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# Opportunity to Outcome

Progress and the Paradox of Past Success in Japan's Evolving Venture Environment

**Gerald Hane, Ph.D.**

MIT Japan Program  
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Venture Environment*

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September 2002

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Center for International Studies  
Massachusetts Institute of Technology  
Room E38-7<sup>th</sup> Floor  
Cambridge, MA 02139  
Phone: 617-252-1483  
Fax: 617-258-7432

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## 1. Introduction

Over the past five years, an array of reforms has unfolded in Japan to promote the rise of venture enterprises. In policy and business, these changes attempt to revitalize this long neglected sector of innovation in the Japanese economy. As a package, the changes are substantial. Two years ago, a study panel of the Council on Foreign Relations projected with optimism that Japan was on the verge of a wave of venture entrepreneurship (Helweg 2000). However, Japan's industrial economy is not one that turns well on a dime. For ventures in Japan, the inertia of past industrial success is a key obstacle to the future.

Japan is certainly not a land without successful entrepreneurs. Matsushita, Sanyo, Canon, Nikon, Mazda, Honda, Sony, and Kyocera are all companies that began with the vision of individuals. Over decades, these and many other start-ups grew to prominence in Japan's economy. Yet, most of these successful start-up firms have their roots in periods of economic dislocation or in the absence of a tightly structured industrial economy.

Paradoxically, the main challenges of today lie in the very success of the industrial infrastructure that delivered the economic miracle of the 1960s, 1970s and 1980s. In this period, the industrial groupings, the *keiretsu*, were dominant. Encouraged by government policies of cartelization and controlled competition, tightly woven webs of businesses were fostered that placed large corporations at the center of the value chain.

The rise and prominence of large corporations over the decades led to a loss of flexibility in the business infrastructure so that much that was successful yesterday, presents a barrier today. The rules of the economy favored larger firms to the relative neglect of small firms. This was reflected in industrial policies, financial practices, corporate governance, and market structures and opportunities. Employment became less mobile as labor shortages led corporations to pursue life-time employment. The best and the brightest were efficiently absorbed by the government or into large corporations. Financing came to be dominated by the banks, supporting their industrial groups and the

priority on production scale-up and expansion. Industrial production and distribution became tightly insulated and difficult to penetrate.

This industrial structure was well adapted to a form of high production, high quality, catch-up economic growth. The prestige of venture businesses faded as small businesses were looked on as suppliers rather than sources of innovation. Although valuable in its day, this is not a structure that is well adapted to disruptive changes in innovation and it led to a virtual vacuum of venture leadership and skills. Thus, whereas ventures rose to contribute substantially in the United States, accounting for 3 percent of industrial R&D but 15 percent of innovations (Kortum), there was little such contribution in Japan.

Recognizing that change was needed, a series of measures were undertaken in recent years to spur a higher level of venture innovation. (Omi 2001) New venture-friendly stock markets have been created, investment rules have been liberalized, corporate governance has been strengthened, incentives for entrepreneurship have been improved, and technology transfer from labs to firms has been accelerated.

Although these changes are important, in the context of the overall system of innovation important challenges remain. Innovation occurs in a system of interlinking actions and incentives. To fully benefit from existing reforms challenges remain to be addressed. In particular, further changes are needed to evolve from simply “providing” venture opportunities to “enabling success” in the marketplace.

Most importantly, leaders of the existing industrial structure, the large corporations, need to value, leverage, and incorporate the creativity of these ventures rather than dismiss them. This is important for investors, ventures, and the large corporations themselves. For investors, more active acquisitions could substantially increase returns and mitigate risks, promoting more investment. For ventures, active partnerships with larger corporations would strengthen market development, financing, and integration into the economy. For large corporations, effective integration of new technologies and business models can bring much needed market growth. At the upper levels of corporations the

importance of these changes is increasingly appreciated. However, words are still only slowly followed by actions and the operational levels have been slower to move.

Another important challenge to growth is in the lack of resources and expertise to develop fast growing, high tech ventures from the seed stage. The experience and expertise that feeds a thriving seed stage business development industry in the United States simply does not exist in Japan. At least partly because of this, adequate resources for seed stage ventures are very difficult to obtain. This presents a “valley of death” for innovation whose walls are still deep.

Other challenges include the lack of consistent and transparent means of assessing venture value and return, and societal values that hold entrepreneurs in less than the highest esteem.

It is a time of promise for ventures in Japan, but also a time of volatility. Although progress is certainly positive, important adjustments remain to be made. The remainder of this article will review changes in the environment for ventures and discuss challenges ahead.

## **2. Changes in the Venture Environment**

Without question, much has been accomplished to improve the environment for venture innovation in Japan. The changes cover a wide range of measures including improvements in finance, innovation policies, corporate governance, and individual incentives. The breadth and speed of change reflects the high priority now assigned to this area by policy makers and business leaders. Some of the key changes are summarized in Box 1 and are reviewed below.

**Box 1. Major Changes in the Venture Environment**

**Summary of Significant Measures to Promote Venture Formation**

**Finance**

- Law allowing corporate pensions and trust banks to invest in venture capital (1997)
- Establishment of Angel tax incentive (1997)
- Law allowing pensions in general to invest in venture capital (1997)
- Law enabling Limited Partnerships to form (1998)
- Law allowing stock swaps to facilitate M&A (1998)
- Relaxation of listing requirements on the Over-the-Counter Market (1998)
- Opening of the Mothers Market (1999)
- Law relaxing stock market listing requirements (1999)
- Small and Medium Enterprise Corporation begins investing in private venture capital (1999)
- Opening of NASDAQ Japan (2000)
- Increased requirement for corporate pension reserves (2000)
- Elimination of 50,000 yen minimum par value requirement (2001)

**Corporate Governance**

- Law requiring consolidated corporate reporting (2000)
- Venture Board membership allowed for venture capital investors (1997)

**Technology Transfer**

- Law promoting formation of Technology Licensing Offices (1998)
- Law allowing national university professors to receive external (consulting) income (1998)

**Individual Incentives**

- Law enabling issuance of options (1997), more fully opened (2002)
- Establishment of 401k-like pension plans (2001)
- Law limiting liability of entrepreneurs (2001)

**Finance**

Assets for growth and investor exits – the creation of venture friendly stock exchanges.

Until the very end of the 1990s, the stock exchanges in Japan operated with rules that were not friendly to high tech venture firms. Listing requirements were conservative,

requiring well-established assets and a history of profitability. As a result, only mature firms would list. The average age of firms listing in the mid-1990s was approximately 34 years. At that point, the growth path of these firms was typically modest. Rather than list on an exchange to obtain new assets for growth, listing was used for other purposes such as strengthening the image of the firm or changing the tax status of the company. Not uncommonly, this step was taken to reduce the burden of inheritance taxes.

NASDAQ Japan aimed to change this by mimicking the successful model of NASDAQ in the United States. In June 1998, NASDAQ announced that it would join with Masayoshi Son's Softbank to open an exchange for venture businesses in Japan. With that announcement change began to occur quickly across the industry. In July 1998, an announcement was made by the Japan Association of Security Dealers (JASDAQ) that the OTC exchange as a whole would be reformed to better accommodate venture enterprises. In November 1998, JASDAQ announced several measures including the introduction of a market maker system similar to that of NASDAQ, relaxed registration standards, a 24 hour transactions system, and pricing based on a book building system rather than an auction system.

Firms could now raise assets through a public offering without showing a profit and by meeting minimum standards of capitalization and equity. In November 1999, the Tokyo Stock Exchange opened the Market of the High-Growth and Emerging Stocks (Mothers). The Mothers exchange was launched with even fewer requirements – no minimums regarding on equity, stock float, or years of operation -- only a minimum 500 million yen market capitalization. NASDAQ Japan began operation in June 2000.

The access to capital and the return on investment enabled by these new markets created critical opportunities that had not existed before for high tech ventures and venture investors. The markets created a real possibility that a true venture capital industry might develop.



Figure 1 shows that the new markets continued to attract listings despite the problems of the Internet and telecommunications sectors in Japan. In the first six months of 2000, 71 companies listed on the various exchanges in Japan: 39 on OTC, 10 Mothers, 5 Nasdaq, with 52 of the 71 firms being venture companies. In 2001, the total number of firms listing on these exchanges was 98 on the OTC, 43 on Nasdaq Japan, and 7 on Mothers.

As a result of these new exchanges, firms could turn to the public markets for funds much earlier in their development. Whereas in the past, time from establishment to IPO was measured in decades, firms began listing in times as short as a year or less. For example, firms such as Yahoo, MagClick and Media S listed in less than a year during the height of the Internet boom.

