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Venture Capital in Japan

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The first Japanese venture capital (VC) fund was formed in Kyoto. In 1972, businesses in Kyoto established Kyoto Enterprise Development Co., Ltd. (KED), which was dissolved in 1979. During the first boom from 1972 through 1974, Japan Associate Finance Cooperation (JAFCO) was established with the cooperation of Nomura Securities, Sanwa Bank and Nippon Life Insurance. JAFCO has since become the biggest and leading VC firm in Japan. The peak for investment came in 2000, roughly the same time when VC investment reached its height in the U.S. The total investment balance reached one trillion yen, meaning VC was clearly recognized as an industry. The Japanese Venture Capital Association (JVCA) was organized in 2002. Following a severe period in 2004, VC investment had recovered to the one trillion yen level by 2005. Unfortunately steady growth was derailed by the shock from the subprime housing loan problem in the United States in late 2008.

VC firms in Japan looked to change their direction towards private equity, which seems to present medium risk but offers a good method to neutralize their portfolio. University spin-offs were backed by VC firms after 2000, but have decreased following the shock in 2008.

JEL Classification: G24, G28, G21
Keywords: VC, VC Investment, Japan Venture Capital Association, JVCA, University Spin Off, Technology Licensing Office, TLO

1. Short History

The first Japanese venture capital (VC) fund was formed in Kyoto. In 1971, leading members of the Kyoto Economic Council (a capitalist business group), visited Boston, which was then known as an "old" town. Overtaken by growing cities like New York, the economic condition of Boston had stagnated, and to break out of their gloomy predicament people in Boston were trying to create new businesses with an eye toward the future. Similarly, Kyoto had been overtaken by Osaka, and was then an aging economic center with lacklustre business conditions. The purpose of the council's trip was to determine "how to revive the economy and promote new enterprises in Kyoto." What impressed the participant most during the trip was their visit to American Research and Development Corporation (ARD), the first venture capital firm in the United States, founded in 1946 by Prof. Jorge Dorio, a former dean of Harvard University, and Mr. Ralph Flanders, who would later become a governor of the Boston

Federal Reserve Bank. Mr. Flanders said Boston's decline could be attributed primarily to the shortage of funds for starting new businesses, and that this was his motivation for establishing ARD. During the six day trip, the council delegates studied ARD's experience and approach. Immediately after returning to Japan, they proposed the idea of venture capital (then referred to as "development capital"[1]), and in 1972 established Kyoto Enterprise Development Co., Ltd. (KED) with the cooperation of Kyoto businesses. Two university professors, Tadao Kiyonari and Shuichiro Nakamura, joined as founding members and actually made a contribution to Japan's VC and venture business movement. The first chairman of KED was Mr. Kazuma Tateishi, President of Tateishi Electronics, one of Kyoto's growing companies, now known as OMRON. After taking the chairmanship of the Kyoto Economic Council in 1965, Tateishi announced in the council's report that the key factor for revitalization of Kyoto was venture business, namely, small businesses with advance and developed technology. He also noted that he had learned about "venture capital" in the United States and recognized that it was essential to provide the money to promising businesses.

Although KED invested in a number of new firms, the results were not remarkable because of several defaults. Tateishi finally decided to close the fund in 1979 with his personal compensation. Although its existence was very short, KED can be said to have been the pioneer of VC in Japan. The experience of KED provided critical lessons for later development of Japanese VC. The main reason for KED's failure was its overly complicated decision-making process; the board was comprised of individuals with different backgrounds and goals. An additional reason was the fact Kyoto was not large enough to offer candidate companies.

