4. The globalization of venture capital: the cases of Taiwan and Japan

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INTRODUCTION

At the beginning of the 21st century, the importance of venture capital for the funding of new high-growth potential firms is universally recognized. Many of the defining US firms of the last three decades, including 3Com, Amgen, AMD, Compaq, Cisco, Federal Express, Genentech, Intel, Oracle and Sun Microsystems, were first funded by venture capitalists. Even more than providing funding for firms, venture capital has become a central institution in some of the most dynamic, innovative firm clusters in the world. In the last two decades, venture capital investing has diffused internationally: there are now 35 national venture capital associations. Though the USA continues to be the center of the venture capital industry, there are hot spots of activity in a number of developed and a few less developed nations, nearly all of which are in Asia. This chapter discusses this globalization process and then examines the growth of venture capital in two countries, Japan and Taiwan.

The diversity of nations in terms of their national systems of innovation, levels of entrepreneurship, political economic development, varying labor practices, corporate ownership regulations, educational achievement and business cultures means that each country's venture capital industry has a different evolutionary trajectory. To understand the hybridization of venture capital in different environments, we first construct an ideal type of venture capital drawn from the US experience.

This chapter has seven sections. The first section discusses the history, development and operation of venture capital as an institution and its economic impacts. This is followed by a section that explains what venture capital is and how it operates. The third describes the economic impacts of venture capital. The fourth briefly reviews the globalization of the venture capital industry. The fifth section examines the venture capital industries in Japan and Taiwan. The sixth section summarizes the current situation in

the venture capital in light of the severe downturn in global equity markets. The final section summarizes the findings of this chapter.

VENTURE CAPITAL AS AN INSTITUTION'

Prior to World War Two, the source of capital for entrepreneurs everywhere was either the government, government-sponsored institutions meant to invest in such ventures, or informal investors (today, termed 'angels') that usually had some prior relationship to the entrepreneur.[2] In general, private banks, quite reasonably, have been unwilling to lend money to newly established firms, because of their high risk and lack of collateral. Venture capital as a formal activity first began on the US East Coast immediately after World War Two. During the next six decades, the practice gradually expanded and became increasingly professionalized, so that today it can be referred to as an industry. By the 1980s, the locus of the venture capital industry had shifted from New York and Boston on the East Coast to Silicon Valley on the West Coast (Florida and Kenney, 1988a, 1988b; Gompers, 1994). Today the ideal–typical venture capital firm is based in Silicon Valley and invests largely in electronics, with lesser sums devoted to the biomedical technologies.[3] Internationally, the largest concentrations of venture capital are in Hong Kong, Israel, London, Taiwan and Tokyo.

The role of the US government in the development of the venture capital industry has been important, but, for the most part, indirect. These indirect impacts include practicing generally sound monetary and fiscal policies, thereby ensuring low inflation with a stable financial environment and currency. Tax policy, though, has been favorable to capital gains, and a number of decreases in capital gains taxes may have had some positive effect on the availability of venture capital (Gompers, 1994). With the exception of a short period in the 1970s, pension funds have been allowed to invest prudent amounts in venture capital funds. The NASDAQ stock market, which has been the exit strategy of choice for venture capitalists, was strictly regulated and characterized by increasing openness (though in light of the recent scandals some of this apparent transparency may have been an illusion). This general macroeconomic environment of transparency and predictability was believed to reduce risks for investors. Put differently, environmental risks stemming from government action and criminal behavior were minimized, though not eliminated.

Another important social policy has been heavy and continuous funding of university research. This produced not only sometimes valuable research results, but also large numbers of graduates with advanced degrees in the sciences and engineering. In the USA, research universities, especially MIT

and Stanford, played important roles in the development of venture capital industries in Boston and Silicon Valley, respectively. [4] Biotechnology and the Internet were the direct result of federal funded university research.

The most important direct US government involvement was the passage of the Small Business Investment Act of 1958 authorizing the formation of small business investment corporations (SBICs) for the purpose of investing in small firms of all types. The legislation permitted individuals to form SBICs that were able to borrow money at subsidized rates from the federal government. It also allowed banks through their SBICs to circumvent the Depression Era laws prohibiting commercial banks from owning more than 5 per cent of industrial firms. The final investment format permitted the formation of SBICs that could raise money in the public market.5

The SBIC program experienced serious problems from its inception. One problem was that it was very bureaucratic and had constantly changing rules and regulations. Starting in 1965, federal criminal prosecution was necessary to rectify the misappropriation of funds, incompetence and fraud undertaken by some SBICs. By one estimate, 'nine out of ten SBICs had violated agency regulations and dozens of companies had committed criminal acts' (Bean, 2000). Despite the corruption, something valuable also occurred: especially in Silicon Valley, a number of individuals used their SBICs to leverage their personal capital, and some were so successful that they were able to reimburse the program and raise institutional money to become formal venture capitalists. The SBIC program accelerated their capital accumulation and, as important, government regulations made these new venture capitalists professionalize their investment activities.

The most successful case of the export of Silicon Valley-style venture capital practice is Israel, where the government played an important role in encouraging the growth of venture capital (Autler, 2000). The government has a relatively good economic record; there is minimal corruption, massive investment in military electronics research, and an excellent higher educational system. The importance of the relationships between Israelis and Jewish individuals in US high-technology industry for the creation of the Israeli venture capital system should not be underestimated. For example, the well-known US venture capitalist, Fred Adler, began investing in Israeli startups in the early 1970s, and in 1985 was involved in forming the first Israeli venture capital fund (ibid.: 40). Still, the creation of an Israeli venture capital industry would wait until the 1990s, when the government funded an organization, Yozma, to encourage venture capital in Israel. Yozma received $100 million from the Israeli government. It invested $8 million in ten funds that were required to raise another $12 million each from 'a significant foreign partner', presumably an overseas venture capital firm (ibid.: 44). Yozma also retained $20 million to invest itself. These 'sibling' funds were

the backbone of a now vibrant community that invested in excess of $3 billion in Israel in 2000, though by the second quarter of 2002 this had fallen to $217 million (PricewaterhouseCoopers, 2002).

In the USA venture capital emerged through an organic trial-and-error process, and the role of the government was limited and contradictory. In Israel, the government played a vital role in a supportive environment in which private sector venture capital had already emerged. The role of government differs. In the USA the most important role of the government was indirect; in Israel, it was largely positive in assisting the growth of venture capital and, in India, the role of the government has had to be pro-active in removing barriers (Dossani and Kenney, 2001).

In every nation, the state has played some role in the development of venture capital. Venture capital is a very sensitive institutional form owing to the high-risk nature of its investments, so the state must be careful to ensure its policies do not adversely affect its venture capitalists. Put differently, capricious governmental action injects extra risk into the investment equation. However, in some countries judicious, well-planned government policies to create incentives for private sector involvement have been quite important for establishing an independent self-sustaining venture capital industry.

WHAT **IS** VENTURE CAPITAL?

Venture capital as a practice is relatively easy to define in the US context, where venture capital and private equity are quite distinct practices, venture capital being the older practice, though one could argue that private equity as a practice is far more like the traditional role of Wall Street financiers, using capital to organize and reorganize firms and industrial sectors. However, for much of the world private equity and venture capital are combined both statistically and in the minds of policy makers. In Europe, a large proportion of what the European Venture Capital Association (EVCA) considers 'venture capital' is, in the USA, considered private equity. So in this section we briefly outline what we take to be venture capital, understanding that this is a relatively narrow definition and that, at the margins, there is ample room for debate.

Venture capital does not come into being and cannot survive in a vacuum, it requires suitable opportunities. The essence of venture capital (and private equity) is the purchase of an equity stake in the venture they are funding. These are not loans though in some cases there are clauses guaranteeing the convertibility of the loans to equity. The success of a venture capitalist is predicated upon realizing the increased value of their equity as the firm grows.[6] Newly established firms have a high mortality

rate, so the craft of venture investing is risky. Since these new ventures are very person-intensive and have few fixed assets, so in most failures little can be recovered. Venture capitalists invest in a recently established firm that they believe has the potential to provide a return of ten times or greater in less than five years. They are not interested in funding firms that do not show the potential for a rapid appreciation and they do not evaluate their investments in terms of social goals such as reducing unemployment, increasing **R&D** or building a community's tax base.

