Second draft

Venture capital.
New ways of financing technology innovation

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A. Introduction

1. The rise of venture capital

During the 1990s, venture capital (VC) emerged as a new source to finance technology innovation in the private sector. Especially in the United States many small high-tech start-up companies in Silicon Valley or outside Boston received financing from VC funds. Lately VC has also begun to play an increasingly important role in European and Asian countries. Although empirical evidence is still scarce, there is no question that VC stimulates innovative activity.

What is venture capital? The OECD (1996) defines venture capital "as capital provided by firms who invest alongside management in young companies that are not quoted on the stock market. The objective is high return from the investment. Value is created by the young company in partnership with the venture capitalist's money and professional expertise." In practice, VC firms raise funds, invest them in start-up companies and buy existing businesses. Venture capital firms are profit-driven. A successful investment may yield up to 100% rate of return on invested capital or even more. During the last years the average rate of return has been around 15% to 20%. American experts usually emphasize that venture capital is risky business - many investments fail or do not generate significant rates of return.

The US is still the center of the global VC industry. 20 years ago, there were 25 American VC funds managing $1billion, and investing about $0.6 billion per year in 300 companies. Today, there are 1,000 VC firms in the US managing up to $120 billion and investing over $110 billion in over 7,000 companies.[2] Globally, venture capital and private equity combined reached about $136 billion in 1999, with a further increase expected in 2000. VC starts to play a role in transition economies like the ones of Russia, the Czech Republic or Hungary. With the exception of Israel, India and very recently South Africa, VC plays hardly any role in most of Africa, Latin America, and the Middle East.

VC has a significant impact on innovative activities. In the United States, 71 % of VC investments were made in information technology industries in 1999 (OECD 2000b:39). A NBER study found that the amount of VC activity in an industry

significantly increases its rate of patenting. The study concludes that while the ratio of venture capital to R&D has averaged less than 3% during the mid-1990s, venture capital finances about 15% of industrial innovations in the US.[3] **BUT:** Note that VC does not exclusively finance high-tech companies. While the average share of VC invested in high-technology sectors was almost 80% in the US between 1995-98, it was only a little over 20% in the UK, France, Netherlands or Germany during the same time period (OECD 2000b:39). It is also a myth that VC finances only start-up companies. VC is also invested in companies at various stages of the business life cycle. Only 11% of VC invested in Europe in 1999 went into start-up companies.

Everybody does it. VC is a private sector phenomenon. Small companies use venture capital to finance themselves because they could not raise sufficient funding from banks.Apart from venture capital firms, large non-financial companies like IBM and Intel created their own venture capital arm in order not to miss out the wave of innovation and ideas that are being generated around the globe (*corporate venturing*). Over 200 firms did some venture investing in 1999, twice as many as a year earlier (The Economist). They either invest funds through venture capital firms or they finance start-up companies directly.

International organizations and countries have come to understand the importance of private equity. The International Finance Corporation (IFC) monitors about 90 VC funds.[4] The European Union put in place *a Risk Capital Action Plan* and views venture capital as a "key to job creation" (EU 1999). The European Bank for Reconstruction and Development (EBRD) is in the process of introducing VC funds in Eastern Europe. Governments in India and Israel pursued strategies to introduce a venture capital industry that promotes innovation and technology development in their countries.

New alliances financing technology. VC has changed the way of financing companies that engage in technology innovation. Formerly, banks provided resources to companies; large companies had (and still have) considerable R&D budgets that they use to finance innovative activity. Nowadays, VC has supplemented these sources. Under the

[2] Quoted from a short briefing note by Mr. Kenneth Rind, Israel Infinity Inc., "*Encouraging venture capital for development in developing and transition economies*", New York 2000.
[3] *Does venture capital spur innovation?* NBER working paper no. 6846, December 1998.
[4] Information made available by Ms. Teresa Barger, Director, IFC Funds Department.

new scheme, public and private pension funds, insurance companies, foundations, universities, or rich individuals give money to VC firms. Venture capitalists are not simply intermediaries between investors and companies receiving VC. Often, they are involved in strategic decisions made by companies that receive VC.