The fall of the stock markets around the world, particularly of the high tech venture-heavy markets such as Nasdaq in the United States, has landed a heavy blow to the new markets in this still small, investment space. Projections for 2002 were that 120 to 130 firms would list, a slight drop from the 148 listing in 2001. (Nikkei August 12, 2002)

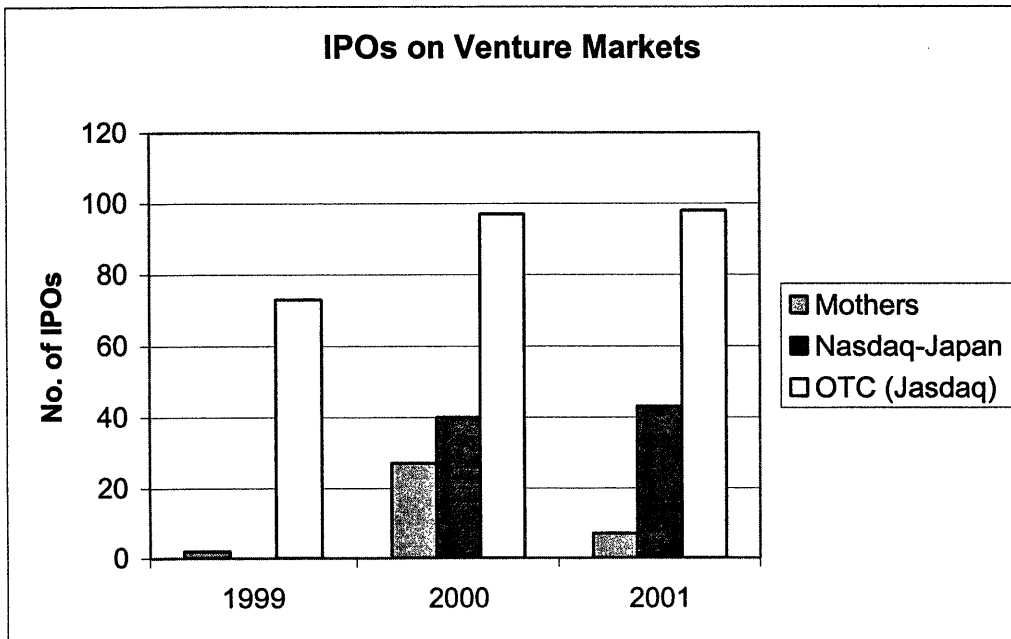


Figure 1. Number of Firms Listing on High Tech Markets

For the new markets, volatility at this stage is difficult to endure because a critical mass of firms has yet to be listed. On August 15, 2002, NASDAQ Japan announced that it planned to cease operations by the end of the year.

Stock markets operate on trading volume and value. Figures 2 and 3 show the gap between NASDAQ Japan and the OTC market. Figure 2, plotted on a logarithmic scale shows the advantage of the longer history of the OTC which provides for more than an order of magnitude larger volume of trading. In value of shares, the difference is less, only about 4 to 5 times, but nonetheless significant, as shown in Figure 3.

However, the desired level of growth for NASDAQ Japan appeared to be increasingly distant. At the outset, NASDAQ Japan set its sights on enlisting 2,000 firms by the year 2005. (Shukan Toyo Keizai August 3, 2002) By mid-2002, it had not yet reached 100 firms. Amid the turbulence in the markets, NASDAQ Japan apparently did not have the mass needed to survive.

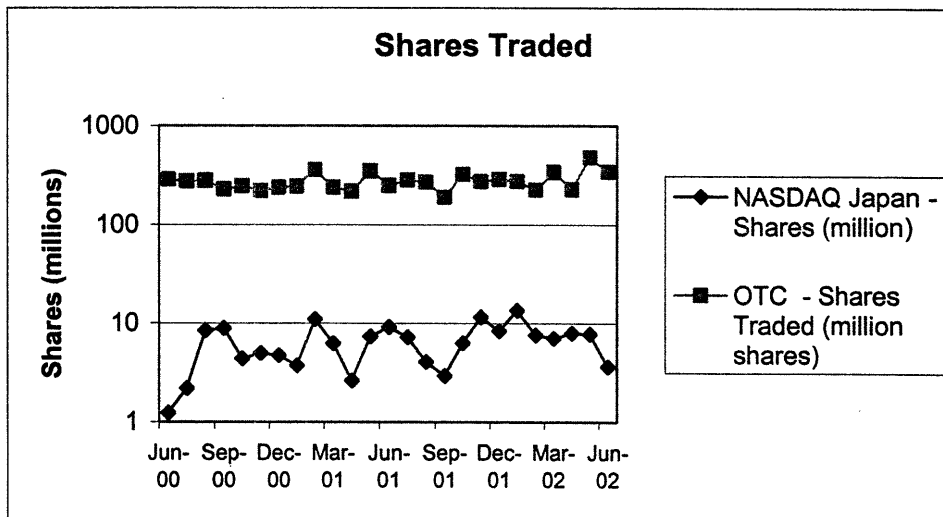


Figure 2. Volume of Traded Shares on NASDAQ Japan and OTC (market data)

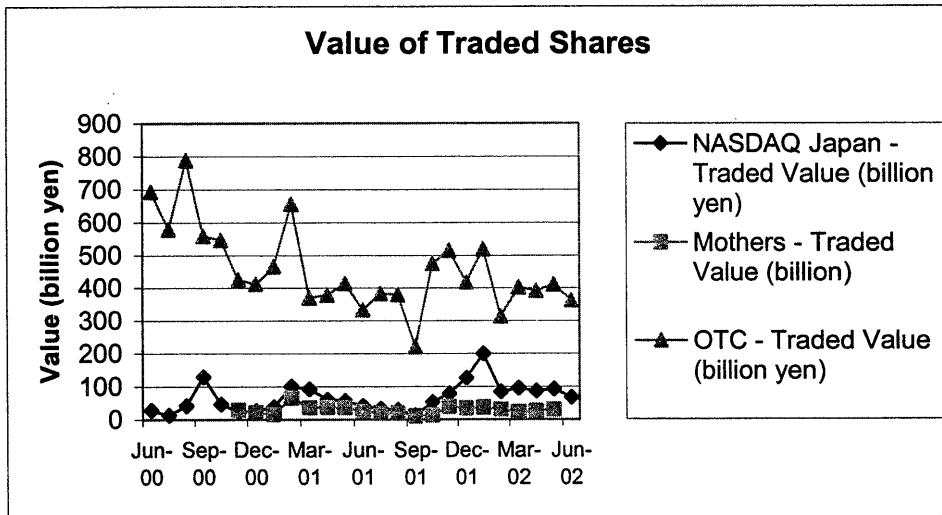


Figure 3. Value of Traded Shares on the Three Venture Markets (market data)

The Mothers Market is also imperiled, although some aspects of its performance has been strong. The Mothers market has the advantage of being owned by the Tokyo Stock Exchange, which still accounts for over 80 percent of market capitalization in Japan. Firms in general still target eventual graduation to the Tokyo Stock Exchange to gain access to the largest pool of public capital. Liquidity averages above 90 percent on Mothers above 90, in the mid-80s NASDAQ Japan, and below 70 percent on the OTC. The IPO record of stocks listing on the Mothers exchange has also been strong. In the peak year of 2000, the average IPO on Mothers was only 10 percent lower than the average IPO on the Tokyo Stock Exchange: 8.9 billion yen, versus 9.8 billion yen. The average IPO on the OTC was 2.3 billion yen, and for NASDAQ Japan, 3.0 billion yen. However, as noted above, only 7 firms listed on Mothers in 2001 and only 1 firm listed on Mothers in the first six months of 2002.

Although by many measures of intensity, the OTC is the least active of the three exchanges, it is the most established and largest, and therefore most likely to survive. The OTC has 926 registered companies at the end of 2001 versus 82 for NASDAQ Japan. Whereas the average number of shares traded monthly in 2001 and 2002 was about 6 to 7 million on NASDAQ Japan, it was 9.5 billion on the OTC. Monthly trading value in this

period ranged from 13 to 200 billion yen, which compares with 300 to 500 billion yen on the OTC. In difficult times, the OTC also benefits from the diversity of its listed firms, many of which are not in the high tech sectors. Also, although there has also been a decline in trading volume and value since the peak in 1999, the value traded is still well above the levels prior to the peak. The more conservative composition of the OTC appears to be its surviving edge as volatility and lack of critical mass frustrate the start up exchanges.