The venture capital process requires that investments be liquidated either through bankruptcy, merger or an initial public stock offering. For this reason, they are only temporary investors and usually are members of the firm's board of directors only until the investment is liquidated. [7] For the venture capitalist, the firm is a product to be sold, not retained. There must be the possibility of moving out from their investments profitably. Nations that erect impediments to any of the exit paths (including bankruptcy) are choosing to handicap the development of venture capital: this is true regardless of the macro-level reasons for the impediment. This does not say such nations will not have entrepreneurship, only that it is unlikely venture capital as an institution will thrive.

In return for investing, the venture capitalists not only receive a significant equity stake in the firm, but they also demand seats on the board of directors from which they intend to monitor the firm. This is important because the venture capitalist intends to provide more than just money, and highlights one of the salient differences between venture capitalists and passive investors: venture capitalists plan to monitor, assist and even intervene actively in their investments. The venture capitalist's objective is to leverage their involvement to increase the investment recipient firm's probability of survival and rapid growth. This involvement extends to the performance of a variety of functions, and can include assistance in recruiting key people, providing strategic advice and introducing the firm to potential customers, strategic partners, later-stage financiers, investment bankers and various other contacts. Experienced venture capitalists, having seen many fledgling firms experience growth pains, are able to provide valuable advice (Florida and Kenney, 1988a, 1988b; Gompers, 1995). It is the venture capitalists' experience, connections and willingness to become involved that differentiate them from other sources of capital.

Thus far no venture capital industry has been able to prosper by liquidating their investments through mergers alone. Jeng and Wells (2000) find that the single best explanation of a vibrant national venture capital industry is the existence of IPO exit strategies. However, this should be qualified by specifying that such exchanges should be liquid and transparent. In other words, stock exchanges that acquire reputations as exits for immature or

fraudulent firms will quickly become illiquid as investors refuse to purchase shares in their listings. With such illiquidity come greater opportunities for insider trading and stock manipulation and, barring an effort to reform, an eventual collapse of the exchange. Thus it is not simply the existence of an exchange, but rather a well-disciplined exchange capable of discharging its primary purpose of raising funds for promising companies, that contributes to the growth of venture capital . Finally, it should be understood that the 'exit' of investors and owners is a by-product of the exchange's function of raising capital.

With the exception of Taiwan, the predominant institutional format for venture capital is the venture capital firm operating a series of partnerships called 'funds' investing capital raised from investors consisting of wealthy individuals, pension funds, foundation, endowments and various other institutional sources of funds. The general or managing partners are the professional venture capitalists, while the investors are silent limited partners. The typical fund operates for a set number of years (usually between seven and ten) and then is terminated. Normally, each firm manages more than one fund, simultaneously. The only other persistent source of venture capital has been as subsidiaries of major corporations, that is corporate venturers.

THE ECONOMIC IMPACT OF VENTURE CAPITAL

Measurement of the importance of venture capital in most economies is quite difficult, because in terms of capital investment it is only a minute portion of the total economy. Moreover, the greatest benefits come from Schumpeterian innovations that establish the basis of, not only new firms, but, more important, new industries. Accounting for the economic impact of venture capital is difficult, because it is possible that venture capitalist-backed firms would have come into existence without funding. Entrepreneurs might have funded the firm from other sources or simply boot-strapped the firm by reinvesting retained earnings, though it seems safe to assume that the innovation would have been actualized more slowly.

The anecdotal evidence for the economic importance of venture capital is striking. On the US stock exchanges a number of highly valued firms, including Intel, Cisco and Federal Express, were originally funded by venture capitalists. As of 1999, the US venture capital firm Kleiner, Perkins, Caufield and Byers claimed that the portfolio firms that it had funded since its inception in 1973 had a total market capitalization of $657 billion, revenue of $93 billion, employed 252000 people and had invested in excess of $2 billion (KPCB, 2001). Though extrapolation from KPCB, which is

probably the most successful venture capital firm in the world, is risky, it is safe to say that the cumulative impact of the currently over 600 venture capital firms in the USA has been substantial even for an economy as large as the US. In specific regions, especially Silicon Valley and Boston's Route 128, venture capital has been a vital component of what Bahrami and Evans (2000) term 'the entire ecosystem' (see also Lee *et al.*, 2000).

The General Accounting Office (1982: 10) studied the impact of the venture capital industry on the US economy. Extrapolating from 72 publicly listed, venture capital-funded firms in operation in 1979 (there were 1332 venture capital-funded firms in existence at that time), the GAO concluded that employment would increase in 1989 to between 522000 and 2.54 million employees, depending upon the annualized growth assumption. A recent study commissioned by the NVCA (2001) and conducted by the consulting firm WEFA estimated that the firms venture capitalists had invested in were cumulatively responsible for the creation of 4.3 million jobs and $736 billion in annual revenues in 2000.

In the United Kingdom, a survey by the British Venture Capital Association (1999) found that private equity-financed firms grew at an annual compounded rate of 24 per cent, or three times faster than firms in the Financial Times Stock Exchange Index (FTSE) 100 and 70 per cent faster than the FTSE 250. By estimation, they concluded that 2 million Britons or 10 per cent of the current private workforce were employed by venture capital-backed firms. This estimate seems somewhat high, but provides some indication of how important private equity/venture capital has been to the growth of the British economy. In the case of Taiwan, there has been little study of the benefits of the venture capital industry to the entire economy, but many of the most recent Taiwanese computer-related success stories received venture capital funding. The one study attempting to quantify the benefits was done by Wang (1995), who found that the tax deductions encouraged venture capital investments during 1990 to 1992 that were ten or more times greater than the tax dollars expended. In 2000, the Israeli high-technology industry accounted for approximately 25 per cent of the entire GDP, and venture capital investing has been an important support for this high-technology environment.

Another indicator of the significance of venture capital investment is its impact on the innovation process. Kortum and Lerner (2000), using a sample of firms and patent filings, found that venture funding accounted for 8 per cent of US industrial innovations in the decade ended in 1992 and predicted that this could have increased to as much as 14 per cent by 1998. They also found that a dollar of venture capital was 3.1 times as likely to lead to a patent than was a general **R&D** dollar. Given that venture capitalists, in general, do not invest in process innovations (and these are patented far less

frequently), these estimates are likely somewhat high, but they do indicate the importance of venture capital for US innovation. Also this finding might be somewhat of an overestimate, because it is quite likely that some of the inventions venture capitalists are commercializing were actually made in corporate research laboratories. If this is true then the corporate research laboratories would appear to be less efficient than they actually are. However, their result confirmed the importance of venture capital in encouraging R&D investment, and complemented other R&D sources.

There is sufficient evidence to conclude that venture capital has made a significant contribution to the economies of the USA, the UK, Israel and Taiwan. Venture capital backing seems to be an efficient method for commercializing innovations. Though there has been only limited research on the macroeconomic impacts, there is ample evidence that VC has had a significant impact in the USA. It certainly has been the key financier of the US 'New Economy' firms, become a part of the US, Israeli and Taiwanese national system of innovation for commercializing R&D, and become a vital resource in regions such as Silicon Valley and Route 128.