Booms

The biggest achievement of Japan's first VC boom during 1972-74 was the foundation of Japan Associated Finance Co. (JAFCO). Established with the cooperation of Nomura Securities, Sanwa Bank, and Nippon Life Insurance, JAFCO has since become the biggest and leading VC firm in Japan. Although its share exceeded 40%, the JAFCO refused to join the Japan Venture Capital Association (JVCA), ultimately giving up its status as a VC firm and moving in another direction towards private equity. There have been several booms for the foundation of VC firms and their funds. The peak for investment came in 2000, roughly the same time when VC investment reached its height in the United States. The total investment balance reached one trillion yen, meaning VC was clearly recognized as an industry. The level of investment, in other words, indicated that VC had attained "citizenship" in Japan's business world. The Association of Venture Capital, however, was not organized until 2002. After the IT boom burst, venture capital experienced a severe period until mid-2004. VC investment recovered to the one-trillion yen level only in 2005, after three years of recession. The same recover could be observed worldwide.

[1] Jane Jacobs, "The Economy of Cities," 1971.

Steady growth was again derailed by the financial shock in 2008 that was triggered by the subprime housing loan problem in the U.S.

2. Japanese VC Topics

University spin-offs

In 2001, then-Ministry of Economy, Trade and Industry (METI) Minister Takeo Hiranuma announced a doctrine to create 1,000 university spin-offs within three years, known as the Hiranuma Plan. At the time it was thought there were many unused "seeds" for growing businesses at Japan's universities. In order to exploit this potential, in 1998 the government enacted the Law of Promoting Technology Transfer from Universities to Industry (TLO Law), and also established Technology Licensing Offices (TLO), mainly at the national universities throughout Japan. The Hiranuma Plan was actually a strong boost for the venture business movement, and accomplished successful results until 2006 (Fig. 1) as Japan's universities rushed to establish firms in the fields of biotechnology and IT, where they have traditionally exhibited the creativity to grow technology seeds. When we look at the details of each company, however, the results have not been satisfactory (Fig. 2). Many university spin-offs were confronted with serious problems including shortages of man-power and R&D investment, and a lack of management skills. It was under such very pessimistic conditions that some VC firms have already decided to withdraw.

Secondary Market for VC Investment

Because VC funds are established for a fixed term, it is natural that some funds will mature before their investment recipient company goes public. There are three approaches taken when this occurs. The first is to distribute the stock of the investment recipient directly to the fund members. The second is to extend the period of the fund. The third approach is to sell the stock to a third party. The first approach rarely gains the consent of the investors, due to the problem of evaluating the stock. The second approach is feasi-

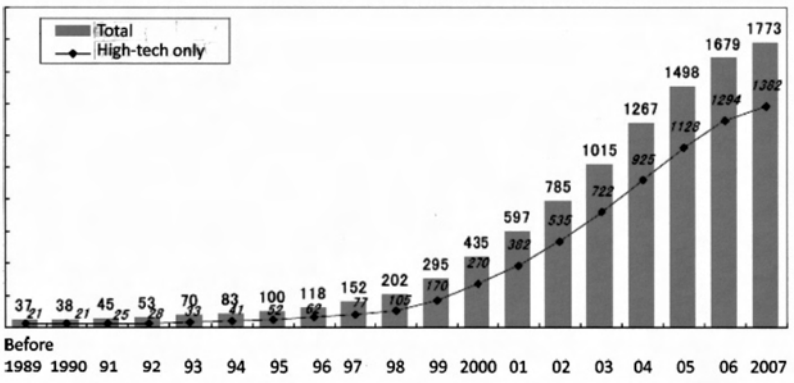

Fig. 1. University Spin Off Co.

(Source: METI's Report on USOC, Aug. 2008.)