Even though NASDAQ Japan was primarily a victim of the harshly negative environment globally for Internet and other high tech venture stocks, it may also have been a victim of its own haste. Initially, unable to close partnership agreements with the Tokyo Stock Exchange or JASDAQ, NASDAQ Japan allied with the Osaka Stock Exchange, a relative minor stock exchange. (Shukan Toyo Keizai August 3, 2002) This relationship was never fluid with the Osaka Exchange resenting NASDAQ's bravado and NASDAQ perhaps not fully realizing all of the structural challenges to ventures in Japan. By the end of 2001, NASDAQ Japan had a debt of 5.3 billion yen and needed to seek financial accommodations to stay in business. The Osaka Exchange, however, declined to make accommodations, effectively sealing NASDAQ Japan's fate.

Nonetheless, NASDAQ Japan catalyzed a major change in the equities markets for ventures. The significant changes in the OTC to accommodate ventures and the creation of the Mothers market were clearly facilitated if not motivated by NASDAQ's entry into the country. NASDAQ Japan played a major role in creating a meaningful venture IPO market. Its legacy is significant despite its early demise.

The success of ventures and the remaining exchanges lies not only in the generation of new ventures, however, but also the expansion and integration of ventures into the economy. As will be discussed later, a key challenge to venture business is the legacy of the industrial structure. Changes in the behavior of large corporations holds a key to venture success: a key that is also critical to the survival of the venture stock markets.

Increasing resources and strengthening independent VCs - Pensions allowed to invest. In 1997, rules were changed to allow pensions to invest in venture capital in Japan. This is analogous to the change of the “Prudent Man” rule in the United States in 1977 which allowed U.S. pensions to begin investing in this area, a change that played a major role in the rise of the modern venture capital industry. In Japan, the importance of this resource was further enhanced by changes in pension rules in 2000 requiring that corporations increase their pension reserves.

In the United States, the portion of pension fund investments going to venture capital increased from 2-3 percent in 1980 to nearly 10 percent in 1997. This accounted for 38 percent of the money invested in venture capital funds, increasing to 42 percent in 2001. In Japan, pension funds had less than one percent of the investment in venture capital in 1997, increasing to 5.6 percent in 2000 (primarily corporate pensions), but retreating again in 2001 to 2 percent. The Ministry of Economy, Trade and Industry has noted that if 2-3% of Japan’s pensions were applied to venture investments, this would equal 5 trillion yen of venture capital, more than 5-6 times that currently available overall. (Ishiguro)

Table 1 compares venture capital investment sources in Japan and the United States. Major differences are seen in the relatively small percentage accounted for by pensions in Japan, the larger presence of corporate investment and the absence of endowment investments. One key difference is that in Japan, the major sectors funding venture capital have a tradition of directly placing those investments themselves. For example, as late as 1998, as much as 74 percent of venture capital was invested through affiliates of financial institutions. Independent venture capital only accounted for 12 percent of investors. (Nakagawa) These ratios seem largely unchanged still in 2001. (VEC 2002)

Table 1. Sources of Venture Capital Investment in the United States and Japan in 2001

Japan Investor	Percentage	US Investor (*)	Percentage
Banks, Trusts	28%	Pensions	42%
Corporations	23%	Financial and Insurance	24%
Insurance Companies	19%	Endowments and Foundations	22%
Other VCs	8%	Individuals	10%
Individuals	8%	Corporations	2%
Unlimited Members	6%		
Other Domestic	4%		
Pension	2%		
Overseas	3%		
Other	5%		

(\*) US figure does not include investments by General Partners.

(VEC 2002, Venture Economics 2002)

In Japan, one possible outcome of this change allowing pension investments is the emergence of more independent venture capitalists. Also, since the government limited its guarantee on cash deposits in 2001, universities, which have tended to possess large cash deposits in their endowments, are forced to consider other investment options. Only one university thus far appears to have dipped its toe into venture capital investment, Keio University, but other universities are watching.

The traditional composition of venture capital flows in Japan created distortions in the allocation of capital. Strategic objectives were often the primary driver of investment. Securities houses back venture capital with the hope of gaining the underwriting business when a firm lists on a public exchange. Insurance companies invest in venture firms in order to secure their insurance business. Similarly, banks invest in venture firms in order to expand their loan and banking businesses.

To achieve these strategic objectives, the number of customers was more important than the depth of venture investment. As a result, these large financial VCs invested broadly, at a late stage, and in small amounts. One insurance company with extensive investments in venture companies over decades, noted that the average investment was only about 10 million yen, or \$80,000.

Prior to the bubble, in 1998, the 170 venture capital firms in Japan invested approximately \$1.1 billion dollars, whereas the 700 plus venture capitalists in the United States invested \$16.7 billion. In 1997, Japanese firms invested in 2,547 firms versus 1,298 in the United States. The average Japanese venture capital fund invested in 30 companies versus an average of six for U.S. firms. The average investment amount of 45 million yen (\$400,000) versus \$4.9 million in the United States (Takada)

The small role played by venture capital firms in providing seed funding led former MITI Vice Minister Katsuhiro Nakagawa to observe: “At this time (1999), Japanese venture capitalists do not play a significant role in providing risk/seed money to early stage entrepreneurs.” (Nakagawa) But there is now a window of opportunity for change.

Protecting investors - LLP authority created. One other change that was significant to investors was the authority to allow the formation of Limited Liability Partnerships created in 1998. Prior to this, under civil law in Japan, investors had unlimited liability in their investments into venture firms. This was a substantial disincentive, particularly for investors unfamiliar with venture capital such as pensions. Under the LLP law, they are only liable up to their investment in a fund, which is similar to the situation in the United States.

## **Stimulating the Roots of Innovation**

Measures have also been taken to stimulate the generation of new innovations. Key actions include an expanded commitment to R&D, technology transfer, and the promotion of seed stage, Angel investments.

Expanding commitment to research. A prerequisite to a vital venture industry is innovation. (Mowery 1999) The prolonged recession in Japan has made this a challenge for corporations, where R&D spending has increased only slowly over the decade, even decreasing overall in some years. (MPM 2002)

However, the government has stepped to the plate with an expanded commitment to research in this period. (MEXT) Despite the lengthy recession and severe fiscal pressures, the government has sustained an abiding support for research and development. In a 5-year plan for the promotion of science and technology, 1996-2000, the government succeeded in increasing R&D by 50 percent over the prior period, a cumulative increase of over 17 trillion yen. In the next 5-year plan, 2001-2005, the government is targeting an increase of 24 trillion yen, another expansion of close to 50 percent.

Promoting technology transfer and commercialization. In order to spur the commercialization of technologies from universities, the government passed in 1997 a law promoting the formation of technology licensing offices (TLOs). This law was modeled on the Bayh-Dole Act of 1980 in the United States, and is often referred to as Japan's Bayh-Dole Law. Prior to this law, there was no formal management of the commercialization of university-related intellectual property at national universities. By law and tradition, most of the intellectual property created by professors was given to the professors with no assistance to commercialize.

Thus, historically, Japanese professors would instead transfer these rights to industry in return for some in kind support of the laboratory. For example, Professor Ryoji Noyori, a Nobel Prize Winner, is an inventor of 152 patents. Among these, 131 were assigned to



industry, 19 were jointly assigned to co-inventors and a government R&D program, and two were assigned to a co-inventor. The case of Nobel Prize Winner Hideki Shirakawa is similar, with 28 of 31 patents assigned to industry. (Ijichi)

Until 1997, Japanese national university professors also could not receive consulting fees or other direct remuneration from industry. Thus incentives for professors to pursue commercialization were weak. This situation has changed, although in reality approvals from universities to receive such remuneration are far from automatic.

Overall it is estimated that traditionally 90 percent of intellectual property developed at universities was given back to professors, with the government taking ownership in less than 10 percent of the cases. Data show that few of the government-owned patents were licensed. For example, in 1997 royalties from such government held patents was estimated to be only \$300,000. (JSPS).