Different analytical perspectives on VC. Since most venture capital is still concentrated in the US and Europe, the current debate and analysis of the phenomenon "venture capital" is highly influenced by experts originating from these two regions. Yet, they offer quite different, if not opposite, views. VC is a very different phenomenon in the US than in Europe. American venture capitalists perceive VC as a subset to private equity; the Europeans do not. American venture capitalists emphasize creating new businesses; European venture capitalists primarily invest to expand businesses (MBOs/MBIs). Ask an American and a European expert the same VC question, and you get two different answers (Table 1).

Table 1: The venture capital industry – American and European perspectives

Category	United States	Europe
Use of term "venture capital"	VC is subset of "private equity"	VC and "private equity" are used interchangeably
Data	Data of VC and PE are collected separately. Example: VC accounted for $46.5 bn (or 43%) out of total PE of $108 bn in the US in 1999;	VC is no separated category; data combines VC and PE
VC activities	Emphasis on creating new businesses	Emphasis on expanding existing businesses (management buyouts; management buyins etc)
Exit	Exit via stockmarket is goal = high level of Initial Public Offerings (IPOs)	Sale of company is predominant exit strategy

Source: Author

This short paper will address some of the following questions: What are the determinants of venture capital? What is the impact of venture capital? How significant is venture capital for technology innovation, especially in relation to private or state-financed R&D? Is venture capital a strategy for some developing countries to develop high-tech industries? Does venture capital have a role for human development?

B. Venture capital – the basics

2. Venture capital – definition and history

Definition

Definitions of venture capital are all very similar. The OECD (1996) defines venture capital "as capital provided by firms who invest alongside management in young companies that are not quoted on the stock market. The objective is high return from the investment. Value is created by the young company in partnership with the venture capitalist's money and professional expertise."

Problems and confusion emerge when the terms "venture capital" and "private equity" are being used. In the USA "venture capital" refers to early stage investment, in Europe it also includes later stage investment

History

Venture capital was an American phenomenon before it emerged in other countries. The first modern venture capital firm, American Research and Development (ARD), was created in 1946 in a partnership of MIT, the Harvard Business School and local business leaders. A small group of venture capitalists made high-risk investments into emerging companies that were based on technology developed for World War II. The results were mixed. The most profitable one was an investment of $ 70,000 in Digital Equipment Company (DEC) in 1957 which grew in value to $ 355 million. Other venture capital firms followed this example but never developed into an economically significant force. The annual flow of money into venture capital during the first three post-war decades never exceeded a few hundred million dollars. In the mid-1970s venture capital almost ceased to exist.

In the US, the breakthrough for venture capital occured in 1979 when the US Department of Labor clarified the "prudent man rule" of the *Employment Retirement Income Security Act* (ERISA). Previously, the rule prevented pension fund managers from investing in risky businesses. In 1979, the Department of Labor decided that portfolio diversification was a good thing and that allocating a small fraction of a

portfolio (about 5%) in venture capital funds would *not* be seen as imprudent. Thus was removed a major obstacle for huge amount of money flowing into the venture capital industry. But even then the maximum amounts of venture capital in any year of the 1980s was a mere $5 billion in 1988 (Mandel 2000:18).

Another reason why venture capital started to surge again in the late 1980s/early 1990s was the decline in military spending in the US (since 1985). Many engineers who had developed high-tech weapons for the Pentagon were suddenly looking for a civilian use of their knowledge and talents. People with ideas and skills were looking for money.

3. The venture capital cycle – how it works

The flow of venture capital from the investor to a start-up company and back can be thought of as a cycle that runs through several phases. Following is a schematic overview of these different phases:

A) raising of venture fund

B) investing in, monitoring of, adding value to firms

C) exiting successful companies; returning capital to investors

A) ***Raising the money and picking the winner*** **-** In the United States, there are approximately 500 venture capital firms today. They raise money for investment. Money can come from a variety of sources: institutional investors (public and private pension funds, insurance companies, banks, foundations), wealthy individuals (angels), corporate investors (companies like IBM or Intel), government agencies, or endowments of academic institutions. Venture capitalists raise funds into a “blind pool”. That means that investors do not know for which purpose their money will be used when they make the investment. Once the money has been raised venture capitalists explore business plans which have the potential to grow into successful companies and which are then financed by venture capital. Likewise, innovators and business people try to find a VC firm that would fund their business idea. Only very few proposals out of several hundred will be selected. Fundraising and picking the right business plan are usually parallel and ongoing processes.