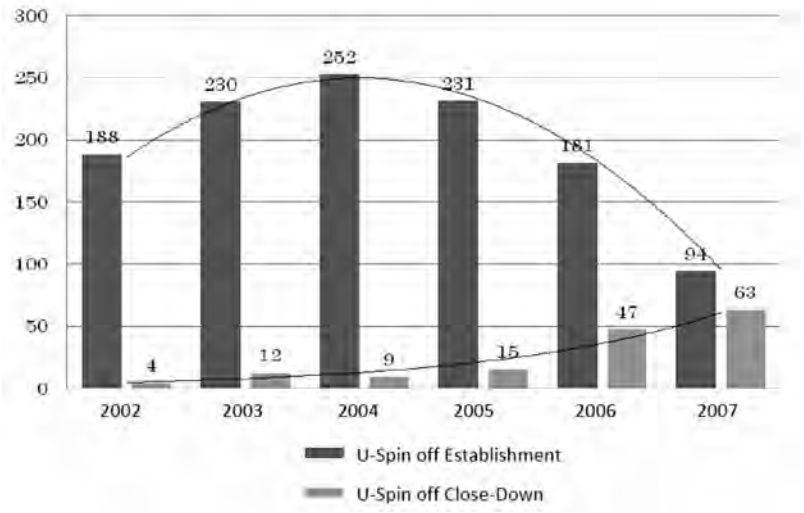

Fig. 2. U-Spin off start and close

(Source: JVR)

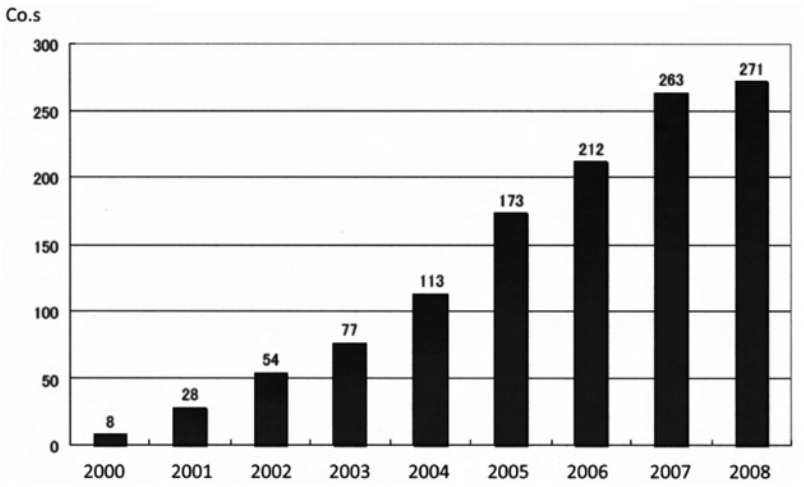

Fig. 3. Number of Investment by Mirai Securities Co.

(Source: Mirai Securities Co.)

ble. When consent is given by the fund members, but it is not a desirable option. The third approach is basically the trading of the unlisted stock. In the U.K., there were several companies to specialize such operations. In Japan, however, only one company was established in 1998 to buy unlisted shares (for buyouts and brokerage). Mirai Securities Co. started business in Japan in 2000.[2)] Figure 3 shows the number of investment transactions in the secondary market completed by Mirai Securities. Such secondary buyout operations

2) Mirai Securities was established in 1998 as a subsidiary of JAIC and started secondary broking in 2000 November.

target the so-called "living dead," meaning investment recipient companies that have lost the motivation to go public. There are reports of cases where the stock was purchased at a price of only one yen per share. This is, however, a rather large problem for the venture capital investment recipient. From the viewpoint of management stability, it is not desirable for the large stockholders to change too frequently. Moreover, taking Japanese business practices into consideration, it is necessary to consider extent to which the consent of the investment recipients must be respected.

3. Venture Enterprise Center (VEC) Research in 2008 (March)

Overview

Figure 4 shows the balance of VC investment. It recovered to one trillion yen in March 2008, but the figure did not yet include the serious impact of the subprime problem, which has actually worsened since September 2007.