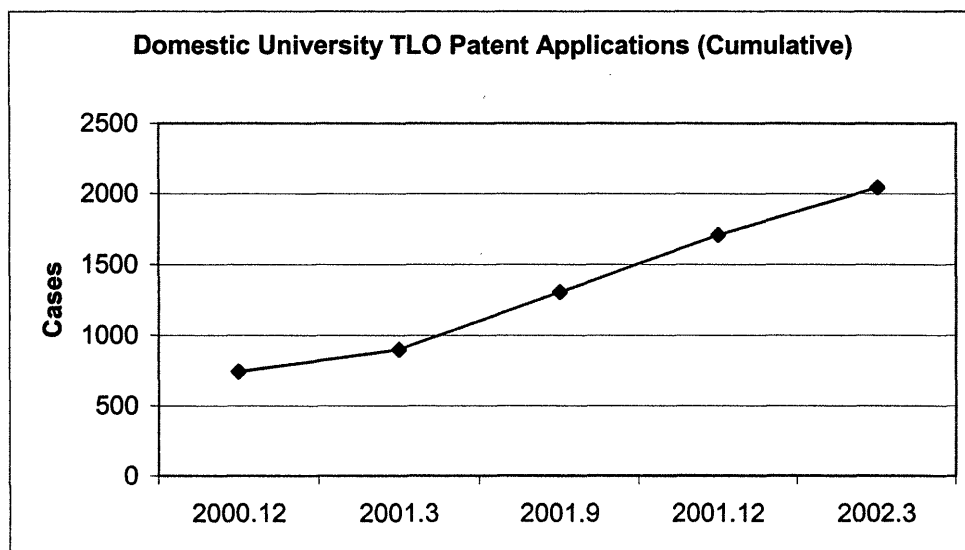


Figure 4. Increase in Patent Applications by TLOs (ISAC 2002)

The TLOs are intended to change this lethargic pace of commercialization. As in the United States, the TLOs facilitate the process of commercialization by providing marketing, business and legal expertise and contacts. Within the first four years of this law, 27 TLOs were formed in conjunction with a university. Figure 4 shows the rise in the number of patent applications managed by these TLOs.

Data from the Tokyo Institute of Technology, Japan's leading institute of technology, show the increase more clearly as measured in patent disclosures. This is shown in Figure 5. The Figure shows that there was increase from a level of 20 to 30 a year in the early to mid-1990s, to 151 in 1998, 239 in 1999, 255 in 2000, dropping slightly in 2001 to 217.

Although achieving a good level of success, Japanese TLOs are in a more difficult position than their U.S. counterparts. Japanese TLOs must convince professors to allow them to manage the IP. Unlike the United States, due to a different legal system,

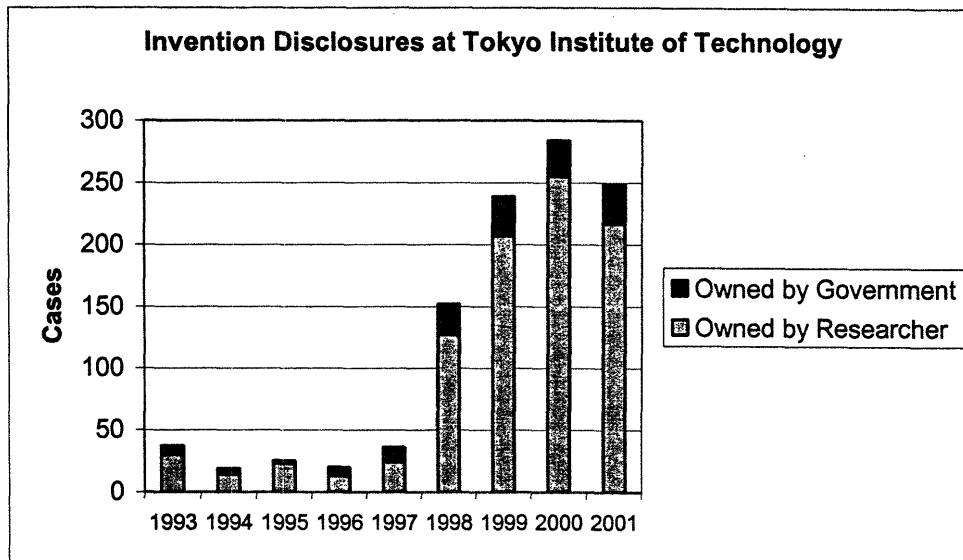


Figure 5. Increase in Invention Disclosures at the Tokyo Institute of Technology (Tsukamoto, TIT)

ownership is not held by the university. Thus, TLOs must market to professors as well as to the industrial customers. This may change with the planned semi-privatization of the National Universities in the next few years, but today it remains an added challenge.

Activating seed capital and seed management - Angel tax incentive. One major challenge for young ventures in Japan is the very limited amount of seed stage capital. In the United States, Angels provide an important source of finance and advice at the seed stage. It has been estimated that there may be as many as 500,000 Angel investors in the U.S. who, in a typical year, invest twice as much in ventures as do venture capitalists. (Maeda 2000) In Japan, there are few Angels.

To encourage more Angel investment in Japan, an Angel Tax Incentive was passed in 1999. Only one-fourth of the capital gain is taxed if obtained within one year after an IPO. This is more generous than the U.S. tax provision, which allows half of the gains to be excluded from capital gains taxes if the stock has been held for more than five years

A few prominent Angels have arisen in the form of recently retired corporate executives, often of foreign-based firms. These individuals are familiar with the culture of entrepreneurship that gave rise to their companies in the United States. As talented individuals who took the risk of leaving high status positions in Japan to take a chance on a foreign-owned subsidiary, they are individuals themselves with some level of entrepreneurial drive. A partial list of some of these cross-border "fusion" Angels is provided in Table 2.

However, comparable Angels from traditional Japanese corporations have been much slower to emerge.

Table 2. Examples of Prominent Fusion Angels in Japan

Name	Angel/VC	Former Position
Keisuke Yawata	The Future International; Start-up 101	President NEC US, President LSI Logic, President Applied Materials Japan
Tak Matsumoto	Academy Capital Investments	President Sun Japan, President Cisco Japan
Makoto Naruke	Inspire Corp.	President Microsoft Japan
Ikuo Nishioka	Mobile Internet Capital	President Intel Japan
Masaru Murai	General Atlantic Partners Japan (joined)	President Compaq Japan
Nobuo Mii	Ignite Corp.	VP IBM Japan
Alan Miner	Sunbridge	President, Oracle Japan

### **Strengthening Venture Management - Corporate Governance**

Strengthening management - Board membership. Until 1997, it was not possible for venture capital investors to take a seat on the Boards of ventures in which they invested. This lack of ability to influence the management of firms is a prime factor in Japan's historic style of investment, which involves no management intervention. This is slowly changing with growing numbers of VCs attempting a more "hands on" strategy to better ensure the success of the invested firms as well as to gain a larger and earlier stake in the venture company. Since the law change, VCs have been more active in taking positions on Boards. For example, in three years, since 1997, JAFCO invested in 395 new companies, took 44 Board seats, and held 171 observation rights. A growing number of small VCs place a priority on seeking Board seats. For example, Global Venture Capital is on the Board of all 10 of its invested firms.

However, although more management control by investors is possible, one question is the ability to manage ventures. This is part of a chicken and egg dilemma for Japan at this point. There are few venture investors with hands-on venture management experience. As noted by several entrepreneurs in Japan, having the wrong “hands on” for management can aggravate problems rather than be helpful.

One area in which this change in governance can have an important impact is in the selection of the venture CEO. The tradition in Japan is for the founding CEO to continue, indefinitely, as CEO. (Sakakibara 2000) “Shacho was subete” (the president is everything) is a common notion. However, as in the United States, the best CEO for formation is not necessarily the best CEO for growing the business. In the United States, it is not uncommon for a venture capitalist to replace the CEO in more than half the cases before firms go public. One venture capital partnership in Japan that had successfully replaced CEOs in several of its portfolio firms commented that change was underway, but the process was very painful.

Strengthening efficiency – spin-outs and buy outs. Changes bringing greater efficiencies in the markets also serve to promote ventures. These include the adoption of consolidated reporting and the pressures stemming from an increased presence of foreign investors. With the adoption of consolidated reporting in 2001, corporations have a more difficult time hiding inefficiencies in their subsidiaries, a common practice in the past. Foreign investors, who comprised as much as 40 percent of market activity on the Tokyo Stock Exchange at one point in 2001, care less about relational investing and more about efficient management and good return.

A survey by Nikkei confirms that foreign investors in Japan clearly tend to invest in firms with transparent financial performance. Firms such as Yamanouchi Pharmaceuticals, Rohm, Orix, TDK, Fuji Photo Film, and Sony which have such a reputation continue to top the list of firms attractive to foreign investment. (Nikkei Weekly July 22, 2002)

- *Spin-offs*

In search of greater value and efficiencies, numerous corporations have expressed their intent to more aggressively pursue spin-out ventures. Toyota, Sony, Fujitsu have, for example, discussed spinning out dozens, if not over a hundred, venture firms. One advantage increasingly accepted by corporations is that these firms can grow more effectively if they are not branded as belonging to a competing corporation or *keiretsu*. Another advantage, is that these firms can move more quickly if they are not caught in the bureaucratic decision making process of the corporation. One corporation pointed out that in-house ventures had to clear all major decisions with the sponsoring division chief before actions could be taken, placing friction in the system. A third advantage is that these spun-out firms can more easily seek funding from others.