B) ***Invest and oversee -*** The money is being invested, say, in a newly created technology firm. These companies very often produce only one product. It is the goal of venture capitalists to develop this start-up business into a stable, growing and profitable company. Constant monitoring is key. Very often, the venture capitalist sits on the board of the company and is involved in strategic decision-making. Business "angels", i.e. very wealthy individuals and experienced business men, not only provide capital but also contribute their business experience and leadership to successfully build a new business.

C) ***Managing the exit –*** Assuming the venture capitalist hits gold and the company turns into a success it is time for him to cash in gains. Different exit strategies are available. In the United States, floating the company on the stock market (initial public offering or IPO) is a very common exit. Not so in Europe where the IPO accounted for only 9% of total divestment in 1997 (this is changing; the figure was 20.7% for 1999). Other options include selling the company in question and to return the gains to the investors.

4. Why small technology-based firms are important

Small-and-medium-size enterprises (SMEs) play an important role in innovation and technology. New technology-based firms (NTBFs)/SMEs in particular deserve Schumpeter's characterization of "agents of technological change". Why are they important? Why are they being discussed in connection with the venture capital debate?

NTBFs very often specialise in innovative activities. They bring new products to the market and put pressure on incumbent firms to do the same. Numerous studies show that NTBFs are responsible for productivity gains, upgrading and improving employees' skills, sometimes job creation, not to forget economic growth and wealth creation. The company "Microsoft" is a famous example for a venture capital funded SME that grew into a success (OECD 2000:128-133).

The challenge that many NTBFs face is access to adequate financing. Any new business requires considerable sums of capital in order to take-off and to survive an extended period of time in which it may not being able to cover cost, let alone to make a profit. Few banks will provide money to a no-name start-up business without credentials. Neither will the stock market where only "established" companies may be listed. For

banks, minimizing risk is key. Companies that invest in new technologies do not belong to the risk-free category and thus have difficulties raising money from "traditional" sources.

Venture capital addresses this problem because it is attracted to what banks try to avoid – high risk. In this context, venture capital is a radical innovation because it allows the market to pick a winner. A winner may be precisely a company that runs a high risk to fail.

5. Quantitative trends in venture capital

"It is widely recognised that the diverse nature of the industry makes it extremely difficult to measure." (3i, PriceWaterhouseCoopers 2000). The difference in definitions of VC in Europe and the United States can be crucial when it comes to statistics on venture capital and private equity. According to the National Venture Capital Association (NVCA), which is the venture capital association in the United States, *private equity* in the US totaled $108 billion in 1999; *venture capital* accounted for only about $46 billion of this amount (43%).

The European Venture Capital Association (EVCA) uses *both terms* – VC and private equity - in an *interchangeable* way for the same statistics. In their understanding there is no difference between venture capital and private equity. The PriceWaterhouseCoopers/3i Report, which offers the most comprehensive set of data on VC, addresses this problem by referring to all investment across all stages as "venture capital/private equity". The best way to go about using statistics on venture capital is to precisely indicate what one is talking about and what precisely is being. Misunderstandings will be avoided by explicitly referring to the source of data.

- **Global distribution of private equity and venture capital by investment** - US: 73%, Europe: 20%, Asia Pacific 4%, Middle East & Africa 1%, Latin America and Caribbean 1%, Russia and former CIS – less than 1%. (Source: 3i, PWC 2000)