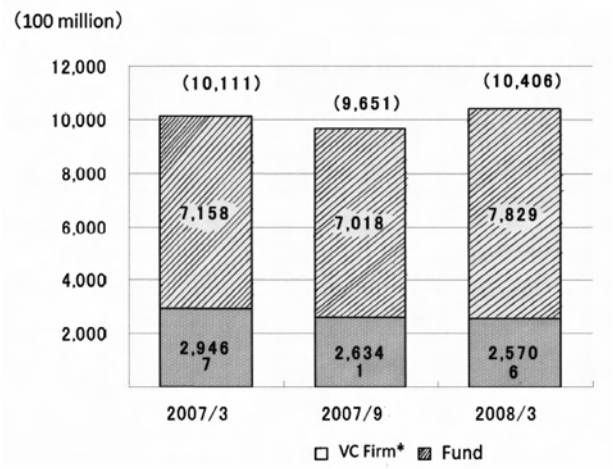

Fig. 4. VC Investment

There are two types of VC investment in Japan, VC Firms invest their own money in some cases.
(Source: VEC, 2008 VC Report)

Japan's VC is characterized by an oligopoly structure. Figure 5 shows that the share of the top ten VC funds is quite beyond 70%. Table 1 shows the investment by location. The overseas share is over 20% by amount, gradually decreasing in the recent years. In the domestic market, the share of the Tokyo metropolitan area is well above 70%.

Figure 6 shows the annual investment. The large decline tells us a severe winter season has now arrived for Japan's VC, and the downward tendency has probably continued to the present. The top ten VC funds also account for a nearly 80% share, while if we count the top twenty funds the share reaches more than 90% (Fig.7). (There are more than 200 VC firms in Japan, but most of them are small.) Figure 8 shows the age of the companies that have

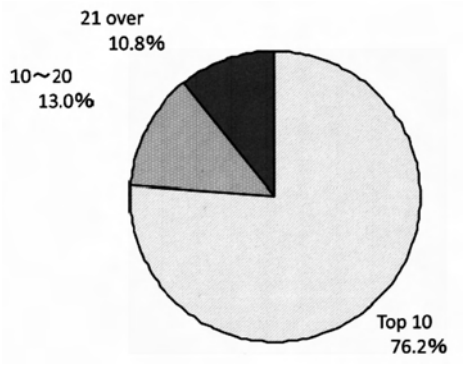

Fig. 5.

(Source: VEC, 2008 VC Report)

Table 1. Investment by Location (2008/3)

(¥ Million)

	No.of Co. s		Amounts		Per company
		%		%	
Domestic Total	12,605	92.7%	742,662	77.3%	59.1
Overseas Total	995	7.3%	217,573	22.7%	218.7
Asia Pacific	365	2.7%	107,791	11.2%	295.3
Europe	65	0.5%	32,149	3.3%	494.6
North America	528	3.9%	72,793	7.6%	137.9
Other Ares	15	0.1%	2,746	0.3%	183.1
Total	13,600	100.0%	960,235	100.0%	70.8

(Source: VEC, 2008 VC Report)

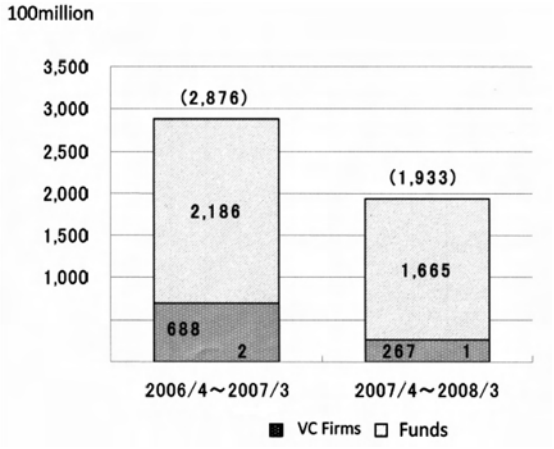

Fig. 6. Annual Investment

(Source: VEC, 2008 VC Report)

accepted VC investment. The category for up to 5 years increased, up to March 2008. This shows that VC moved towards the early stage investment. Figure 9 shows the annual investment by industry. Through the 1990s, IT-related in-

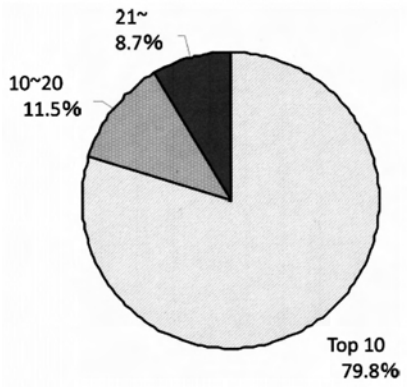

Fig. 7. Annual Investment by Top 10, 20

(Source: VEC, 2008 VC Report)