Fujitsu is one of the pioneers in this movement, experimenting with different forms of ownership to give the employees of the spin-out venture more incentive to perform, and management more independence in business decisions. One example is their ownership of Accela, an e-business firm. Fujitsu's ownership is held to 33 percent, with 33 percent going to other investors and 33 percent to employees. In 2000-2001, Fujitsu generated four spin-outs in Japan and one in the United States

An added advantage that has emerged is the counterbalancing advocacy role played by the external investors. Without them, a venture would typically lose any arguments with its parent corporation. With the external investors present, the needs of the venture become weighed more heavily.

A representative of another corporation noted that leveraging outside expertise would be critical to success to avoid insular corporate dysfunctions. It was noted that several years ago, there was a similar push by the corporation to form venture businesses, with a directive that at least five businesses be created. Five businesses were created. However, there was no expertise to develop the seeds into businesses. As a result, all failed. Partnerships with VCs may help better ensure that there is a viable business in the spin-off.

- *Management buyout*

A related activity on the rise is the management buyout, the separation of a business entity from a parent corporation. The number of MBOs are still at a low level, but have increased in recent years. As shown in Figure 6, although largely absent until the late-1990s, there has been some recent activity sparked at least in part by the ability to conduct stock swap acquisitions. In 1997, zero deals were recorded, in 1998, nine, in

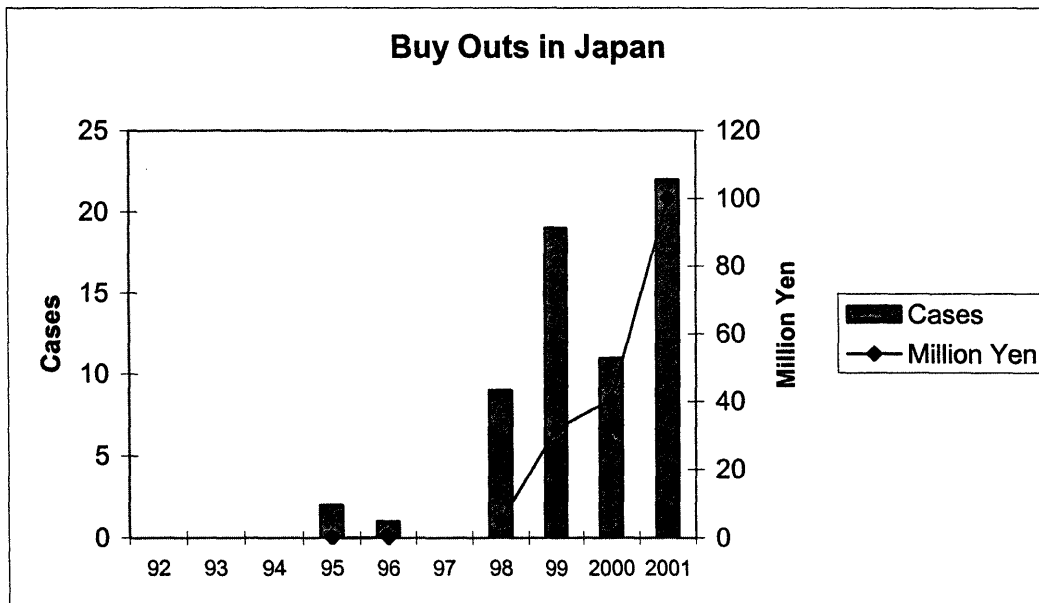


Figure 6. Management Buyouts in Japan (MRI)

1999, 19 deals were noted, in 2000 there were 11, and in 2001 there were 22. Although the number of deals decreased between 1999 and 2000, the reported amount increased from 31.8 million yen to 40.4 million yen. (MRI) Venture capital firms were backing most of the buyouts in this survey.

**Individual Incentives**

Ask ten venture capitalists about the greatest barrier to venture firms in Japan, and ten times the answer will be “people.” Providing incentives for talented individuals to

develop ventures continues to be a primary challenge. But again, reforms have been implemented that have created a better environment.

Availability of options. In October of 2001, the government removed most of its limitations on the issuance of stock options. The ability to assign options was created in 1997. Prior to that time, firms did not have this incentive to offer employees, another byproduct of past emphasis on large firm promotion. However until last year, firms could only offer a limited number of options, must have all option assignments approved individually at the Shareholders' Meeting, and could not issue options to others not fully employed by the company such as business and technical consultants. These restrictions were largely removed in the last round of revisions.

Creation of 401K plans for retirement portability. The lack of any form of pension portability has also been a major drawback until recently. For mid-career scientists and businessmen coming from a system of lifetime employment, the loss of a pension has been a major disincentive to mobility. At the end of 2000, the government passed a law authorizing the creation of 401K plans. This has proven to be attractive not only for venture firms but also for large corporations which are struggling with major pension liabilities and pension reserve requirements.

Limiting personal liability. In November 2001, regulations were changed which more fully protected the personal assets of venture management in case of default. In the past, and in many cases still today, investors seek the personal assets of entrepreneurs in cases of failure. An entrepreneur would often have to put at risk his or her house, car, and other assets when taking outside "investments." This substantially increases the penalties of failure. The new law limits this personal liability. Nonetheless, there still exists the practice among older venture capital firms of trying to get entrepreneurs to put up personal property as a type of collateral against an investment.



### **3. Key Challenges**

As a package, the policies and actions to promote venture entrepreneurship in Japan have been substantial. The environment for starting and sustaining a venture today is losing its resemblance to the turgid venture environment of just a few years ago. However, important challenges remain, which, until addressed, will continue to hold back the vitality of this sector. Two of the most significant challenges relate to the adjustment of industrial strategy and structure to capture the advantages of ventures, and the need for seed stage business development expertise to set ventures on a trajectory of high growth. Other challenges include the need for more consistent financial evaluations to build investor confidence, and the inertia presented by societal perceptions of entrepreneurs.

#### **Industrial Structure Challenges**

Perhaps the most important challenge still facing the venture environment is one which policy may have difficulty addressing: the friction imposed by the existing industrial structure. This is the very industrial structure that is so closely associated with Japan's rise to global economic power: closely knit keiretsu industrial groupings, large bank dominated financing, large-firm dominated industries, and the social prestige that surrounds these symbols and practices of success. It is this success of the recent past that presents a key challenge to the future.

Lack of Venture Acquisitions. In the U.S. and Europe, a widely used strategy for growth and expansion is a merger or acquisition involving another firm. A wide range of corporations such as Intel, Cisco, and Microsoft strengthened their operations and grew successfully through acquisitions of ventures. For ventures, the option of M&A can expand market and operations and is an important source of return for the venture investors. Yet this route does not have a tradition in Japan. Corporate acquisition has not been a major strategy for growth or exit route for ventures.

In the United States, the ratio of a trade sale, M&A, over IPO exits was 1.35:1 over the six years between 1996 and 2001, with the value of the M&A transactions exceeding the IPO value by 2.3:1. The number of trade sales in this period was 1,306 versus 970 IPOs, with trade sales totaling \$143 billion, versus \$61.5 billion for IPOs. In Europe, trade sales were also greater in number than IPOs. In 2000, there were 1,308 trade sales and 722 exits by IPO, for a ratio of 1.8:1. (EVCA) The large volume of acquisitions essentially doubles the exit opportunities for ventures.

In years in which the stock market is not performing well, acquisitions provide a much needed alternative. For example, in the United States, M&As dominated exits by venture capitalist backed firms in 2001. There were 305 venture-backed M&A transactions--the highest number of venture-backed M&A deals ever—that took place with a reported value of \$14.75 billion (valuations were lower than in 1999 and 2000). By comparison, U.S. venture-backed IPOs raised \$3.23 billion for the year. (NVCA)

From the perspective of the investor, another advantage of the acquisition exit is that it uncouples venture performance from the stock market. In the United States, the correlation between venture investment performance and the S&P 500 is estimated to be a low 0.14. (Gompers 1996) Venture investments traditionally yield high returns and diversity investment portfolios.