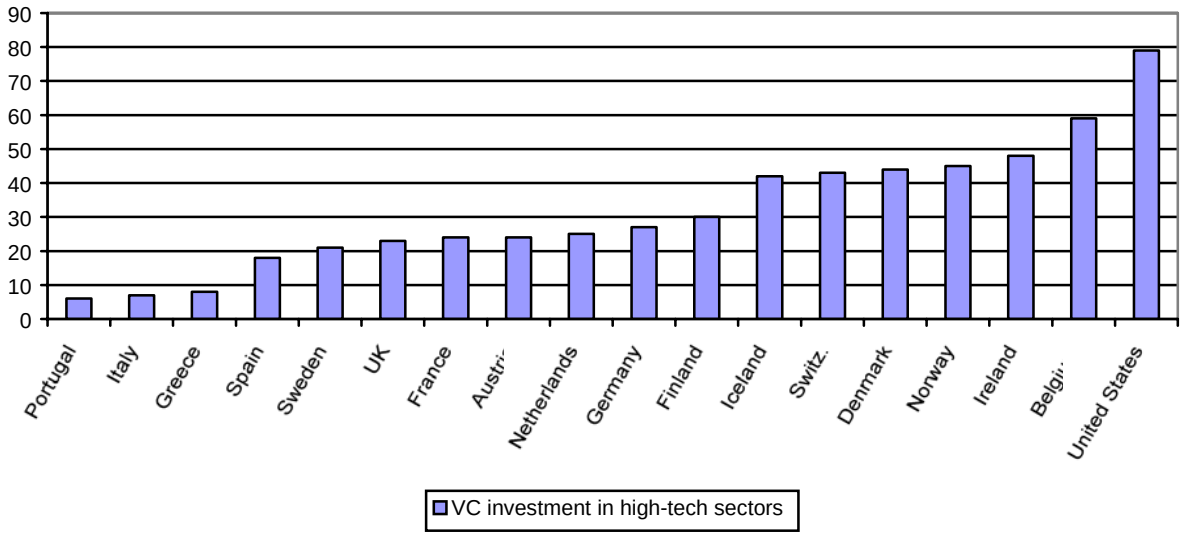
- **Distribution of venture capital by region -**

- **US -** Venture capital fundraising in the United States increased from $ 3.94 billion in 1993 to $ 46.55 billion in 1999 (www.nvca.com). Venture capital is concentrated in a few locations. Of the $46 billion of venture capital raised in the US in 1999, $16.6 billion (35%) were raised in the "Northeast" (Route 128 near Boston) and $16.2 billion (35%) were raised in "Northern California" (Silicon Valley). It is expected that the amount of venture capital raised in the year 2000 will total $100 billion or more.
- **Europe** - venture capital fundraising increased from ECU 3.48 billion in 1988 to ECU 20 billion in 1997. In Europe venture capital is concentrated in the UK, Germany and France. New funds of venture capital raised in the UK accounted for 61% of total new funds raised in Europe in 1997 (Germany: 13%)
- **Asia** – venture capital fundraising was in the $6 to $7 billion range in 1995 before stagnating around $6 billion during the Asian crisis years (Japan, Singapore, Taiwan, Republic of Korea, Hong Kong, Australia). $7.7 billion of funds raised are predicted for 1999 (PWC/3i).
- **Eastern Europe and the CIS–** PWC/3i estimates that $227 million of venture capital were invested in Poland, Czech Republic, Hungary and Slovakia in 1999. The Russian Venture Capital Association estimates that a total of $2.5 to $3 billion of venture capital exists in Russia, with an estimated amount of $350 million actually invested (www.rvca.com).
- **Latin America and the Caribbean** – Venture capital funds raised declined in the region from $3.6 billion in 1998 to $0.8 billion in 1999. VC funds invested declined from $2.7 billion in 1998 to $0.7 billion in 1999. The Asian crisis experience, weak economic performance and currency devaluations (Brazil) are responsible for the decline of venture capital in Latin America.
- **Sub-Saharan Africa and Middle East –** Israel and South Africa account for almost all venture capital for SSA and the Middle East combined. Israel raised $890 million of funds (up 33% from 1998) and South Africa raised $563 million (down 30% from 1998).

- **VC investment ….**

- **…. by industry** - In the US and Europe, more than half of all venture capital is invested in companies dealing with computers, communication technology and consumer-related products[5] (US 1998: Comp/Software 34%; ICT 17%; Europe 1999: Consumer-related 19%; ICT 12%; Industrial products 12%; computer 11%)

Figure 1: Average share of VC invested in high-technology sectors, 1995-98 (%)



Source: OECD 2000 b (based on NVCA and EVCA data)

- **…. by "stage"** - In Europe, only 11% of the amount of venture capital invested in 1999 was used for a *start-up businesses*. Almost 53% of venture capital invested is used to acquire existing firms (buyout). About 30 % is being used to expand companies. (www.evca.com)
- **….and expenditure on R&D as % of GDP** – R&D spending exceeds VC investment by far (see Table 2)

[5] A definition of "consumer-related products" is not available; about 19% of European venture capital and almost 7% of American venture capital is invested in this category.