THE GLOBALIZATION OF VENTURE CAPITAL

The genesis of national venture capital industries differs by country. In most of the developed world, the origin was indigenous, both in terms of funding and individual venture capitalists, though the USA was usually the model, whether appropriate or not. The most significant exception is the UK, which had a long merchant banking tradition and formed *3i* immediately after World War Two. In developing countries, international development agencies, especially the International Finance Corporation (IFC), played an important role by encouraging the formation of many of the early venture capital funds, often in cooperation with other donors. For example, a 1986 IFC report identified Malaysia and Korea as candidates for the development of a venture capital industry. The record for the IFC initiatives was mixed, but in cases like Korea and India it did have an important catalytic effect (Dossani and Kenney, 2001). In the early 1990s, the US Agency for International Development also funded a number of venture capital projects, especially in Eastern Europe. One assessment of efforts to encourage venture capital formation in developing nations concluded that in nearly all cases performance was marginal. It found that the return on the IFC venture capital portfolio prior to 1986 was —5 per cent compared to an overall portfolio return of +6 per cent (Fox, 1996). On the other hand, there are cases such as India where there was sufficient success to have justified these investments. Moreover, the Fox study does not recognize other important benefits

such as in India where the IFC used venture capital as part of its process in convincing the Indian government to liberalize its financial system (Dossani and Kenney, 2001). Despite these successes, in many other nations such as Brazil, Nigeria, Argentina and Indonesia, bilateral and multilateral efforts to encourage venture investing failed.

The first effort by American firms to export the venture capital model was undertaken by the Rockefeller organization (now known as Venrock), which opened an office in Brussels in 1960, but soon after closed it because of a lack of good investments. Contemporaneously, General Doriot of ARD tried to transfer the venture capital practice overseas and, in 1962, the Canadian Enterprise Development Company (Mather, 2001) and the European Enterprises Development Company were formed (Dominguez, 1974; Hsu, 2002). These two pioneering firms were only marginally successful, and closed in the 1970s (Wilson, 1989). In 1972, ARD also assisted in the creation of an Australian venture capital affiliate (Hsu, 2002).

The first large wave of globalization came in the late 1970s and early 1980s, when a few pioneering US venture capital and private equity firms such as Advent International, Apax, Citicorp Venture Capital and Warburg Pincus established international operations. Europe attracted most of these investments, but owing to the scarcity of start-up investments, very soon the overseas branches emphasized the provision of private equity or expansion investing (Brooke, 2000: 256). Though some of these branches closed during the downturn of the late 1980s, most operations continue and have even expanded.

The movement into Asia was far more fitful and largely came from West Coast firms, though the large East Coast firms did make investments in Asia including Advent International's establishment of Southeast Asia Ventures Inc. in Singapore in 1985. Perhaps the most successful US investor in Asia was Hambrecht and Quist, which began investing in Taiwan in the mid-1980s. However, the boom in western venture capital firms operating in Asia began in the mid-1990s, when the number of firms, the breadth of their Asian operations and their level of activity increased dramatically. The sustainability of these investments in the post-2000 crash period will be sorely tested.

Despite the early efforts of ARD to nurture venture capital in foreign countries, prior to the late 1970s there was little indigenous venture capital overseas. For example, the first French venture capital firm, Sofinnova, established in 1972, began US investing in 1974 through a small joint venture fund established with the assistance of the Boston firm, TA Associates.[8] In 1976, it opened an office in San Francisco to gain access to Silicon Valley deals (Cowley, 2001). By the early 1980s, European banks and financial institutions, attracted by the biotechnology and IT booms,

had established venture capital subsidiaries. Because the environment for venture capital investing was far better in the USA, many of these pioneering European subsidiaries established branches in the USA. For example, Dutch bank ING established Atlas Venture, in 1980 and opened its Boston office in 1986 *(Atlas Venture,* 2002). However, in terms of sheer numbers, there was little cross-Atlantic activity.

In Japan, which is discussed in more detail below, there was a similar effort by some of the larger venture capital firms to establish global operations. The most internationalized Japanese venture capital firm is JAFCO (Japan Associated Finance Co., Ltd), which is affiliated to the largest Japanese brokerage firm, Nomura Securities. Established in 1973, JAFCO opened a San Francisco office in 1984, a London office in 1986 and a New York office in 1987. In 1990, it shifted its geographical focus and established an Asian office in Singapore, and has since expanded to eight offices in Asia. The other major Japanese firm with overseas operations is Nippon Investment and Finance Company (NIF). NIF has had a different strategy from JAFCO in that most of its overseas operations are in the form of joint ventures. In 1987, NIF formed a joint venture with the Taiwanese government's development bank. Then, in 1990, it established an office in Singapore, but it was only in 1996 that it opened an office in the USA and started an Israeli joint venture. During the late 1980s, there was concern that Japanese venture capitalists armed with profits from the Bubble would become dominant investors in US high-technology industries. This proved to be unwarranted and now Japanese venture capitalists, both independent and corporate, are minor players internationally.

The most rapidly growing group of venture capital firms investing extranationally are those headquartered in Asia. These transnational venture capitalists see their market as 'Greater China', the area encompassing Singapore, Hong Kong, Taiwan, China and the Chinese in Silicon Valley. (This might be extended to parts of Malaysia and Bangkok, Thailand.) Though there are few statistics to confirm the growth of a pan-Asian Chinese venture capital market, there is anecdotal evidence for its emergence. Curiously, even as the strongest entrepreneurial nation in the region, Taiwan seems to be the least integrated into the pan-Asian venture capital networks.

VENTURE CAPITAL IN TAIWAN AND JAPAN

Taiwan

Taiwan is smaller than Japan, Hong Kong and even Singapore in terms of the available venture capital and yet, in terms of the number of start-ups

and the success of its venture capital investors, Taiwan is the most active spot in Asia for venture investing. The reasons for this are multifaceted and relate to a background of entrepreneurship, linkages with the USA, especially Silicon Valley, an early emphasis on electronics as a key industry, a supportive government and a national emphasis on education. These factors created an environment in which industrial growth and venture investing combined into a virtuous circle reinforcing the practices of entrepreneurship and venture investing. The history of the Taiwanese venture capital industry is intertwined with the development of its electronics industry.

The Taiwanese electronics industry

The Taiwanese electronics industry has been built on a combination of steadily increasing manufacturing expertise (this includes product design within well-understood product trajectories) and strong linkages to the US market. In historical terms, it was foreign investors that made it possible for Taiwanese firms to gain access to global markets and absorb new technologies. These factors strategically positioned local entrepreneurs within international markets.

Taiwan developed a tool kit of manufacturing expertise that was a direct complement to the tendency in Silicon Valley to outsource various production activities. Moreover, the target industries were experiencing extremely rapid growth. This set of capabilities, when combined with an entrepreneurial mentality, meant that Taiwan was able to advance far beyond its initial strategy of leveraging low-cost labor. These conditions were the ones into which the government launched its efforts to create and support a venture capital community.

Not surprisingly, with such an industrial backdrop, Taiwanese venture capital industry is the most Silicon Valley-like in Asia. In terms Florida and Kenney (1988a) used, it would be considered a 'technology-oriented' complex. This can be seen through the aggregate investment statistics. The concentration of investment in electronics and information technology is striking when compared to, for example, Japan (see Table 4.1). This pattern was noticed even at the birth of the Taiwanese venture capital industry as the *Venture Capital Journal* (1985: 3) wrote: 'investments will be made in products that have been tested in the marketplace'. The earliest venture investments were in firms proposing to undercut Japanese firms supplying either US firms on an original equipment manufacturer (OEM) basis or the US market directly on the basis of price. Presciently, the *Venture Capital Journal* concluded that venture investing would be concentrated in the computer industry, an observation that remains true today. Taiwanese venture capital firms had two investment strategies, one for their Taiwanese invest-

ments and one for US investments. In Taiwan, investments were concentrated in firms able to use their skills at decreasing production costs to transform a high-cost, cutting-edge product into a commodity. In the USA, the investments were usually in firms that had a Chinese founder or co-founder, and that might be able to utilize Taiwanese production capabilities in some way.

