The process of reorganizing the banking industry and changes to personnel or replacement of directors does not cause the same problems within individual private companies.

3. Trends in Economic Policies Designed to Encourage New Industries in Japan

The concept of industrial hollowing-out can be narrowly defined as a shift of production sites to foreign countries in line with increasing direct foreign investment and a decline in domestic employment. As described in the previous section, this trend was noticeable in the electric and electronic appliance industry. On the other hand, a large-scale restructuring was prompted in the banking industry mostly because of the disposal of bad loans, which were passed down from the bubble economy days. Restructuring cannot only be explained by an international shift of production bases.

What economic policies can be proposed as an effective prescription for employment reduction in the electric and electronic appliance and banking industries? One of the measures adopted by the Japanese government is the promotion of entrepreneurship and business start-ups.¹¹

In the direct financing sector, government-based financial institutions such as the Development Bank of Japan (Nihon Seisaku Tousei Ginkou) and Industrial Structure Improvement Fund not only finance but also invest in venture companies. Also the special exception to minimum capital regulations was introduced. The regulation normally requires set-up capital with 10 million yen for a joint stock company and 3 million yen for a limited liability company. But the special exception enables a company to be set up with capital of only one yen. In order to encourage individual investors who invest in entrepreneurs, the tax system for angels was established. A new stock market such as Mothers, and a Green Sheet (a market for unlisted stocks) have been established.

In the indirect financing field, various systems and programs have been made available. They include loans by government-based financial institutions, such as: the National Life Finance Corporation (Kokumin Seikatsu Kinyuu Kouko), Development Bank of Japan, Japan Finance Corporation for Small Business, and Shokochukin Bank; the guaranteeing of debts by guarantee

¹¹ Restructuring Evaluation Report was referred to for direct financing, indirect financing and information provision. The whole text is available in <http://www5.cao.go.jp/j-j/kozy/2003-11/kozy.html>

associations and the Industrial Structure Improvement Fund; entrepreneur education programs for primary and secondary school students; business start-up human resources development programs (business start-up schools); stock option programs and tax systems; promotion of a university-based venture 1000-company plan to promote business-academic-public sector cooperation; a research and development tax system; small and medium-sized enterprise technology powering tax systems, and small and medium-sized enterprise technology innovation systems.

In the information provision field, entrepreneur support institutions (business incubators) have been enhanced and a website named “Dream Gate” designed to support people who intend to start-up a business or to become independent, have been made available.

Most of these systems were provided after 2000, and therefore it is too soon to measure their effectiveness. Among others, there has been the introduction of interesting policies, the Ministry of Economy, Trade and Industry’s Industrial Cluster Plan and the Ministry of Education, Culture, Sports, Science and Technology’s Intellectual Cluster Creation Project. Different ministries and government agencies are attempting industrial promotion by using the term “Cluster” (Porter, 1990), meaning “industrial agglomeration”.

Figure 6 shows the Ministry of Economy, Trade and Industry’s Industrial Cluster Plan, which is aimed at regional revitalization and industry concentration, as well as industry-academic-public sector cooperation for technology development and promotion of new business start-ups. The cluster concept depends on areas according to administrative districts, as governed by the Tohoku Bureau of Economy or the Okinawa Bureau of Economy, Trade and Industry. The technology development budget for FY2003 is 31.2 billion yen. This utilizes regional features (of which 3.8 billion yen was FY2002 supplementary budget), compared to 22.9 billion yen in FY2002. The program for incubator nurturing and entrepreneur environment had a budget of 12.5 billion yen (of which 5.3 billion yen was supplementary budget), compared to 7.7 billion yen in FY2002. The budget for wide-ranging industry-academic-public sector human resource networking is 3.9 billion yen, compared with 4.7 billion yen in FY2002.