Table 2: Expenditure on R&D and VC investment as % of GDP

Country	**Expenditure on R&D (% of GDP); 1987-1997**	**Venture Capital investment in firms (% of GDP), 1998**
Canada	1.66	0.165
United States	2.63	0.162
Netherlands	2.08	0.16
United Kingdom	1.95	0.13
Belgium	1.6	0.105
Norway	1.58	0.103
Finland	2.78	0.10
Hungary	0.68	0.085
Poland	0.77	0.07
Germany	2.41	0.065
France	2.25	0.063
Sweden	3.76	0.058
Switzerland	2.6	0.057
Ireland	1.61	0.05
Portugal	0.62	0.045
Italy	2.21	0.044
Australia	1.80	0.041
Spain	0.90	0.038
Denmark	1.95	0.025
Austria	1.53	0.019
Greece	0.47	0.017
Czech Republic	1.2	0.015

Source: NVCA, EVCA.

6. Determinants of venture capital

One of the key messages of this paper is that many factors need to be in place for venture capital to work and flourish. Access to a stock market is key, like the *National Association of Securities Dealers Automated Quotations System* (NASDAQ) and EASDAQ. They are chosen by many start-up companies that want to go public (WESS 1999).

If we ask what some developing countries may do to attract venture, the answer is that they would need to do a number of things. An NBER paper by Gompers/Lerner (1999), the ECONOMIST (2000) and the World Economic and Social Survey (1999) identify key factors that determine venture capital flows. The most important determinants include:

- Highly educated people who generate marketable ideas
- Access to stock markets

- Stable economic and political environment
- Regulatory framework (low capital gains tax; provisions that allow institutional investors like pension funds to invest in venture capital funds)
- Corporations with an interest in technology
- Large size of domestic market
- Experienced venture capitalists

C. Experiences and policy recommendations

7. Venture capital and developing countries

It is unlikely that venture capital could play a decisive role in a majority of small and poor developing countries. First, many countries lack a functioning stock market or access to it. A stock market is a key precondition for venture capital because venture capitalists need to float their company to cash in gains in the end. Secondly, few countries have enough highly-skilled people who can generate ideas that are marketable. If highly-educated people in developing countries come up with an idea it will be rather them going to the US or Europe than venture capital flowing into their countries. Thirdly, most developing countries or even transition economies lack a stable business environment that venture capitalists thrive on. It would be inconceivable to think of venture capital in Burkina Faso or Colombia.

8. India and Israel – how to start a venture capital industry from scratch

The case-studies India and Israel show that some developing countries may successfully create a venture capital industry in their country through government intervention. Israel was able to introduce a venture capital industry during the 1990s; India has started to attract venture capital in the late 1990s. In both countries, the government played an important role in this process. To begin with, Israel and India can offer an environment that is conducive to venture capital. First, both countries have excellent ties and contacts to countries with a stock market. Israel has good connections

in NYC. Israel and India have strong ties to Silicon Valley. Second, both countries educate a significant number of highly-skilled people. Third, both countries have a relatively reliable business environment (although this might be subject to short-term change, as can be seen in Israel right now; peace in South Asia is also an issue).

Israel has become the most exciting focus for high-tech companies outside California and Boston's Route 128. In 1986, there were only two venture funds with total investable assets under $30 million in Israel. Today, there are about 150 VC firms that manage $6 billion, up from 80 venture capital firms managing $3billion in 1999.[6] One of the driving forces behind this development was venture capital. In 1993, the Israeli Government set up the Yozma venture capital company to act as a catalyst for an emerging venture capital industry. Yozma had a budget of $ 100 million (WESS 1999). It invested in local companies and attracted foreign capital from Europe and the US. The Yozma fund is a showcase for the state-led emergence of a functioning venture capital and high-tech industry. In 1997, all venture capital funds in Israel raised a combined $ 578 million, up from only $ 58 million in 1991. In 2000, this figure may well exceed $3 billion (see tables 9 and 10 in the appendix). When Israel started to privatize many nationally owned businesses during the Netanyahu years, the government-owned Yozma fund, too, was sold at a considerable profit to a private owner in 1997.[7]