Table 4.1 Investment fields of Taiwanese and Japanese venture capitalists, 2000 (per cent)

Industry	Taiwan	Japan
Agriculture/Fisheries	—	0.5
Computer-related	20.2	8.7
Conglomerates	2.1	0.8
Construction	0.6	2.0
Consumer products/services	3.2	9.4
Electronics	17.5	9.8
Ecology	1.0	0.2
Financial services	3.0	27.8
Information technology	17.6	7.1
Infrastructure	2.0	1.7
Leisure/Entertainment	2.2	0.7
Manufacturing - heavy	7.6	10.9
Media	2.3	0.6
Medical/Biotechnology	5.5	2.0
Mining and metals		0.7
Retail/Wholesale	1.2	0.8
Services, non-financial	1.8	4.3
Telecommunications	9.5	9.9
Textiles and clothing	0.5	0.6
Transportation/Distribution	1.0	0.8
Travel/Hospitality	0.9	0.3
Utilities	0.3	0.4

Source: Calculated by the author from *Asian Venture Capital Journal* (2002).

Technical and industrial expertise is important; however, as important are the sociocultural institutions that encourage entrepreneurial activity. Taiwan has a long history of extended families investing in entrepreneurial ventures that have some sort of family linkage (Hamilton and Biggart, 1988), though the venture capital business was not a direct descendant of these types of linkages. If family-funded entrepreneurship was an enabling condition, curiously it also created obstacles. For example, many foreign

venture capitalists have criticized Taiwanese entrepreneurs for their reluctance to part with equity and to subject themselves to the discipline required by professional investors (Hsu, 1999). Venture capitalists could invest, but they were often limited to small amounts of equity, thus limiting their role in the firm and minimizing their potential gain. Thus the enabling conditions were not sufficient to give rise to a viable venture capital business *sui generis.* There were environmental conditions from which a fledgling venture capital industry could draw, but they did not guarantee that venture capital would emerge spontaneously.

The inception of the industry can be traced to a study trip to the USA and Japan by Li-Teh Hsu, then Taiwanese Finance Minister and the prior Finance Minister K.T. Li. After this trip, which included visits to Japan's Tsukuba, Silicon Valley and Boston's Route 128, they decided to create incentives for the establishment of venture capital in Taiwan (Shih, 1996: 282).[9] Significantly, K.T. Li was quoted as saying one key piece of advice was given to him by Frederick Terman the Stanford University Provost and one of the individuals most responsible for the creation of Silicon Valley: 'lure your talented expatriate engineers home, just as Silicon Valley once lured engineers back from the East Coast' (Knight Ridder News Service, 1999).

In 1983, legislation was passed giving attractive tax incentives to individuals willing to invest in professional venture capital firms. The most important feature was an up to 20 per cent tax deduction for Taiwanese individuals provided they maintained their venture capital investment for at least two years. To qualify, the investment had to be made by a venture capital fund approved by the Ministry of Finance and in a Taiwanese firm or a foreign firm that would transfer technology to Taiwan. Notice investing abroad was acceptable as long as a benefit to Taiwan could be shown. This was very important because it allowed Taiwanese venture capitalists to forge strong ties with Silicon Valley. Each investment in a firm would be examined by an auditor who decided what proportion met the government criteria of 'high technology' and then a percentage rebate of up to 20 per cent was approved. An investor receiving the full deduction only risked $0.80 for every $1.00 of investment. Whereas the initial law stated that only individuals could receive the rebate, the statute was revised in 1991 to allow corporate investors the same 20 per cent tax deduction. This revision dramatically increased the amount of venture capital. The ultimate indicator of the program's success came in 1999, when the government declared that the venture capital industry was mature and discontinued the 20 per cent tax deduction program.

The tax deduction was by far the largest benefit, but there were others. For example, 80 per cent of the investment income was exempt in the current fiscal year, providing a grace period of one year. Also those who chose to reinvest the earnings garnered from a venture capital investment

were allowed to deduct the venture capital income from their tax return in that year (Asian Technology Information Program, 1998; Republic of China, 1996: 9-10). This encouraged the investors to allow the various venture capital firms to reinvest their earnings. The Taiwanese government also undertook other measures to ensure the growth of venture capital. One measure was a willingness to invest government funds in venture capital firms provided that they were matched by those from the private investors. In return for these incentives, there were restrictions as to which industries were eligible for investment, and the government excluded investments in publicly traded securities, real estate and retail operations. Thus there was a quid pro quo: in return for the various benefits the government could restrict and channel the activities of its venture capitalists.

Among the earliest venture capital firms to join the scheme were two USA-based operations, one of which was the basis for the creation of the pan-Asian firm H&Q AP. However, for these early venture capitalists, despite the attractive benefits, there were few attractive opportunities and returns were marginal until 1990 (Schive, 1999: 102; Asian Technology Information Program, 1998). And yet, despite the weak returns, the number of venture capitalists increased. However, after 1990, the average returns were positive (Schive, 1999). During the earlier period, it was successful investments in Silicon Valley and the potent subsidy program that guaranteed the survival of the venture capitalists. The government subsidy programs appear to have been very successful because, according to the calculations of Wang (1995: 89), the multiplier effects of the government's use of tax deductions to encourage venture capital were 'ten-fold or above' in the years 1990 to 1992.

The environment improved from 1994 onwards: the Taiwanese stock market rose and the profitability of the venture capitalists increased. The reasons for the increased profitability are threefold. First, Taiwan experienced the 'New Economy' boom and then a speculative fever fueled the rise of technology stocks as global IT spending soared. Also competition in the computer business, especially personal computers, became ever more intense, prompting US firms to outsource their production to Taiwan. Second, the 1991 rule change permitting operating companies to receive the tax deduction for investing in venture capital firms encouraged an increasing flow of capital. Third, Taiwanese technological capabilities improved and the linkages with US firms strengthened.

The globalization of the Taiwanese venture capital industry

The Taiwanese venture capital community was born globalized. Every important Taiwanese venture capital fund has an office in the San Francisco Bay Area, and invests between 20 and 30 per cent of its total

funds outside Taiwan *(Asian Venture Capital Journal,* 2001). According to Taiwanese venture capitalists that I interviewed in 2001, this was almost exclusively directed to Silicon Valley. An indicator of the destination for these investments is the geographic preferences listed by the firms in the AVCJ. The USA is overwhelmingly the preferred location for overseas investing as nearly 40 per cent of the Taiwanese venture capital funds mentioned a willingness to invest in the USA (see Table 4.2). Since 2000, Taiwanese venture capitalists have begun investing more actively in the Shanghai area, in parallel with the establishment of branch manufacturing operations in this region.

*Table 4.2 Investment preferences of Taiwanese venture capitalists**

Country (n = 7)	Number stating preference (n = 71)**
Taiwan	30
No preference***	41
United States	29
China	9
Singapore	6
Malaysia	4
Thailand	4
Hong Kong	4

Notes.-
* This only includes firms headquartered in Taiwan.
** More than one nation was possible.
*** We assume that those registering no preference are probably limiting their preferences to Taiwan. In fact, those stating no preference were the smaller funds.

Source. Calculated by the author from *Asian Venture Capital Journal* (2001).

The other aspect of globalization is USA-based firms investing in Taiwan. From the aggregate statistics, this appears to be limited. However, two important venture capital firms in Taiwan are H&Q Asia Pacific and Walden International Investment Group. These two firms were early investors in Taiwan and they continue to be significant. More recent US entrants, such as WI Harper and Crimson Ventures, also have offices in Taiwan and are significant investors. For example, Asian Americans or Asian immigrants largely staff these USA-headquartered firms and most of the investors are wealthy Asian individuals or firms (Hellman, 1998). More recently, large US financial institutions have also begun to invest in Asia-centered funds. Finally, the largest Japanese venture capital firms including JAFCO, NIF, JAIC and a few others have offices in Taiwan.