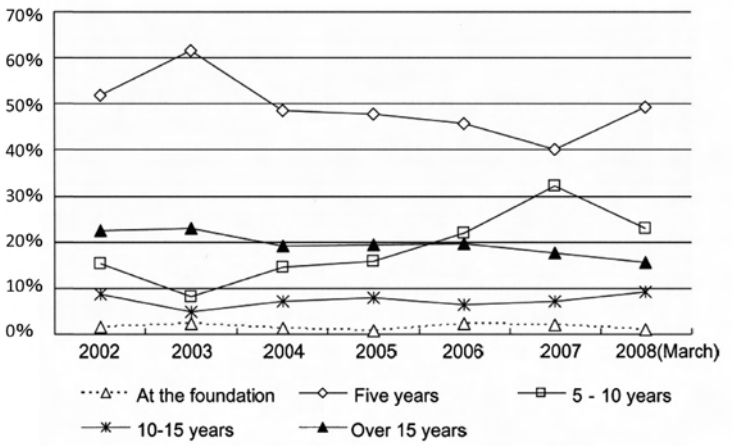

Fig. 8. Annual Investment by companies' age

(Source: VEC, 2008 VC Report)

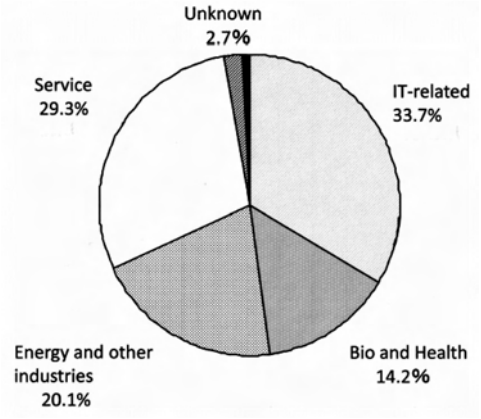

Fig. 9. Annual Investment by industries

(Source: VEC, 2008 VC Report)

vestment was the largest sector until it was replaced by biotechnology-related university spin-offs from 2000 through 2004. IT was again the largest share in 2008, however, because of the headwinds against bio-tech.

Funds

Japan has 591 VC funds, comprised of 3,490 members (investors), and the total investment amount has reached ¥1,929 billion, with a 3.8% growth rate. Remarkably there are five funds with over ¥100 billion invested (mega-funds). Figure 10 shows the type of investors. The biggest are GP themselves, while the share of individuals has grown to 5.5%. The presence of angels, however, is not as vigorous as in the U.S. Although the government introduced a tax in-

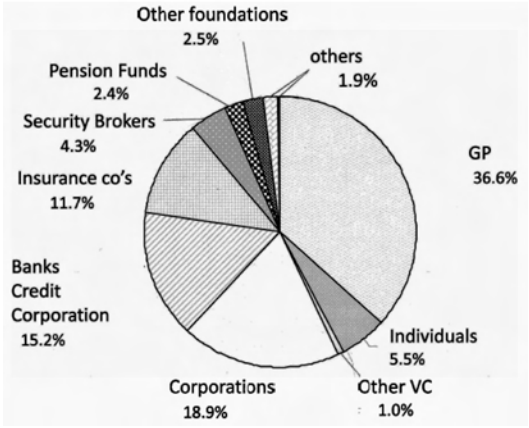

Fig. 10. Type of Investors

(Source: VEC, 2008 VC Report)