In India, venture capital did not really exist before 1998 when it exceeded $100 million for the first time. However, the Indian government started to toy with the idea of getting venture capital into the country as early as 1973. A government committee that was making recommendations on how to develop SMEs at the time pointed to the role of venture capital for small businesses. In collaboration with the World Bank, the Indian government developed policy guidelines for venture capital in the late 1980s. Detailed regulation for risk capital was not introduced before 1995, however, when India wanted to attract venture capital from overseas. Since then, about 20 domestic venture capital funds registered between 1996 and 2000 (www.nasscom.org). In 1999, venture capital investment in high-tech firms in India was about $320 million. The National Association

[6] See "*Encouraging venture capital for development in developing and transition economies*", note distributed by Kenneth Rind, Israel Infinity Inc, Dec. 11, 2000.

of Software and Service Companies (NASSCOM) hopes that up to $10 billion of venture capital will come into the country by 2008. To stimulate venture capital the Indian government committed to set up a National Venture Capital Fund for the Software and IT Industry (NFSIT). At this point it is not clear what kind of funding the government wants to provide.

Other countries that could develop a venture capital industry are perhaps South Africa (already in the making), maybe Mexico, Chile or Brazil (current economic crisis not suitable for venture capital). It would be interesting to explore to what extent countries of the Arab Peninsula could develop a venture capital industry. Some of these countries, like Saudi Arabia or Kuwait, do have enormous financial resources available plus a solvent, albeit not large, market to sell goods. It needs to be discussed if they could educate a sufficient number of qualified people to trigger a process of innovation.

[7] *The growing business: The development of a venture capital industry lies behind the economic successof a new breed of high-tech Israeli company*, Financial Times, April 30, 1996, p. 14. and *Doubts exist over benefits of sales*, Financial Times, March 26, 1998, p. 2.

D. Venture capital – The new market mechanism for technological innovators

9. Summary and concluding remarks

Total amount and distribution. VC and private equity combined has reached about $136 billion in 1999. 93% of these resources are concentrated in the United States and Europe. Total numbers for 2000 are expected to be even higher. Distribution has not changed.

New market mechanism. VC industry has created a market mechanism that allows the private sector to finance innovative business ideas, often in high-tech industries, that nobody else would have financed otherwise. Therefore, VC has been crucial for technology innovation in the late 1990s. Especially in the US, VC was easily accessible to many small start-up companies that often focused on developing only one product. Without VC most of these companies would not have gotten any financial support.

Capital-intensive research agenda. The renaissance of VC occurs at a moment when technology research activities are becoming capital-intensive. More R&D resources than ever originate in the private sector.

VC – benefitting the innovators, missing out the excluded. A functioning and flourishing VC industry exists in countries that belong to the "technological innovators" category (*Jeff Sachs*) (US; Western Europe). It is about to spread to countries in the "technological adopters" category (India, Israel, South Africa, East Asian countries excluding China); the technological excluded do not have any access to venture capital (rest of the world).

New alliances and institutions – Venture capital firms raise funds from public and private pension funds, foundations, universities, insurance companies, governments etc. Large corporations have developed their own VC arms. VC firms and business angels do

not only channel the money to businesses. They are also involved in corporate decision-making. The "incubator" was created to boost start-up businesses.

Three myths about VC

- *Only start-ups receive VC* – not true. Many VC firms invest in or buy entire companies at various stages of their business life cycle.
- *VC is invested in high-tech companies* – not true. VC is also invested in transportation, financial services or any industrial products.
- *VC is always high-risk investment* – not always true. By and large, US VC firms take a higher risk than European ones. Americans comparatively invest more money in start-ups; Europeans engage in MBOs or MBIs (management buyout/buyins)

Attracting VC – Policymakers in certain countries can attract VC. Israel and perhaps India were able to create a flourishing VC industry, leading to ever increasing amounts of VC and the establishment of a significant high-tech industry. Keep in mind, that money is not everything. Experienced venture capitalists and an abundance of smart business and technology ideas are key ingredients for VC to work. Countries in South-East Asia, South Africa, Brazil or Mexico, some transition countries in CEE or even CIS, and some of the rich Gulf states could think about policies to attract venture capital.

VC and human development - The venture capital industry is profit-driven, not value driven. Social concerns have not played a role in any investment decision so far. It is possible that a venture capital financed enterprise makes an innovation, say in health technology, that has a positive impact on human development. It is conceivable that there will be spillover effects.