In 2002, the Taiwanese venture capital industry faced a variety of challenges, some of which are related to the internal Taiwanese situation and some of which are imposed by macroeconomic developments. How the government and the venture capital firms respond will have significant impacts upon the health of the venture capital industry and their continuing ability to support Taiwanese start-ups. The most significant immediate challenge is the elimination of the 20 per cent tax deduction. This removed a significant investment incentive, though in 2000 it did not appear to decrease fund raising dramatically. However, after the weak performance of the Taiwanese stock market in 2000, in 2001 very few funds could be raised (Yang, 2001). If the stock market continues in such a depressed condition, the IPO window will remain closed and it will be difficult for venture capitalists to raise new funds, especially as the risk reduction generated by the tax deduction will be eliminated. For the many small venture capital firms, this could cause closure and/or distress mergers. The other challenge is whether and when to invest in China, which is rapidly attracting manufacturing and even R&D from Taiwan.

Today Taiwan has the most dynamic technology-driven venture capital industry in Asia. Outside of the USA, the only consistently more successful venture capital industry is Israel. From this perspective, there is no doubt that the decision in the 1980s to subsidize the creation of a venture capital industry was a major policy triumph. Experienced professionals with good track records have created a vibrant industry. However, the next few years will be a stern test of the industry's ability to survive. Without the deduction, the decisions by investors will be driven solely by returns. The government has stated that the venture capital industry is mature, and yet it has not deregulated the industry to allow it to operate as though it is mature. The Taiwanese government will have to make some difficult decisions regarding deregulation of this 'mature' industry.

Japan

Since the collapse of the 'bubble economy' in 1989, the Japanese economy has stagnated. Once seemingly invincible financial institutions are currently burdened with non-performing loans. Despite these difficulties, in terms of technological R&D capacity, especially in electronics, Japan continues to lead Asia and is second only to the USA. Japanese universities, though on average not as strong as elite US universities in terms of research, clearly have pockets of world-class engineering and scientific research excellence and the graduates are quite capable. In the private sector, the long-term employment system creates significant obstacles to labor mobility especially among the most highly trained and talented. Thus it seems fair to say

that Japan is the Asian nation with the greatest human resources capable of being the raw material for an entrepreneurial economy, but just as clearly the entire socioeconomic system is not organized to encourage high-technology entrepreneurship.

Japan has a long history of entrepreneurship and a significant small business sector that can be traced back into the Tokugawa Shogunate, when the regional samurai rulers encouraged enterprises in their fiefdoms in an effort to capture income. Immediately after World War Two, there was a phase of intense entrepreneurship and many new firms such as Sony, Honda and Alps were formed. Local, prefectural and national government agencies also had various loan programs for small and medium-sized enterprises (SMEs). Japanese policy makers have actively encouraged and protected SMEs (for a description, see Nishiguchi, 1994). However, until the 1990s, this interest, for the most part, did not extend to support for start-up firms intent upon entering new markets.

The history of venture capital in Japan[10]

The first effort to develop venture capital came in 1963, when the Japanese government authorized the use of public funds from the national and prefectural governments and the private sector to establish three small and medium business investment and consultation companies in Tokyo, Nagoya and Osaka. This program differed from the US SBIC program in that in Japan only three firms were formed, whereas in the USA, by 1963, nearly 500 SBICs had been established. The majority of equity in these three firms was held by local governments, city and regional banks, insurance firms, stock exchanges, private corporations, and chambers of commerce. Up to March 1996, these three Japanese SBICs had cumulatively invested 69.2 billion yen (at an average conversion rate of 150 yen to the dollar, this is in excess of $400 million) in 2500 firms, of which 78 undertook public stock offerings. Though they played an important role in supporting existing SMEs by providing stable, long-term capital, they invested in very few start-ups (Niimi and Okina, 1995).

In the early 1970s, Japan experienced its first venture capital boom. In 1972, the first private venture capital corporation, the Kyoto Enterprise Development company (KED) was established with investments by 43 prominent local firms, including Kyoto Stock Exchange, Bank of Kyoto, Tateishi Electric and Industrial Bank of Japan. The motive force behind KED was the Kyoto Association of Corporate Executives aiming to promote knowledge-intensive industries as a regional development strategy. The model for KED was the first US venture capital firm, American Research and Development. However, KED was unsuccessful and was liquidated only four years later (Ono, 1995). Also, in 1972, the Nippon

Enterprise Development (NED) was formed by a group of 39 firms, and included both financial institutions and venture businesses (NED was liquidated in 1999). In 1973, Japan Godo Finance, which was the precursor to the present JAFCO, was established by Nomura Securities and 15 other shareholders. In total, between 1972 and 1974, eight private venture capital firms were formed by major banks, such as Sumitomo, Mitsubishi, Daiichi Kangyo, and security firms, such as Yamaichi and Nikko. In other words, the major Japanese financial institutions formed venture capital subsidiaries. Most of the personnel were seconded from the investors for a few years and then returned to their original organizations, thereby limiting the creation of seasoned venture capital professionals. Curiously, when one compares the commitment by investors to these venture capital operations to the commitment of US institutional investors, what is striking is that the Japanese are remarkable patient, whereas US corporate venturers usually retreat at the first sign of difficulty. However, Americans who joined the venture capital subsidiaries of US firms often resigned to establish or join an independent venture capital firm, while Japanese professionals who served in the venture capital subsidiary nearly always returned to the parent firm. In this way, the American individuals did exhibit a long-term commitment to venture capital, even though the institutions did not. The ultimate result was that the USA accumulated a corps of trained venture capitalists, while in Japan this corps formed far more slowly.

The 1973 oil crisis recession ended the first expansion phase. The number of investments declined and the industry stagnated. However, of the eight firms formed, six survive until this day. So a venture capital industry was created, but it did not have sufficient success to become an important part of the Japanese political economy. Thus the firms remained small divisions in large Japanese financial institutions.

The US hot issues market in the early and mid-1980s, once again, attracted Japanese attention and stimulated a second venture capital boom. The major players in this boom were the security firms and regional banks. Their goal was to use venture investing to create relationships with the SMEs. Their venture capital affiliates provided funding and underwriting to the SMEs with the goal of gaining access to these firms to provide other services. From 1982 to 1984, 37 new venture firms were formed. As in the case of the earlier venture capital firms formed by the largest financial institutions nearly a decade earlier, the purpose of these subsidiaries was to establish relationships with rapidly growing regional SMEs for the purpose of providing other services. Often the regional bank operations were established in cooperation with the major venture capitalists and security firms. As in the case of the first generation of venture capital firms, nearly all of the investments were loans. The Japanese venture capitalists were not

seeking capital gains, they had an ulterior motive: they wanted to develop long-term banking relationships with the firms they funded. For this reason due diligence was not so rigorous, because they lent to established firms, not start-ups.

In the second boom the government recognized the need for vehicles for venture capitalists to move out of their investments and organized an over-the-counter stock market. Also, in 1982, JAFCO introduced the first limited partnership investment fund (Hamada 1999: 38-41). However, the second venture capital boom declined as a result of the recession caused by the rise of the yen in 1986 and 1987 after the Plaza Accord. Once again, investment activity declined substantially as few new firms were formed or funded and willingness to lend money to new firms also declined. Then, in 1989, Japan entered into the recession that continues today.

In 1994, and roughly paralleling the growth of the Internet and the upswing in the Silicon Valley economy, Japanese interest in the role of venture capital in facilitating new business formation and the support of start-ups was renewed. This time, however, the boom occurred in an environment in which Japanese industrial and government leaders were far more concerned about the continuing stagnation of the economy. To facilitate new business creation and start-ups in knowledge-intensive and high-technology industries, the Japanese government implemented a variety of new measures. For example, the 1995 Revision of the Law on Temporary Measures to Facilitate Specific New Businesses and the enactment of the Small and Medium Size Enterprise Creation Law in 1995 made SMEs eligible to receive financial as well as informational support. These new laws also encouraged the formation of more venture capital firms and subsidiaries. For example, regional banks and corporations established venture capital affiliates, and some independent firms were formed. For example, in 1996, Nippon Venture Capital was established, with a capitalization of 10 million yen through investments from 41 companies, including Nippon Life Insurance and Ushio Electric. Moreover, corporate venture capital operations such as those of Softbank and Hikari Tsushin began investing.