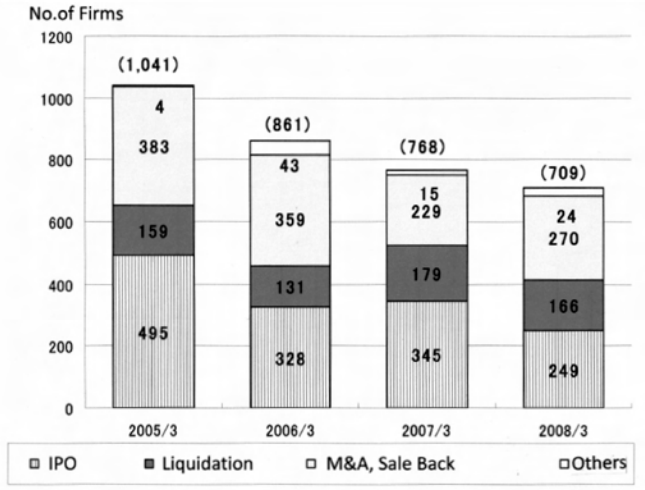

Fig. 11. Exit of VC Investment

(Source: VEC, 2008 VC Report)

centive, it has not been effective so far. Figure 11 shows the breakdown by exit strategy[3]; the first message is the decline in the number of exits as a whole, and the second is that M&A and sale back have taken the place of IPOs as the main exit alternative for VCs. This reflects the tragedy of IPOs in 2008 as the market shrank to one-third of the size of the previous year (Fig.12). Finally Figure 13 shows a comparison among the U. S., Europe, and Japan. VC in Japan still stands far behind VC in other advanced countries.

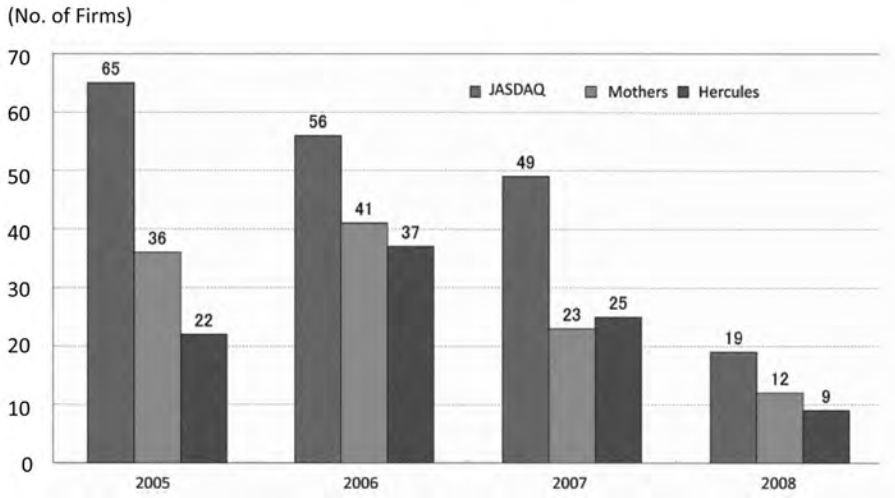

Fig. 12. IPO (Three Emerging Stock Markets)

(Source: JASDAQ)

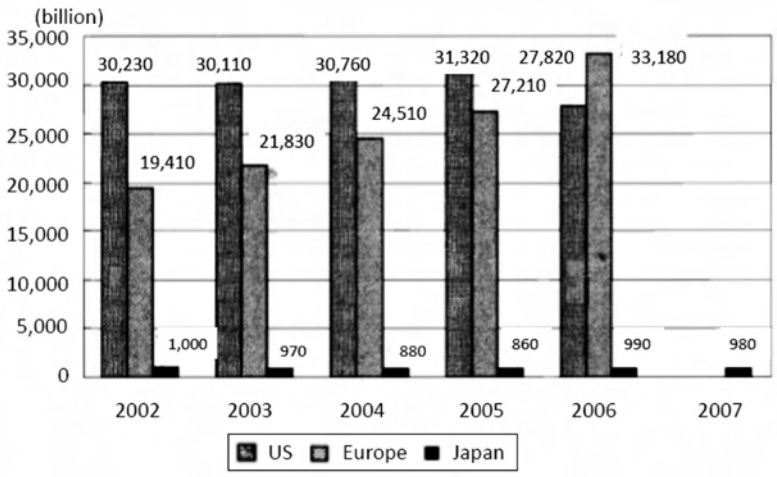

Fig. 13. Comparison : VC Balance in US, Europe, Japan

(Source: NVCA 2007 Yearbook, EVCA Yearbook, VEC Report)

3) VC activities show a cyclical structure, Exit means the last stage where a VC funds seeks to recover its investment. IPOs are considered the most appropriate and normal mode of exit.