Figure 6

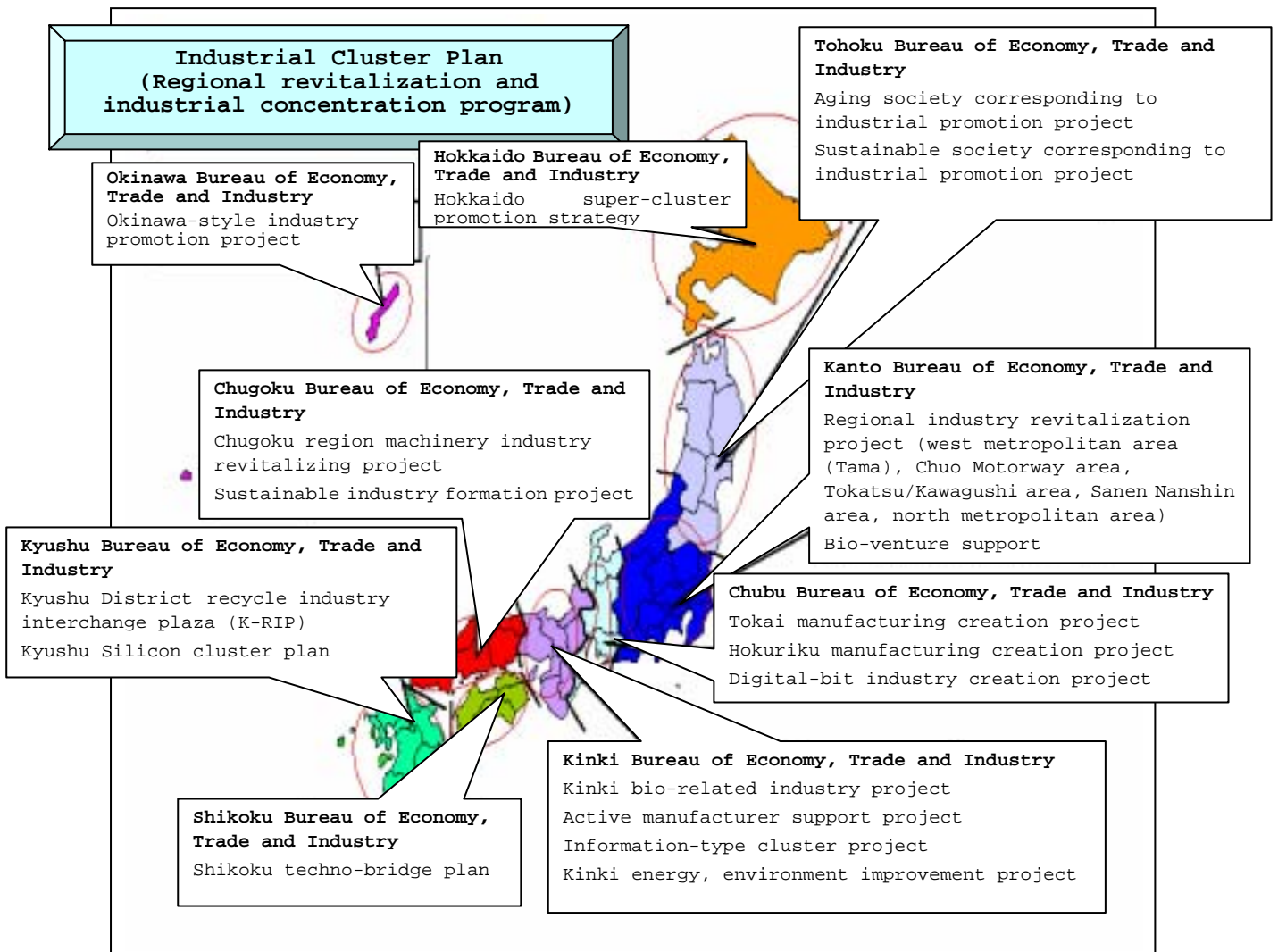