In Japan, M&A has in general not been a strategy used by corporations for business expansion and growth. This again has its roots in past, insular industrial practices. In Japanese industry over the past decades, M&A has played a minor role in transactions. Since the late-1990s, there has been a gradual increase in M&A activity which has resulted from a number of factors including the general distress of industry, the need for conglomerates to restructure their operations, and the unwinding of cross shareholdings. M&A is also accelerating thanks in part to the ability since 1998 to swap stock in an M&A transaction. Figure 7 shows this increase in the number of cases of M&A over the past few years. The first half of 2002 has been particularly active with 1,165 cases recorded. (Nikkei July 2, 2002) However, Kathy Matsui (2000) of Goldman Sachs

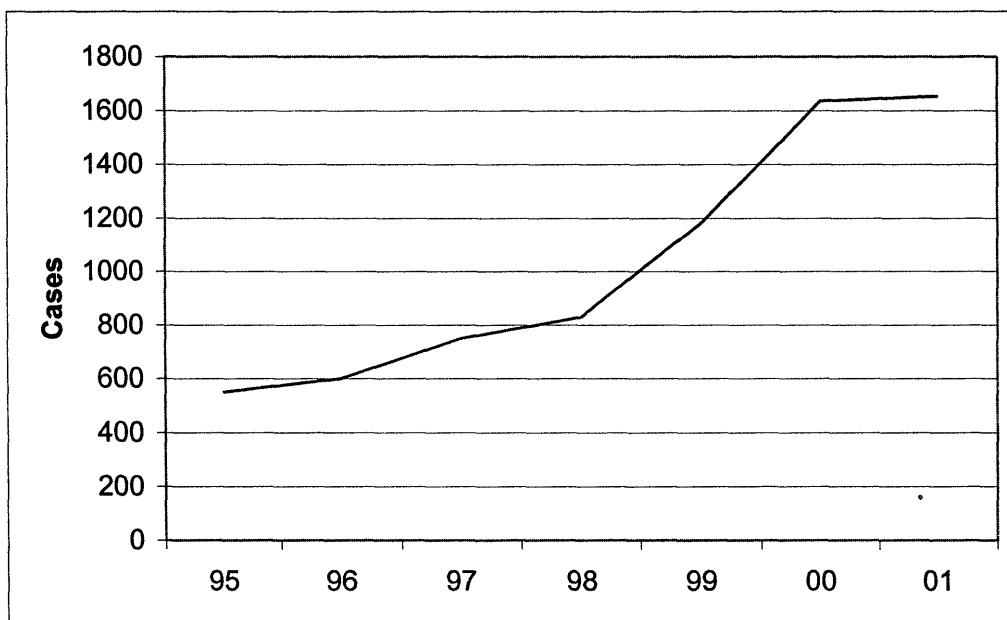


Figure 7. Recent Increase in M&A Overall in Japan (Recof)

points out that even at 10 trillion yen (\$95 billion) in 1999, M&A activity was only 2 percent of nominal GDP, compared with 21 percent in the U.S. (Matsui). In addition, much of the M&A still occurs within industrial groups as conglomerates consolidate. Of the 1,635 cases reported for 2001, 1,014 cases, or 62 percent were due to intra-group M&A deals. (Nikkei January 15, 2001)

Despite this increase in general M&A activity, acquisitions of emerging ventures is a mixed story. Until the 2000 to 2001, period, acquisitions of ventures accounted for a very small percentage of venture capital exits: approximately 1.5 percent of exists in 1998-1999 and 4.5 percent in 1999-2000. This increased dramatically in the 2000-2001 period to 17 percent of exits, as illustrated in Figure 8. However, most of these exits appear to be due to acquisitions by other ventures, particularly in the software industry.

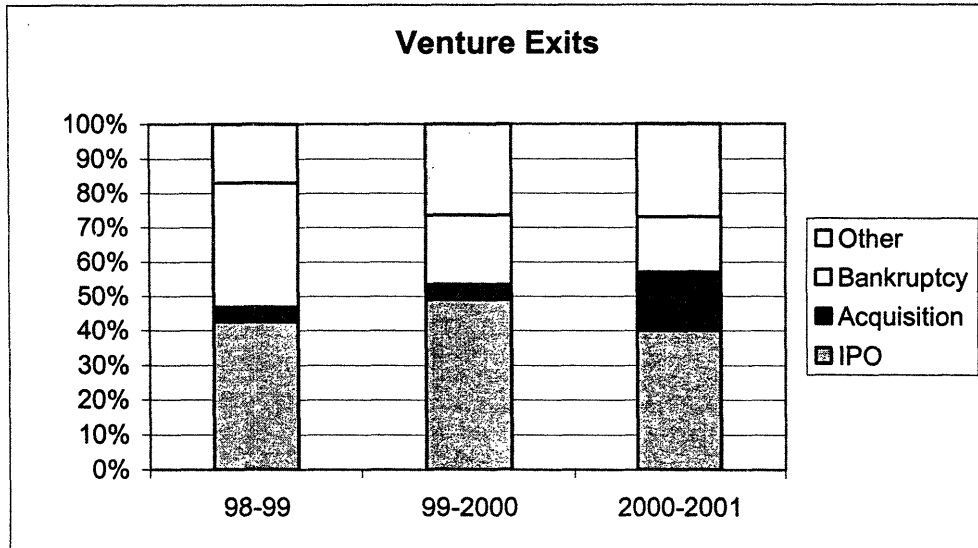


Figure 8. Venture Exits in Japan (VEC 2002)

At this stage, it appears that the leaders in venture acquisitions may be the venture firms themselves. Between 1997 and 2001, M&A cases involving firms on the three venture exchanges increased from about 50 to over 200. In over 90 percent of these cases, the purchased firm was an unlisted company, rather than a merger with another listed firm. (Nikkei February 6, 2002). This is shown in Figure 9. Most of these are in the areas of software and information technologies. Precise data on the acquisition of ventures by large corporations is not made available, but conversations with M&A researchers indicate that the cases are still few.

A firm known to be active in venture M&A is Rakuten, an on-line marketplace, which was established in 1997 and soon rocketed to success through its IPO in 2000 yielding a multi-billion dollar capitalization. As part of its business growth strategy, founder and CEO, Hiroshi Mikitani acquired a number of supporting on-line support services.

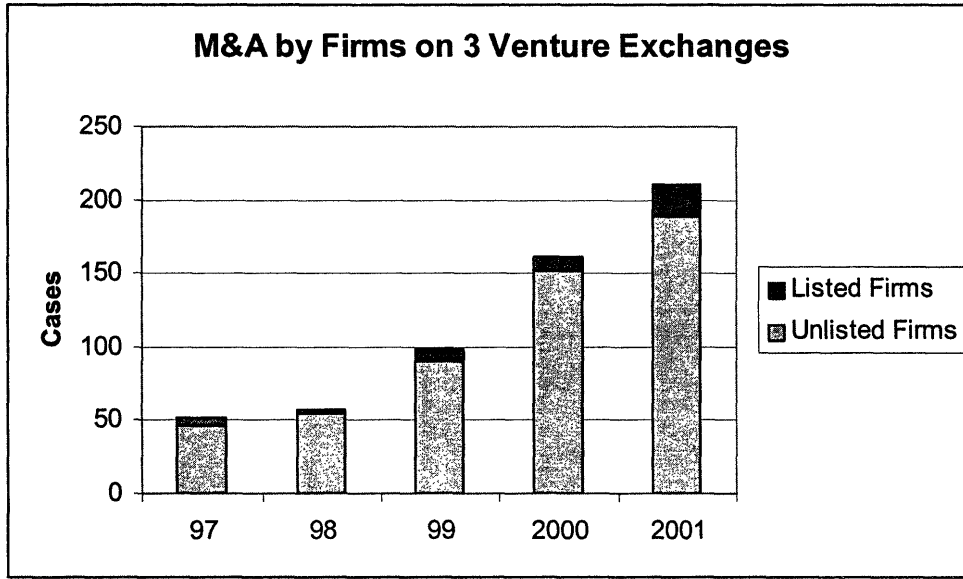


Figure 9. Acquisitions by Firms on the Three Venture Exchanges (Recof)

Between 2000 and early 2002, he had acquired nine other companies including the used-goods trading site, BizSeek, and the Web search engine, InfoSeek. Rakuten also invested in numerous other firms with which it develops a strategic relationship. Softbank is the most active acquirer of ventures, using acquisitions to build its holding company.

However, if one looks at the profits from the transactions, IPOs still stand out above other exits. Figure 10 shows that the reported value of IPO exits accounted for over 95 percent of exit value in the 1998 to 2000 period. Although the volume of M&A is increasing, overall these transactions produce little profit compared with IPOs in this period. M&A exits are largely a break even event for the investor.

Thus, Japan lacks an exit that in other countries is a major contributor to corporate growth and accounts for half the investor return. In addition, the lack of the M&A exit increases the correlation with the stock market, thus reducing investor diversification.