Internal Rate of Return

Since Internal Rate of Return (IRR) has been regarded as the most appropriate measure for VC performance, VEC's research unit attempted to calculate an aggregate IRR (i.e., regard all funds as a single fund). The Aggre-IRR in 2007 (2008 is not yet available) was 4.55%, far below the international standard, even considering the low interest rate in Japan. Figure 14 shows the IRR spread from -5% to 0% at the most. The factors influencing IRR are largely two kinds, either internal or external. The former includes the quality of the management team, the technology level, the shareholder structure, and so on. The latter consists of the market (for commodities), GDP growth, and stock market conditions. VEC's research unit also sought to determine the internal co-relation between the JASDAQ Index and the Aggre-IRR with some device.*

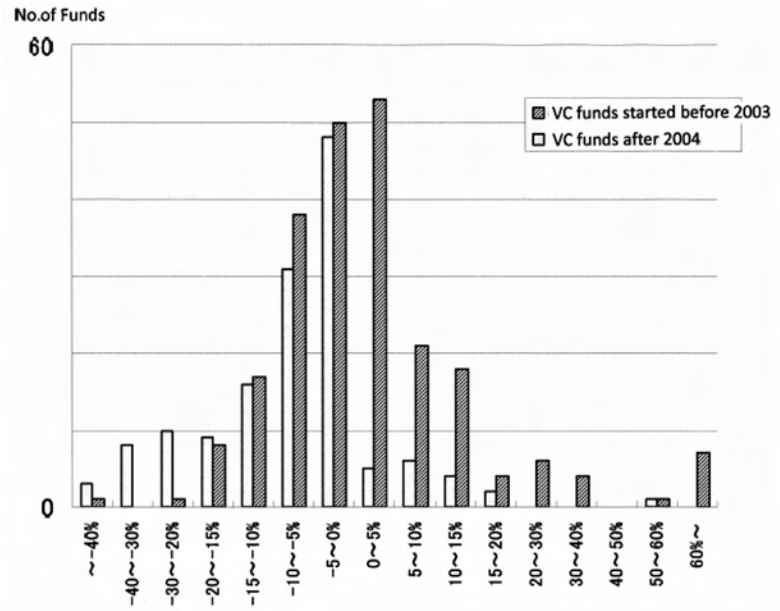

Fig. 14. IRR of VC in Japan

(Source: VEC, 2008 VC Report)

*Because the fund manager usually seeks to invest from the initial investment through Year 3 and achieve a capital-gain in Year 4 or Year 5, a reasonable approach is to compare the IRR of each fund and the difference (the highest price between five years after start and the first year). The result is shown in Figure 15, where the T value is 3,974 and R^2 is 0.49. Other results we found are as follows:

1. When there are many funds started in the same year, the IRR of that year is low (because of "over-fishing").
2. Specific funds (investment only in a specified industry such as bio-tech or IT) show a low return and a relatively unsatisfactory IRR. In Japan, a