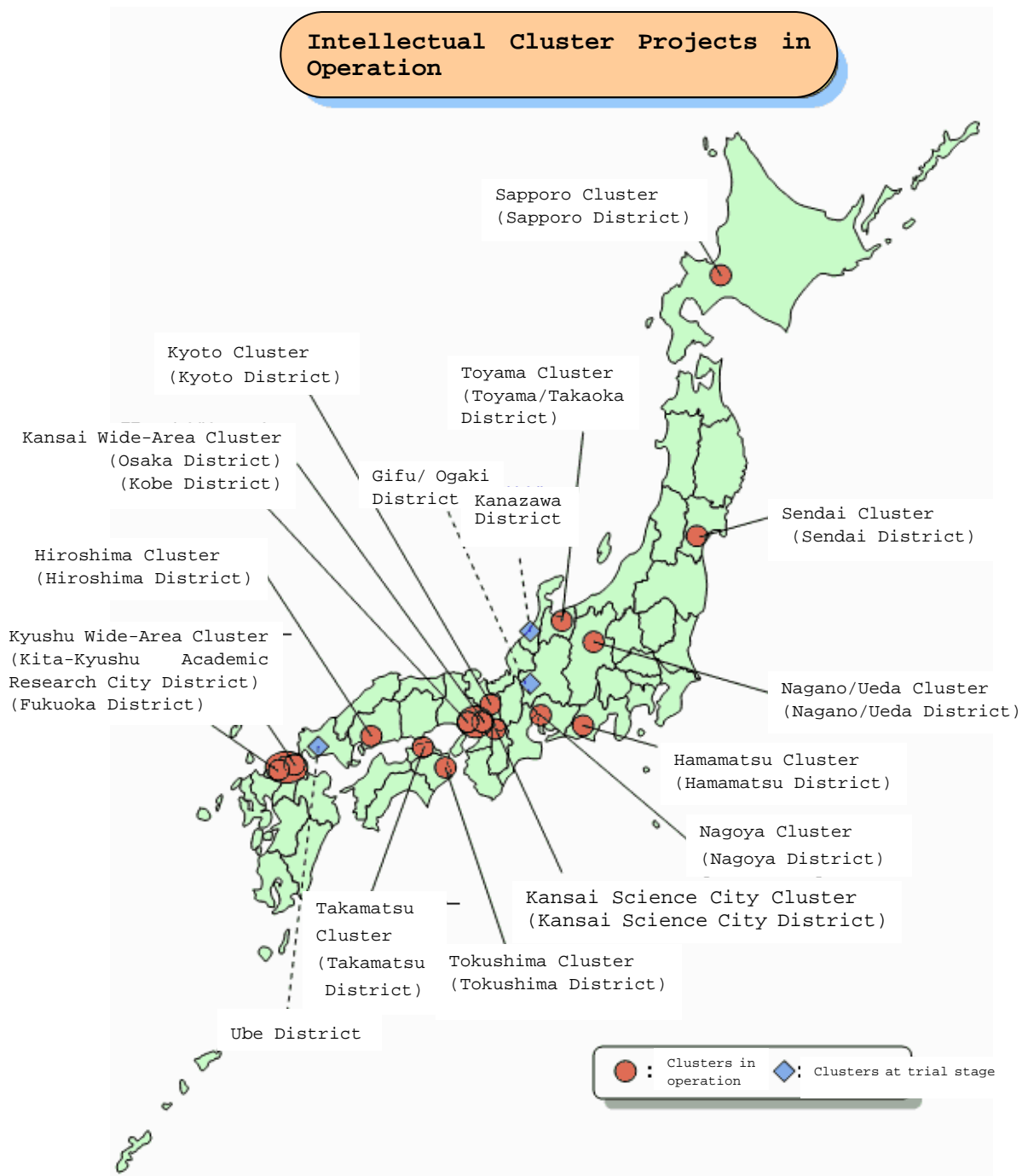