Operational characteristics

Though independent partnerships are used in Japan, the majority of the venture capital organizations are corporate subsidiaries. Many of the partnerships are also, in fact, operated as corporate subsidiaries. One reason for the paucity of independent partnerships is the relative lack of available institutional funds. The largest source of funds in the USA, pension funds, is forbidden from investing in the risky area of venture capital. Additionally, until recently, Japanese investors were subject to unlimited liability, making investment risky. According to a 1997 survey, 63 per cent of the

total venture capital investments were made by the venture capital subsidiaries, while the remaining 37 per cent came from partnerships. The use of the partnership mechanism increased, especially after the passage of the 1988 Investment Operations Responsibility Association Law that limited the investor liability. This has been especially noticeable recently, as a survey by the Venture Enterprise Center found that the number of venture capital partnership funds increased from 174 in 1999 to 238 in 2000 and they now account for 47 per cent of the total investment (METI, 2001: 8).

The source of funds for Japanese venture capitalists has largely been financial institutions and domestic operating companies, though JAFCO operates a number of relatively small funds with investments from Japanese institutions. With pension funds forbidden from investing in venture capital, and a general lack of university endowments and large tax-exempt foundations, institutional investors simply were not a significant funding source. Among venture capitalists, the affiliates of security firms obtain funds from a variety of sources, and invest through partnerships. The bank and insurance-affiliated venture capitalists get investment capital from their parent firms in the form of debt, rather than through an equity investment.

One of the defining characteristic of the Japanese venture capital industry is that loans are its preferred form of capital disbursement. The reasons for the use of loans by Japanese venture capitalists can be traced to characteristics of both venture capitalists and the start-up firms. Since Japanese venture capitalists receive their capital through loans, they are required to pay interest. The difficulty is that equity investment assumes that for some period there will be no return, thus forcing the venture capitalist to repay its loan out of its initial capital – a difficult requirement. Quite naturally, this encouraged venture capitalists to provide loans, but, of course, this limited their upside potential so that they needed to find low risk opportunities. One solution was to structure the loan with convertibility or a large equity kicker, but the entrepreneur often balks at paying interest and losing equity. This situation is even less tractable because of the long time it takes for Japanese firms to reach an IPO. The average age of firms at the time of their IPO is more than ten years. This means that Japanese venture capitalists must support a firm longer and cannot liquidate their investments as quickly as their US counterparts.

Japanese venture capitalists traditionally invest in the later stages of a firm's growth. According to a 1995 survey by the newspaper *Nihon Keizai Shimbun,* the percentage of companies receiving investment that were 20 years old or older was 48.7 per cent in 1994 and 35 per cent in 1995 (Ono, 1997: Ch.7). This may be changing as earlier-stage investments increased dramatically after 1995. For example, a METI survey conducted in 2000 found that the share of investment in portfolio companies less than five

years old was 62 per cent in FY 1999, an increase of 50 per cent on 1998.

There are difficulties with Japanese entrepreneurs also. As in many other nations, Japanese entrepreneurs often have the goal of creating a 'family' firm, so they are reluctant to cede large equity interest to other investors. With this goal in mind, they often prefer loans and bonds. The situation for venture capitalists is complicated further by the Anti-Monopoly Law prohibiting any single investor (including venture capitalists) from owning more than 49 per cent of the total equity and when the shareholding is greater than 25 per cent, the shareholder is not allowed to control the board of directors. For this reason, Japanese venture capitalists usually acquire no more than 20 per cent of their portfolio companies' equity, resulting in relatively small investments. For example, in 2000, the disbursements per portfolio company for initial and follow-up rounds were $500000 for corporate venture capitalists and approximately $700000 for independent venture capital firms (METI, 2001: 9). This means that the typical investment is small and the normal monitoring that is so much a part of the value-added of a venture capital investment is economically infeasible owing to the large number of small investments.

The Japanese venture capital investments are largely domestic (70 to 80 per cent of all new investments). Another 20 to 30 per cent was committed overseas, with Asian firms receiving between 10 and 15 per cent of the total, while another 5 to 10 per cent was invested in North America.

This lack of an economic incentive, combined with the lack of experience on the part of Japanese venture capitalists, means that they are relatively uninvolved with their portfolio firms. This is especially important when it comes to assisting their portfolio firms. The lack of in-house skills and experience means that they can perform only cursory monitoring of their firms and are incapable of providing advice and assistance based on experience. The result is that Japanese venture capitalists are largely passive. In this sense, their relationship with their portfolio firms resembles that of a banker, thus explaining the emphasis on loans.

The Internet bubble and beyond

At the time, the Internet boom appeared to be a defining moment for the Japanese venture capital industry as it led to a rapid growth in entrepreneurship. It energized young entrepreneurs and venture capitalists and contributed to what has been called the 'Bit Valley' phenomenon.[11] For example, in 2000 there were approximately 1300 new Internet-related companies located in 23 wards of Tokyo, about 40 per cent of which were in the Shibuya and Minato Wards.[12] In fact, one-fourth of those in Tokyo (371 in 2000) are clustered around Bit Valley (Aoyama, Harajuku, Shibuya and Ebisu). These Internet-related firms are generally small firms and relatively

new: 39 per cent employed 30 employees or less and 49 per cent were founded after 1994. Many of entrepreneurs who started the Internet business gained their education and/or work experience in the USA and have established links to American Internet companies in Silicon Valley and the Silicon Alley (Arai, 2000). Though no hard figures are available, by 2002 Bit Valley had experienced a very painful shake-out paralleling the one experienced by Silicon Alley in New York.

In response to the excellent market for IPOs, venture capitalists began making equity investments and it appeared for a moment that an equity-based start-up culture was emerging. Leading this change was Masayoshi Son's Softbank, which had been enormously successful, investing in US Internet start-ups such as Yahoo!, Geocities and E*Trade in the 1995-7 period. It rapidly globalized its investment activities but, most important for Japan, Softbank began a massive venture investing program in Japan. Softbank soon became one of Japan's foremost venture capital firms, and by 2001 in terms of accumulated total investment ranked second only after JAFCO. Softbank was emulated by others, one of the most important of which was Hikari Tsushin, a corporate venture capitalist that is today close to bankruptcy. The boom also encouraged the existing venture capitalists that had been loan-oriented to shift to equity. In addition, a number of Internet firm incubators, such as Neoteny and Netyear Knowledge Capital, were formed on the premise that they would invest in the seed and start-up stage of Internet firms. These organizations differed from the traditional venture capitalists, because they were independent and dedicated to early-stage investment. The Internet boom did prompt a dramatic shift in the perspective and outlook for venture capital in Japan.

The collapse of the Internet bubble in the USA triggered a global collapse, which Japanese venture capitalists have not been able to avoid. Softbank, for example, announced a 890 billion yen loss ($740 million at 120 yen = $1) for FY 2002, and is liquidating many of its holdings (Softbank, 2002). Hikari Tsushin, owing to bad investments and management, hovers close to bankruptcy. In FY 2002, JAFCO's earnings dropped by 60 per cent (JAFCO, 2002). Though the most recent statistics for 2000 do not indicate a drop in commitments, there can be little doubt that they have plummeted. At this point the long-term future of an equity-based venture capital industry in Japan is uncertain. In August 2002, NASDAQ Japan announced that it was closing down altogether.

The role of government and regulations

The core of Japanese regulations for venture capital and SMEs is the Japan Small and Medium Enterprise Agency (SMEA), an affiliated institution of the Ministry of Economy, Trade and Industry (METI, formerly the

Ministry of Trade and Industry), and **MITI (METI),** which has continuously developed policies to promote SMEs in general. However, they have not been specifically concerned with start-ups and venture capital until recently. Only in the 1990s, with the low rate of new business formations, did the SMEA and METI begin to place more emphasis on new firm formation and venture capital as a source of innovation and employment.