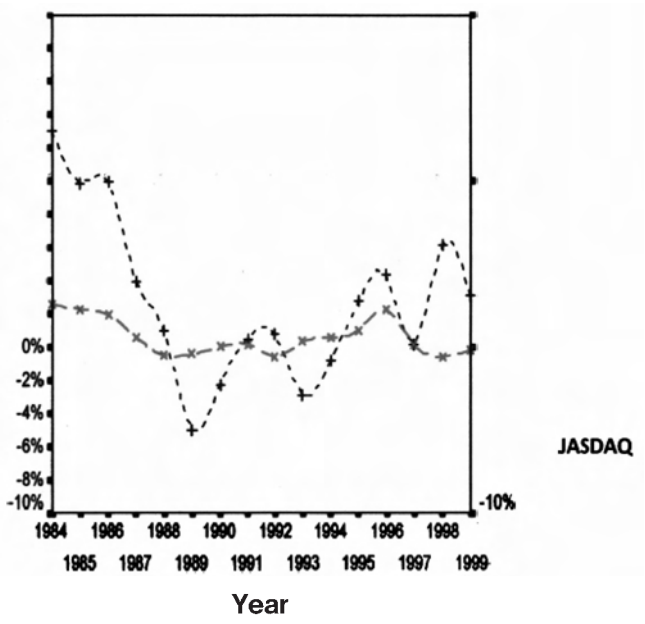

Fig. 15. IRR's Factor

(Source: VEC, 2002 VC Report)

general fund can earn a better return than one targeting a specific sector.

3. JAFCO's return is rather higher than other followers. This might mean that the first runner can earn good results.

Private Equity Oriented

Private equity broadly means investment in unlisted companies; the term is used especially for M&A and buy-outs. Considering the low IRR in venture capital, it is reasonable that some venture capital firms with the large-size funds are inclined to move their business focus to the private equity sector where somewhat higher returns can be expected.

In U.S., the balance of PE investments has overwhelmed VC since the 1990s'. Outstanding investment reached $86 billion in 2005, with 75% growth compared with the previous year. In contrast, VC's outstanding balance remained at the $7 billion level, and therefore VC is only one part of PE.

In Japan, VEC has released figures for PE investment separately from VC since 2004. Over three years, total PE investment increased from ¥200 billion to ¥450 billion. We can find some reasons behind this change:

① The low IRR in VC,
② VC firms hold too much money to invest in small ventures,
③ Inability to compensate finding costs in the VC field,
④ Lack of the knowledge necessary for developing new technology-oriented firms.

The research by Kyoto University and the Swiss investment firms Adveq Management AG shows that PE is still small, only 0.4% of the total investment of major institutional investors. More than 25% of such investors, however, intend to expand their business to 2.5-5% of the total investments in the future (within 2-5 years).

Some institutional investors are very likely to seek higher returns, by turning away from very low interest rates such as those on government bonds. According to the *Report of PE in Japan* by Kyoto Univ. and Adveq, PE looks very attractive from the institutional investors' business point of view. In Europe and the U.S., PE can be regarded as an alternative investment to shares listed on the stock market. Pension fund managers always try to build their portfolio by using unlisted shares as a supplement. It is common in U.S. and Europe that PE is regarded as an alternative to the first and main investment. But VC and PE were introduced in Japan independently. Consequently Japan is an exceptional case that VC has been developed alone, separated from PE itself.

Globalization of VC Investment

VEC's survey shows that Japan's VC investment in other countries has increased gradually from 15.3% of total Japanese VC investment in 2005 to 22.7% as of March, 2008. A similar trend can be seen in the United States as well. According to a survey by Deloitte Touche in 2006, more than half of U.S. VC funds expressed substantial interest in foreign investment.

We can pick up some background. The first is the excessive money in the U.S. financial industry. The second is the removal of regulations on foreign investment by developing countries that have tried to open the door to foreign funds. VC investment, however, needs the domestic sense. The first step of the VC-cycle is "finding" investment opportunities, which requires a local network and also some understanding of the domestic legal framework and business conventions. When VC funds try to cross borders, they are obliged to depend on domestic agents to fill this gap.

Towards Future

VC investment has dropped sharply, influenced by subprime shock in 2008. This is the case all over the world.

Business society cannot, however, be sustained only by big business. Whenever people hope to maintain a bright image of the future, many growing business — not only new ones but also spin-offs from old entities — might be essential. VC is also essential as the provider of new money, which cannot be supplied by indirect financial system like banks.

VC in Japan has learned some lessons during 30 years, and might develop new methods, to which academic society can make some contribution.

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