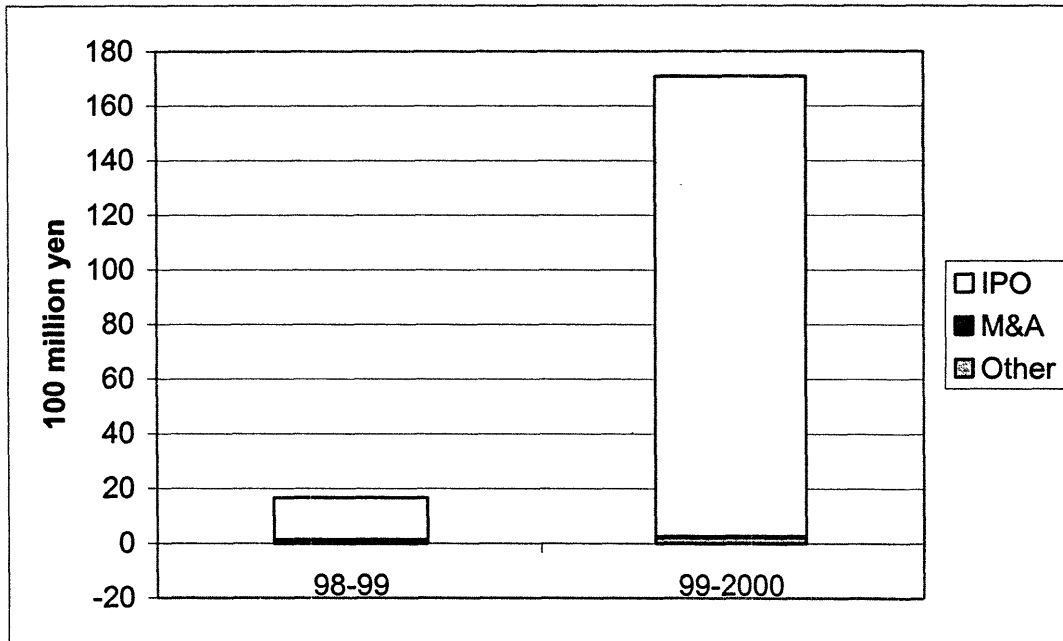


Figure 10. Profit from IPOs versus Acquisitions of Ventures in Japan (VEC 2001)

The lack of venture M&A as a growth strategy is also reflected in data on the activities of Japanese corporations in the United States. Investors from Japan, primarily corporations, have placed hundreds of millions of dollars in U.S. ventures and venture capital since the mid-1990s. Figure 11 shows the volume peaking in the 2000 with over 90 venture investments in the United States that year, making the average investment per company in the range of \$4-5 million.

However, despite active venture investments, there have been very few outright acquisitions of U.S. venture firms. Data from Thompson Financial record fewer than half a dozen such acquisitions over the decade of the 1990s. (Thompson Financial) In 2000, there was the case of Tokyo Electron's acquisition of Timber Technologies, a winner of UC Berkeley's entrepreneurship competition, but such venture acquisitions are still few.

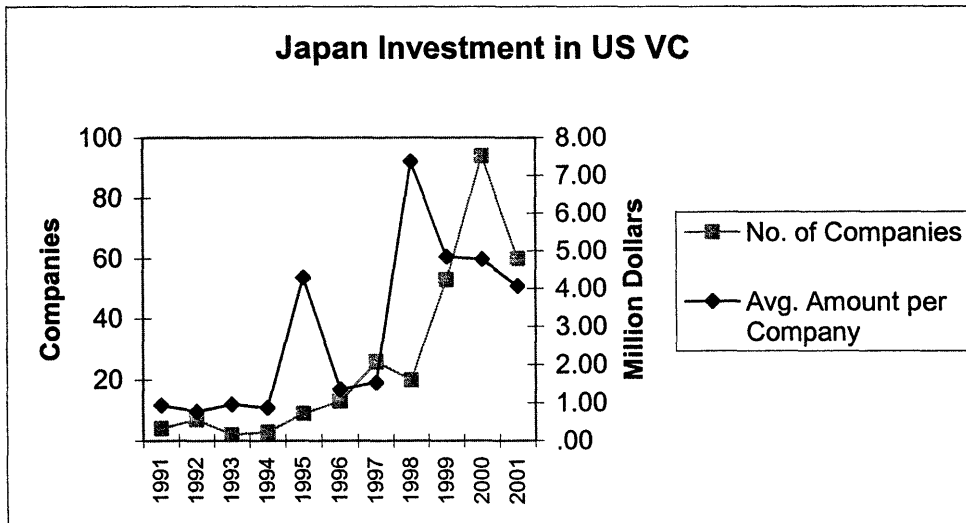


Figure 11. Japanese Investments in U.S. Venture Capital (Thompson Financial)

Instead, corporate investment from Japan has tried to gain value through their equity ownership. Partnership, technology licensing, and co-development appear to be preferred routes over acquisitions. The challenges of a cross-border, cross-cultural acquisition in the unfamiliar venture space may make this conservative strategy more appealing. Also, corporations tend to place a strong emphasis on adopting and internalizing technologies rather than incorporating emerging businesses, again mirroring domestic behavior.

Not-Invented-Here barriers. Part of the weakness in M&A stems from defensive attitudes in the laboratories of large firms. Numerous venture capitalists and Japanese corporate representatives in the United States and Japan indicate that “not-invented-here” has been a major barrier to strategic partnership. Corporate laboratories house talented researchers surrounded by state-of-the-art equipment and facilities. In many cases, perhaps most, these researchers believe that that they can do a better job in house.

In addition, often a venture is viewed in terms of technology rather than as a business. As a result, acquisitions are rejected by lab researchers because they feel that they are more capable in research and development in general. They often miss the key point that ventures are fast growing “businesses” not only shelters for “technology.”

The “not-invented-here” attitude that aggravates the lack of acquisitions also spills over to the strategic treatment of ventures. Traditionally, large firms have treated small firms simply as suppliers of components. There has been a clear hierarchy in which small firms have been second-class citizens. As a result, the innovations of smaller firms are often discounted, with the result that both firms miss market opportunities. Several VCs noted that despite substantial financial return made for Japanese strategic investors, the strategic returns have been quite limited.

One effort to more effectively link global ventures with decision making management in Japan has been recently launched by the Global Venture Industry Network (GVIN) project. Drawing on executive management within the 480 corporation in its mother organization, the *Shin Keiei Kenkyukai*, GVIN is one attempt to deal with bureaucratic not-invented-here behavior that executives increasingly appreciate to be counterproductive. In general, without wider commitment from top management and more appropriate incentives for in-house researchers and divisional management, corporations are a drag rather than demand stimulant to the venture industry.

### **Seed Business Development Services and Infrastructure**

“Habitat” is a term often used to describe the key to entrepreneurship in Silicon Valley. (Lee 2001). In this model, the valley is the asset and the entrepreneur, guided by experts such as venture capitalist, combines assets and networks in the Valley to build his or her firm. Business formation is fluid and rejuvenating.

In Japan, the opposite condition has largely existed for decades. Walls between industrial groupings have been high and expertise to build fast growing ventures has not had a chance to foster. Thus, whereas in Silicon Valley one can find a thriving industry of seed stage consultants, Angels, lawyers, and CEOs-in-waiting, in Japan, the chest is almost empty. In Japan, there are virtually no individuals with comparable skills and services in these areas.



In a survey of 60 university-linked U.S. ventures conducted by this author, approximately one-half reported using external services to assist with business plans, legal and marketing issues at the seed stage. (Hane 2002) Interestingly, 70 percent of these firms received venture capital within the first year of formation. In Japan, such help has been very difficult to find. (MEXT 2002)

Nururing these skills will also be difficult in Japan because of the lack of educational capabilities in this area. At the earliest stages in the United States, while ventures are still on the back of a napkin in a university cafeteria, scientists and technologists can turn to their colleagues in the Business Schools to develop business plans and conduct market assessments. While still in school, entrepreneurship and the cross-pollination of skills is fostered through events such as Business Plan Competitions, which are now common at most major universities.

By contrast, in Japan the lack of a value placed on MBAs in the past has resulted in few business schools being established. Among the 98 National Universities, there is only one with a strong Business School program, Hitotsubashi University. Among private universities, Keio University has the best known Business Program, but there are few other programs of note.

Due to the sparseness of business schools in the country, engineering programs in universities are filling some of the gap. In 1998, only 50 universities supported entrepreneurship related lectures. In 1999 this grew to 80 universities and in 2000 was estimated to be 190. However, only 5 actually have graduate programs in entrepreneurship. (Maeda 2000)

This need for business expertise at the seed stage is one of the major bottlenecks in venture innovation in Japan.