Figure 7 shows the Ministry of Education, Culture, Sports, Science and Technology intellectual cluster creation program districts. The program focuses on business-academic-public sector cooperation and positions a university as a core institution for relevant research and development programs. A total of 16 bases were designated nationwide, each supporting a district with an annual budget of 500 million yen over five years. The purpose of the program is the creation of research and development-capable intellectual clusters. For instance, Sapporo with Hokkaido University and Sendai with Tohoku University are developing next-generation software design system and next-generation photonics. The budget for the 12 districts was 6 billion yen in FY2002.¹²

The effectiveness of these economic policies will be questioned in the future, but it should also be evaluated from the viewpoint of how long it takes to lead to job creation.

¹² It would be adequate to say that, compared with the injection of public fund for financial institutions of 7-8 trillion yen, the amount is by far small.

Figure 7



Source: Ministry of Education, Culture, Sports, Science and Technology Website

**Appendix Table 1. Number of Cases and Amount of Japan's Direct Investment
in China and the United States**

(Units: cases; US\$ 1 billion)

	Investment in China		Investment in the US	
	Cases	Amount	Cases	Amount
1989	126	587	2668	43691
1990	165	511	2269	38402
1991	246	787	1607	24671
1992	490	1381	1170	17993
1993	700	1945	882	16936
1994	636	2683	509	18016
1995	770	4319	510	21845
1996	365	2828	581	24789
1997	258	2438	582	25486
1998	114	1377	318	13207
1999	78	849	351	24886
2000	105	1122	274	13448
2001	189	1808	206	8010
2002	263	2152	220	9913

Source: Compiled by the author using the website of the Ministry of Finance

Appendix Table 2. Period in Office of Presidents and Directors of Sanwa Bank

Post	March 1988		Post	March 1993		Post	March 1998	
	Name	Assumed office		Name	Assumed office		Name	Assumed office
Chairman	Kenji Kawakatsu	1971	Chairman	Kenji Kawakatsu	--	--	--	--
Vice Chairman	Nobusuke Kanda	1974	--	--	--	--	--	--
President	Akira Watanabe	1978	President	Akira Watanabe	--	Chairman	Akira Watanabe	--
Vice President	Teruyoshi Yasufuku	1976	--	--	--	--	--	--
Executive Director	Yuichi Tada	1979	--	--	--	--	--	--
Executive Director	Ei Kida	1974	--	--	--	--	--	--
Executive Director	Nobutaka Yamamoto	1981	Vice President	Nobutaka Yamamoto	--	--	--	--
Executive Director	Kiyoshi Kawabata	1982	Vice President	Kiyoshi Kawabata	--	--	--	--
Executive Director	Tatsuo Okada	1981	--	--	--	--	--	--
Managing	Hiroshi Imai	1981	--	--	--	--	--	--

Director								
Managing Director	Kanemitsu Tanaka	1982	--	--	--	--	--	--
Managing Director	Junichi Goto	1983	--	--	--	Full-time Auditor	Junichi Goto	--
Managing Director	Shohei Saiga	1983	--	--	--	--	--	--
Managing Director	Susumu Niwa	1983	--	--	--	--	--	--
Managing Director	Yoshiro Yamamoto	1984	--	--	--	--	--	--
Managing Director	Kazuo Nishina	1984	--	--	--	--	--	--
Managing Director	Yukihiro Fujiwara	1985	--	--	--	--	--	--
Managing Director	Shinji Yoshimizu	1985	--	--	--	Full-time Auditor	Shinji Yoshimizu	--
Managing Director	Masanao Yamafuji	1985	--	--	--	--	--	--
Managing Director	Masaharu Hasegawa	1985	Vice President	Masaharu Hasegawa	--	--	--	--
Managing Director	Naotaka Saeki	1986	Vice President	Naotaka Saeki	--	President	Naotaka Saeki	--
Managing Director	Kiyoshi Tsuboi	1986	Executive Director	Kiyoshi Tsuboi	--	--	--	--
Director	Yasumichi Sato	1984	--	--	--	--	--	--
Director	Kazuaki Harada	1985	--	--	--	--	--	--
Director	Yukihiro Naito	1985	--	--	--	--	--	--
Director	Chikara Hido	1986	--	--	--	--	--	--
Director	Kenji Tanimoto	1987	--	--	--	--	--	--
Director	Hisashi Kureyama	1987	--	--	--	--	--	--
Director	Mitsuo Ogata	1987	--	--	--	--	--	--
Director	Masakazu Ishigo	1987	Executive Director	Masakazu Ishigo	--	--	--	--
Director	Suminao Okada	1987	--	--	--	--	--	--
Director	Minoru Eda	1987	Executive Director	Minoru Eda	--	Vice President	Minoru Eda	--
Director	Kyoichi Nanko	1987	--	--	--	--	--	--
Director	Naohiko Miyoshi	1988	--	--	--	--	--	--
Director	Mutsuo Fukuzawa	1988	Executive Director	Mutsuo Fukuzawa	--	--	--	--
Director	Tatsuro Koroyasu	1988			--	--	--	--
Director	Kensho Naito	1988	Executive Director	Kensho Naito	--	Vice President	Kensho Naito	--
Director	Tomohiro Yasufuku	1988	--	--	--	--	--	--