Since the mid-1990s a series of legislations have been enacted to support new firms funded by venture capital. For example, in 1994 the Fair Trade Commission amended its regulations to permit venture capitalists to serve on their portfolio firms' board of directors. Also the 1989 Law on Temporary Measures to Facilitate Specific New Business was revised in 1995 to extend financial and informational support as well as loan guarantees to firms qualifying as 'venture' firms, that is, those firms producing a new product or service or using a new technology to enhance their existing products or services. Also revised was the Commercial Code allowing firms to issue stock options, something that had for all intents and purposes been prohibited. This allowed venture business firms to begin using stock options as an incentive for employees and board members. With the new regulations, venture business firms that qualified for specific METI programs could have option pools of up to 30 per cent of their outstanding shares, whereas other firms were not allowed to issue options for more than 10 per cent of the issued shares.

Another major change in 1998 was the enactment of the Limited Partnership Act for Venture Capital Investment. Prior to the passing of this law, all the investors in the partnership funds had to assume unlimited joint liability. With the new law, the regulations governing investment in partnerships were the same as those in the USA. The liability of investors was limited to their original investment as long as it met METI's official criteria. Also, in 1997, in a measure aimed at stimulating angel investment, the Japanese government introduced a regulatory change, the so-called 'Angel Tax' allowing investors to deduct their capital losses from capital gains on other investments.

During the last decade, the Japanese government has developed policies aimed at supporting new start-ups and removed many of the legal and regulatory obstacles to the practice of venture capital. In regard to venture capital itself, it has not created significant programs to provide incentives to increase the amount of venture capital available, probably, in large measure, because Japan has a surfeit of venture capital. One unusual feature of the Japanese venture capital scene is that Japan is the only significant advanced developed country that did not have a national venture capital association until 2002, remarkably late for a country like Japan, where policy is often driven by industry associations.

The globalization of venture capital in Japan

For foreign venture capitalists, entry into Japan has proved difficult and often not so profitable. The usual strategy has been to form a joint venture with a Japanese financial firm. Moreover, as in Europe, venture capital and private equity are not strictly delineated, and most foreign investors are said to be more interested in private equity firm restructurings than in start-ups (AVCJ, 2002). However, in early 2000, a METI-VEC survey showed the dramatic increase as foreign investors contributed 26.3 per cent (177.9 billion yen) of the total investment in new venture capital funds established between July 1999 and June 2000 (METI, 2001: 27). The US venture capitalists included both corporate venture capitalists, such as Intel, and other institutional investors, such as Goldman Sachs and GE Capital. For example, J.H. Whitney & Co. committed approximately $200 million; Apax/Patricof raised nearly $180 million in cooperation with the Japanese firm, Globis, and Schroeder Ventures secured approximately $150 million (Netry.com, 2000). GE Capital Corp. launched an approximately $180 million fund in conjunction with Daiwa Securities. A $270 million fund was established by the Goldman Sachs Group and Kyocera Corp for the express purpose of investing in high-tech firms (Spindle, 2000). In 2002, the attitude of foreign firms to venture capital investment in Japan became far less optimistic.

As mentioned earlier, Japanese venture capital firms began their international activities quite early. There were two prime target areas. The first target was the USA, simply because it had the most opportunities and the best deals. In the mid-1980s, there were fears that the Japanese would 'buy' Silicon Valley, but this fear proved unfounded as many of their investments failed dramatically. Somewhat later in the 1980s, Japanese venture capitalists also began operations in Asia. Here there were two important types of investments: first, they could provide loans to smaller Japanese firms establishing operations in Asia; second, they could provide funds to Asian firms that had contracts to supply Japanese manufacturing operations in the region.

The most globalized Japanese venture capital firm is Softbank, whose initial success came from the successes mentioned earlier. Building upon these investments, Softbank swiftly expanded to become a global investor. In the heady days of the 1990s, it created subsidiaries in the USA, UK, Continental Europe, Latin America, China and Korea. The remit of these subsidiaries was to make venture capital investments in joint ventures and local Internet start-ups. In 2000, Softbank and the IFC launched the Softbank Emerging Markets Fund. This and other Softbank–IFC joint ventures, worth approximately $520 million, were meant to combine Softbank's Internet and new firm formation expertise with the IFC's

experience to fund developing country firms, encourage entrepreneurship and build up the developing nations' Internet infrastructure. The result of this initiative is not known; however it provides insight into how expansive the Softbank vision was. The leading Japanese venture capital firms have been quite active globally, but, as Table 4.3 indicates, most firms are focused on Japan.

Summary

Despite the size of the industry in terms of capital, it is not a significant aspect of the economy or the national system of innovation. In large measure, this is due to the existing bank-oriented financial structure and a thicket of government regulations that have only recently been changing. This has made it difficult to develop a dynamic venture capital industry along the lines of the ones in the USA, Taiwan or Israel. The bank-oriented system has lacked institutions, such as a developed stock market for equity in new firms and an incentive structure aligned with the needs of entrepreneurs. Given the relative underdevelopment of the independent venture capitalists and the previous lack of stock markets or acquisitions as an exit possibility, it is not surprising that traditional conservatism of the corporate venture capitalists dominated the Japanese venture capital scene (Saijo, 2000: 26-9).

The industrial structure of the Japanese venture capital industry still poses problems for the development of a vibrant industry. This is illustrated in the way the venture capital subsidiaries of financial institutions that dominate the system reflect the interests of their parent organization rather than those of the independent venture capitalists. The Japanese scene continues to have many 'venture capitalists' that do not actually have any experience as venture capitalists. Moreover, most Japanese venture capitalists do not have their personal interests linked to the success of venture capital as an institution.

In the last five years, there has been a significant change in governmental policies and regulations. Moreover, there is increased public awareness of new firm formation and the need for a viable venture capital industry. The effectiveness of public policies and resources encouraging more entrepreneurship remains uncertain.

The arrival of the Internet economy and opening of new stock markets, especially MOTHERS and NASDAQ Japan (though in August 2000 NASDAQ Japan announced it was closing), increased the opportunities for entrepreneurs to launch new businesses and raise funds in the early stage of businesses. The increased exit opportunities allowed venture capitalists to be more active in taking risks in promising venture businesses in their early stages. Further, the influence of Softbank's Masayoshi Son in raising

*Table 4.3 Investment preferences of Japanese venture capital firms**

Country (n = number of firms)	Number stating preference (n=147)**
Japan	110
No preference***	37
United States	25
Singapore	14
Taiwan	10
Hong Kong	8
Thailand	8
Malaysia	7
Asia	5
Philippines	5
Europe	4
Indonesia	4
India	3
China	2
Australia	2
Other (mentioned by one)	6

Notes:
* This only includes firms headquartered in Taiwan.
** More than one nation was possible.
*** We assume that those registering no preference are probably limiting their preferences to Taiwan. In fact, those stating no preference were the smaller funds.

Source: Calculated by the author from *Asian Venture Capital Journal* (2001).

awareness among government officials, industrialists and, most important, entrepreneurs should not be underestimated. This effect may survive beyond the current depressed market conditions.

This climate shifted drastically in 2001 and the situation for both the new firms, independent venture capitalists and operations such as Softbank became decidedly negative. Management buy-outs and other such private equity-based strategies will be more important than pure venture capital investing *(Nihon Keizai Shimbun,* 2001), though in 2002 the market became so difficult that even this strategy may no longer be viable. Despite the promising developments at the end of the 1990s, the current difficult market, the general shortage of experienced venture capitalists, the low levels of labor mobility, and general risk-averse tendencies for the entire society, the development of a Silicon Valley-like venture capital industry is unlikely in the next five years.