Incubators. One type of seed-stage support that has increased is the business incubator. However, in this case as well, the expertise needed to support effective incubators is often

lacking. At end of 2000, it is estimated that there were 203 incubators in Japan, 78.3 percent public and 21.7 percent private. Public incubators housed 1,745 ventures and private incubators housed 502. Most of the private sector incubators emerged with the opening of the new stock exchanges and with the momentum of the Internet boom. Strikingly, 80 percent of private incubators that existed at the end of year 2000, were established in 2000. As seen in Figure 12, even among public incubators in this period, 37 percent were established in 1999 and 2000, and 59 percent were less than 5 years old.

Most incubators in Japan provide a shell to protect people from harsh weather, but the level of business service and business expertise offered is highly variable. Among public incubators in 2000, 36 percent did not provide business services. One half reported such services, but the level of service is typically low. About half offered some form of software support, under half offered some sort of financial assistance, under a quarter offered access to outside consulting services, less than 16 percent offered assistance for research and development, and about 10 percent offered help with marketing and distribution. Only 25 percent of public incubators reported having incubation managers. (Janbo 2001) Thus, although the physical infrastructure is expanding, the capability to offer business expertise is limited.

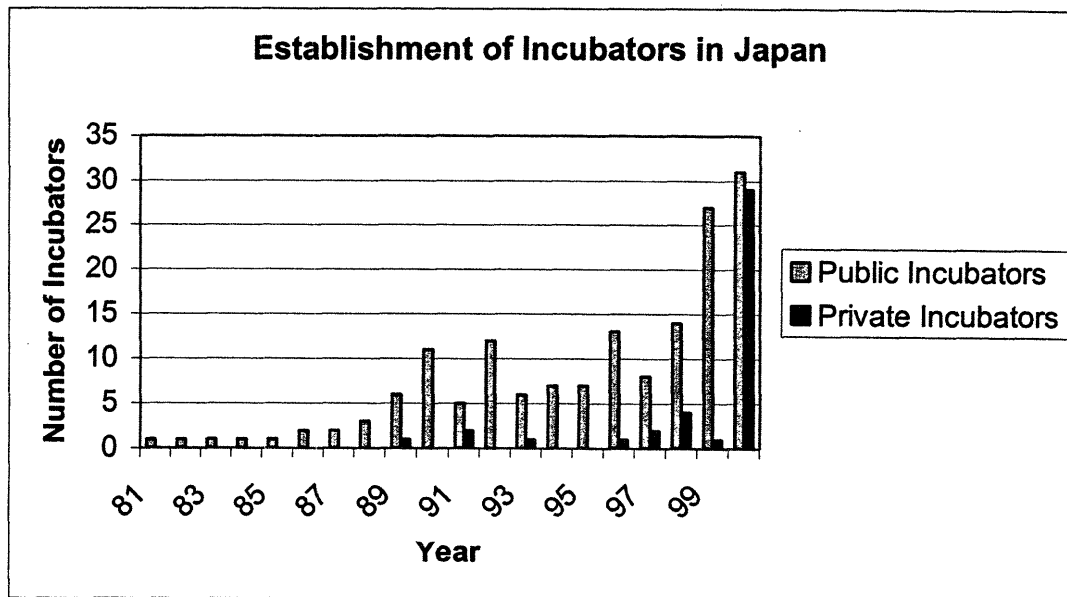


Figure 12. Establishment of Incubators in Japan (Janbo 2001)

In Japan, a first important step could be to form a professional association for venture capitalists. Anecdotal information suggests that the formation of such a forum has been hindered by bureaucratic tussling between Ministries of the Japanese Government regarding which should have primary oversight.

A few firms assert to have adopted some international practices in the interim. Dai Ichi Seimei, for example, notes that it has used a methodology similar to that of Thompson Financial and found their returns on their venture capital investments to be over a gross 20 percent over the past 10 years. (Nikkei Shimbun July 28, 2000) JAFCO claims returns of 10-20 percent over a similar period. (Nikkei April 1, 2002) If all firms would adopt common measures, then comparisons of investment performance could be conducted with more confidence.

In this area, some collaboration between the U.S. and Japan may benefit both sides by improving cross-Pacific capital investment in the venture space. Although the history of venture capital in the United States is much longer, there is still an unease among investors with the traditional means of reporting performance, which is a calculated Internal Rate of Return. The IRR is sensitive to valuation assumptions and can thus vary from firm to firm. As an alternative a group of limited partners has organized the Institutional Limited Partners Association to develop more transparent, consistent, and meaningful measures of performance and return. Such an effort is also needed in Japan.

### **Societal barriers – failure, social status**

Often discussed and often glossed over, but clearly important are the societal influences on innovation. Society must be better conditioned to help support the risk taking entrepreneurs. This deserves much more discussion than provided here, but is important to consider in any comprehensive view of an innovation system. Although societal views transform over time, they can be a barrier in the near term, and there are some significant challenges in Japan.

One prominent cross-border entrepreneur, Alan Miner, President of Sunbridge, has suggested combining private incubation expertise with public support to bridge this gap. (Miner 2001) This may provide a promising path in the development of this immature sector of innovation support.

### **Transparency in valuations and returns**

In the past, as noted earlier, most of the money for venture capital investment in Japan came from the home institutions of the venture capital firms: the security companies, banks, insurance companies, and manufacturing corporations. Thus, the accounting of investments and returns was typically managed internally, with different standards and methods used in different institutions. As the industry now transitions to one in which firms manage the money invested by unrelated limited partners, the need for greater clarity regarding venture performance and returns on investment become much more pressing. Also, uniformity between venture capital investors becomes critical for any meaningful comparison.

Developing a more transparent and universally adopted system of valuing ventures and the returns on investment is a major need in Japan. This is a critical step in building investor confidence, particularly among the many investors, such as pensions, that have never invested in this asset class before. (Fujita 2001) In fact, numerous such investors have noted that they are holding back their investments in venture capital today because it is not clear how to assess the risks and returns.

In the United States, there are entities such as the National Venture Capital Association which provide forums for discussing issues such as performance reporting. Services such as Thompson Financial/Venture Economics compute the performance of venture funds. In addition, venture capital firms provide audited performance reports to their investors. And recently, limited partners have formed their own association to promote consistent performance reporting.

When asked the question, “Do you wish to create your own business and to become an entrepreneur,” approximately 36 percent of Japanese youth between 18 and 25 responded that they wished to create their own businesses. This compares with over 60 percent in the United States and over 70 percent in Korea. (Venture Forum 2000) Observers point out that even this relatively low percentage for Japan is probably much higher than in the past. Nonetheless, in practice, the number of students from the top universities that start or join venture firm is still very low.

The success of the Japan, Inc. model was so thorough in Japan that it permeated society with a common view of achievement and status. This was a view that was linked to the institutions of success, the bureaucracy and the large corporations. The best universities fed these institutions efficiently, and the chain of social status was unambiguous. For family pride in a culture where the family is esteemed, for marital opportunities, and for social status in general, the position of a venture entrepreneur is clearly less elevated.

The success of venture enterprises can surely change societal perceptions over time, yet the process can also be accelerated. Legitimizing the value and elevating the social status of ventures through national visibility and prominence, perhaps catalyzed by national awards, is a type of activity that is much needed to condition the public to the invaluable role of entrepreneurs.

#### **4. Summary**

Over the past 5 years, the menu of changes made to promote greater venture activity in Japan is impressive. A range of steps touching on financing, the generation of innovations, corporate governance, and individual incentives have been put in place to create a much more attractive environment than in the past. However, when assessed in the context of the system of innovation, important challenges still lie ahead.

The paradox for Japan is that it is the very success of its past industrial structure that is the main source of impedance for a vital venture environment. The industrial structure of

the economic miracle efficiently recruited the best talent in the country into lifetime commitments in large corporations or the government, with small firms being increasingly marginalized. The networks to support this industrial structure from finance, to corporate governance, to the treatment of innovation were effectively woven together, fortified by a societal view that gave much higher prestige to these large symbols of economic success.

Spurring a thriving, independent venture community will require changes across the spectrum of the innovation system. In particular, corporations must more effectively work with ventures as a source of growth and competitive advantage. Without substantially greater engagement by large corporations, the sector is trying to grow with one hand tied behind its back. Other key changes that would substantially accelerate venture successes are the accelerated development of a venture business support sector, clear and consistent means of valuing ventures for greater investor confidence, and societal attitudes that elevate rather than diminish the status of entrepreneurs. Policies have to broaden from actions promoting opportunities to actions that also spur outcomes.

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