Director	Ken Ando	1988	--	--	--	--	--	--
Director	Toshiharu Ukegawa	1988	Executive Director	Toshiharu Ukegawa	--	--	--	--
Director	Junichiro Kojima	1988	Executive Director	Toshiharu Ukegawa	--	--	--	--
Director	Junichiro Kojima	1988	Executive Director	Junichiro Kojima	--	--	--	--
Director	Takeo Sakai	1988	--	--	--	--	--	--
Director	Masahiro Yoda	1988	Executive Director	Masahiro Yoda	--	--	--	--
Full-time Auditor	Hideyoshi Matsuda	1980	Full-time Auditor	Hideyoshi Matsuda	--	--	--	--
Full-time Auditor	Yoshio Asada	1986	--	--	--	--	--	--
Auditor	Shuichi Nakajima	1987	Full-time Auditor	Shuichi Nakajima	--	--	--	--
Auditor	Keizo Nakamura	1988	--	--	--	--	--	--
Total	47 persons							
			Managing Director	Hideki Takeda	1992	--	--	--
			Managing Director	Takao Funaki	1989	--	--	--
			Managing Director	Fusanao Tsutsui	1990	--	--	--
			Managing Director	Eisaku Tokuhiko	1989	--	--	--
			Managing Director	Ko Nakanishi	1989	--	--	--
			Managing Director	Masahiro Maeda	1989	Executive Director	Masahiro Maeda	--
			Managing Director	Kaneo Muromachi	1989	Vice President	Kaneo Muromachi	--
			Director	Yuichi Sasaki	1990	--	--	--
			Managing Director	Kenzo Nukina	1990	--	--	--
			Director	Hiroshi Kikuchi	1990	--	--	--
			Director	Isao Matsuura	1990	--	--	--
			Director	Shigetoshi Ando	1990	Executive Director	Shigetoshi Ando	--
			Director	Takashi Hashimoto	1991	--	--	--
			Director	Yosuke Shimizu	1991	--	--	--
			Director	Ryuji Tahara	1991	--	--	--
			Director	Hiroya Nobuhara	1991	Executive Director	Hiroya Nobuhara	--
			Director	Hiroki Murao	1991	Executive Director	Hiroki Murao	--
			Director	Keita Kuroda	1993	--	--	--
			Director	Masao Suzuki	1993	--	--	--

			Director	Kimiaki Fujimoto	1993	--	--	--
			Director	Nobuhiro Ito	1993	Managing Director	Nobuhiro Ito	--
			Director	Noriumi Eto	1993	Managing Director	Noriumi Eto	--
			Director Akio Fujiwara	1993	Managing Director	Akio Fujiwara	--	
			Full-time Auditor	Itsuharu Ikushima	1992	--	--	--
			Auditor	Shoichi Ito	1993	Full-time Auditor	Shoichi Ito	--
			Total	48 persons				
						Managing Director	Susumu Tsuchida	1992
						Managing Director	Takayo Mochizuki	1992
						Managing Director	Tomoyuki Fuji	1994
						Managing Director	Yoshi Mori	1994
						Managing Director	Akira Nakamura	1994
						Managing Director	Norimasa Yoshida	1995
						Managing Director	Toshihiro Okawa	1995
						Managing Director	Tamio Takakura	1995
						Managing director	Shoji Teranishi	1995
						Director	Rikio Takezawa	1995
						Director	Kazuo Mizutani	1996
						Director	Yoshihisa Asami	1996
						Director	Misutaka Motoda	1996
						Director	Junji Sugiyama	1996
						Director	Koichi Miyazaki	1996
						Director	Kazumi Okazaki	1997
						Director	Ryosuke Tamakoshi	1997
						Director	Masao Hiruta	1997
						Director	Norisumi Yoshihara	1997
						Director	Toshisaku Yahata	1998
						Director	Eiji Ohno	1998

						Director	Masayuki Hashikawa	1998
						Director	Jihe Yamazaki	1998
						Full-time Auditor	Yoshiharu Segami	1995
						Full-time Auditor	Itsuki Nonoshita	1997
						Total	40 persons	

Source: Compiled by the author based on financial reports.

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