THE CURRENT SITUATION

The globalization of the venture capital industry has occurred in two ways: First, in at least 35 nations we were able identify there is now an independent national venture capital association that invariably contains national venture capitalists. In some other nations, such as Sri Lanka, there is not yet a venture capital association, though there are a few venture capitalists. During the 1990s, fueled by the overheated stock markets, the desire to have a venture capital industry became a global fad with each nation and often subnational entity attempting to establish a venture capital industry. The hype and apparent solidity of this boom induced many nations to establish new stock markets with loose listing requirements that attracted dubious and even fraudulent firms. The unfortunate reality is that this was a mania and, as Kindleberger (1978) so effectively described, the consequences of this mania began unfolding in late March 2000 as the market for these firms crumbled." As a consequence, the IPO window closed and by the end of 2000 large corporations also suffering from the downturn were no longer willing to acquire start-ups at inflated prices or, in fact, at any price.

For venture capitalists, 2000 was difficult and 2001 would be even more severe. In 2002, many of the largest and most successful US venture capital funds decided to release their limited partners from some agreed-upon capital calls. In 2002, more money was returned to investors than was raised as the US industry decreased its size, better to reflect the new reality. Smaller and newer venture capitalists were forced to leave the business entirely. Corporate venture capitalists that had been so active in the USA and globally retreated. The cyclical nature of the venture capital industry reasserted itself. In the global context, this raises the question of whether venture capitalists in the smaller markets will survive. In Brazil, for example, the venture capital market has collapsed almost entirely, though there still is a private equity market. This will probably continue until at least 2004.

GENERAL OBSERVATIONS AND CONCLUSIONS

This study indicates that the successful transplantation of venture capital as an institution is predicated upon a receptive environment. Most important, of course, are the business opportunities that permit large capital gains. One of the greatest difficulties in examining Japanese venture capital is to decide whether Japan really has a venture capital industry. By our strict initial definition, it would be possible to argue that most of what is considered venture capital in Japan is not venture capital at all, and oddly enough,

since it was loan-oriented it was not private equity either. [14] In the case of Japan, the environment was not conducive and opportunities for investments in firms capable of large capital gains were largely unavailable except during the Internet bubble. In contrast, the Taiwanese environment was more conducive, thus providing opportunities for venture capitalists.

Governments clearly have a role to play in the creation of a venture capital industry; however, as we saw in Japan, even government support is not sufficient to establish an industry if the other features of the environment are negative. In Taiwan, a strong venture capital industry grew with government suppor in a local environment that was conducive to entrepreneurship. Now the Taiwanese government has discontinued its most powerful tool for promoting the industry, so the next few years will be a severe test. This chapter also suggests that, if there are an insufficient number of entrepreneurs or a lack of attractive business sectors, government incentives will only temporarily boost entrepreneurship. So, in the nations that have been most successful in creating venture capital industries, there was government assistance, and this was probably a necessary element for starting venture capital growth, but clearly not sufficient.

Government regulations can also retard the development of venture capital. For example, in the case of Japan, regulations prevented venture capitalists from undertaking their monitoring and control functions. This created moral hazards and prevented the evolution of a healthy relationship between the entrepreneur and the venture capitalist.

We also found that banks find it difficult to perform the venture capital function. While it is not necessary to forbid bank investment in venture capital, they probably should not receive incentives. The USA has always had loose bankruptcy laws, and it might be beneficial for nations with stricter rules to revise them to be less punitive and to work at removing the stigma of failure, thereby lowering the social barrier to entrepreneurship. In some nations, cultural and social changes may need to occur. One possible strategy for this would be an effort to shift the society's estimation of entrepreneurship.

Today there are globalized venture capital firms, such as 3i, Apax, Atlas Ventures and Vertex Ventures (from Singapore), but, for all intents and purposes, the markets they operate in are national. The most important exception to this is Europe where the European Venture Capital Association represents its members in Brussels. This is creating a pan-Europe market, encouraging venture capitalists to syndicate deals outside their home nations, most of which are too small to have a sufficient number of deals to support a venture capital firm. There are also a few firms, such as Walden, WI Harper and H&Q Asia Pacific that operate across Asia and the US West Coast. A number of these firms consider this as part of a 'Greater China'

strategy. However, in Asia the national venture capital industries remain separated by languages, customs and laws. The final form of globalization is the bilateral relationships that have evolved between Silicon Valley and Israel, Taiwan and India.

There can be little doubt that in the last decade venture capital has diffused to many more nations. Despite this diffusion, in many of these nations venture capital has not yet made a significant impact. This could be due to its relatively recent establishment or because the new environment inhibits growth. It is also possible that these national venture capital industries will hybridize to better operate in their host nations. This might explain why, in the more bank-centric Continental Europe, venture capital industries are largely private equity-oriented and do less start-up and early-stage investing. In Israel, a nation with high education levels and a relatively entrepreneurial population, but an almost non-existent internal market, a strong venture capital industry focusing upon early-stage investing has emerged. The Taiwanese venture capital industry specializes in electronics manufacturing and chip design, fields where it has national advantages. The Indian venture capital industry focuses upon services such as software and business process outsourcing. The environment within which they operate and are embedded, shapes the character of national industries.

The US venture capital model has been a remarkable success over the last 50 years and contributed significantly to the nation's development. However, it may not be model for all nations. And yet, the Taiwanese and Israeli experience indicate venture capital can provide important assistance to the growth of high-technology firms and industries. Moreover, it is also important to note that venture capital and high-technology entrepreneurship are not the only ways to develop, as Japan and many other developed nations have shown.

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NOTES

1. This section is adapted from Kenney and von Burg (1999) and Dossani and Kenney (2001).
2. On angels, see Robinson and van Osnabrugge (2000).
3. There are, of course, important venture capital firms headquartered in other regions, and there is a diversity of venture capital specialists. For example, there are funds that spe-

cialize in retail ventures. Some of the largest venture capital funds such as Oak Investment Partners and New Enterprise Associates have partners devoted to retail ventures, though their main focus is IT.

4. Kuemmerle (2001) argues that the private universities were the reason for the success of the US venture capital industry. This underestimates the role of UC Berkeley in Silicon Valley and UCSF in the Bay Area biotechnology industry. This certainly is not a general rule globally as, for example, publicly funded institutions in Israel and Taiwan were critical.
5. Publicly held venture capital funds have a remarkable record of failure. Nearly every other publicly owned venture capital fund has failed. The only important exception is the very first publicly held venture capital fund, American Research and Development, which provided investors with a reasonable but not outstanding return. This is not only true for the USA after repeated waves of start-ups, but is also true overseas. For example, nearly all of the 'incubators' offered on the UK AIM market have now failed.
6. Unfortunately, the value can also grow owing to the belief by others that the investment has become more valuable, even though there may not have been a true growth in the firm's performance. Thus hype about an investment area such as biotechnology, the Internet or nanotechnology can assist the venture capitalist in securing a large capital gain. This is, of course, a region where venture capital can approach fraud, though the investment bank's desire to protect their reputation is supposed to prevent the offering of truly fraudulent firms to the public.
7. This is not always true. Arthur Rock, the lead venture capitalist in funding Intel, remained on the Intel Board of Directors for two decades. Donald Valentine, the lead venture capitalist in funding Cisco, continues on the board fully a decade after it went public.
8. Advent International spun out of TA Associates.
9. Stan Shih, the founder and chairman of Acer, accompanied them on this trip (Shih, 1996: 282).
10. See, also, Kuemmerle (2001) for a discussion of the Japanese venture capital industry.
11. Bit Valley is taken from Shibuya (which literally translated means 'bitter valley'), where many Internet-related firms were established.
12. This description of Bit Valley draws upon Yukawa (2000).
13. Kenney (2003) describes the roots of the US Internet bubble. My argument is that, despite the billions of dollars that US investors squandered on the Internet, in the long run the benefit to the US economy will be that its firms such as eBay, Amazon, Google and Yahoo! will ultimately be globally dominant thanks to the first-mover advantages. In the long-term this should be an important benefit to the US economy, though the short-term pain for US investors, especially those that purchased Internet firms at initial public offerings, is enormous. Notice that the wisest venture capitalists had cashed in many of their investments and thus experienced fewer losses.
14. Oddly enough, in Europe private equity is considered part of the venture capital industry, while in Japan venture capital investing is in the form of loans.

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