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Appendix

Table 1: European private equity investment portfolio (at cost, net of divestment)
Euro, billion

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
14.825	18.374	20.373	20.857	23.120	25.108	27.286	32.785	40.594	58.350

Source: EVCA 2000, www.evca.com

Table 2: US private equity investment portfolio and venture capital, 1993-99
$, billion

Year	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**
Total private equity	21.95	30.93	41.08	45.16	73.79	105.44	108.1
Venture capital	3.94	7.18	8.22	10.55	15.68	27.95	46.55
VC as % of total private equity	18%	23%	20%	23%	21%	26%	43%

Source: NVCA 2000 www.nvca.com

Table 3: Venture capital investments in the United States made from 1990 to 2000

Year	No. of Companies Funded	Investment Total ($millions)
1990	1316	3253.59
1991	1086	2429.80
1992	1291	5053.69
1993	1150	4903.88
1994	1186	5252.48
1995	1321	5456.70
1996	1998	11178.40
1997	2697	17405.91
1998	3153	21687.22
1999	3962	59531.01
First half of 2000	3515	54717.31

Source: www.nvca.org/ (November 1, 2000)

Table 4: Venture Capital Pool in Asia, 1990 – 1995
(constant 1990 US dollars, millions)

	1990	**1991**	**1992**	**1993**	**1994**	**1995**
China	113	176.6	817.5	1,285.7	2,102.3	2,965.7
India	98	89.2	99.2	113.2	171.3	266.7
Indonesia	23.6	65.4	45.9	73.5	160.6	213.7
Malaysia	18.1	58.8	115.2	124.2	133.1	379.6
Philippines	15.3	12.4	20.3	42.7	55.2	108
Sri Lanka	7.2	6.4	13	14.8	34.7	57.8
Thailand	42	53.1	70.8	73.1	81.9	143.3
Vietnam		9.6	20.9	118.9	217.8	259.9
Developing Asia Total	**317.2**	**471.5**	**1,202.8**	**1,846.1**	**2,957**	**4,394.7**
Hong Kong China SAR	1,806	2,049.9	2,473.0	2,798.0	5.323.6	6,898.8
Japan	11,024.3	13,616.8	14,301.3	16,174.2	16,752.2	19,068.7
Republic of Korea	1,291.1	1,439.3	1,489.8	1,537.1	1,692	2,984.3
Singapore	699.4	754.2	814.1	909.2	1,592.3	3,686
Taiwan	304.2	346.8	429.9	459.1	506.2	837.1
Industrialized Asia Total	**15,124.9**	**18,207**	**19508.1**	**21,877.9**	**25,866.4**	**33,474.9**
All Asia Total	**15,442.1**	**18,678.5**	**20,710.9**	**23,724**	**28,823.4**	**37,869.6**

Source: Aylward, World Bank 1996

Table 5: Venture capital fundraising in Europe by country in 1997, $ billion Euro

United Kingdom	12.245
Germany	2.573
France	1.078
Italy	1.072
Sweden	0.984
Netherlands	0.859
Spain	0.408
Finland	0.230
Belgium	0.190
Norway	0.077
Switzerland	0.076
Austria	0.061
Greece	0.056
Portugal	0.052
Ireland	0.029
Iceland	0.008
Denmark	0.002

Source: Venture Capital Handbook 1999

Table 6: Venture capital fundraising in the USA by region in 1999, $ billion

Northeast	16.62
Northern California	16.22
Mid-Atlantic	4.59
Southern California	3.03
Midwest	2.6
Southwest	1.15
Rocky Mountain	1.13
Southeast	0.82
Northwest	0.34
Total	46.54

Source: NVCA

Table 7: Venture capital investments by industry, Europe, 1999 (%)

Consumer	18.8
Communications	11.6
Industrial products and services	11.6
Computer related	10.8
Other manufacturing	9.1
Other services	8.2
Other	6.2
Chemical	5.3
Medical	4
Transportation	3.4
Biotechnology	2.6
Construction	2.5
Electronics related	2.1
Financial services	1.8
Industrial automation	0.9
Energy	0.8
Agriculture	0.4

Source: EVCA 2000

Table 8: Venture capital investments by industry, United States, 1998 (%)

Computer Software & Services	33.9
Communications	17.3
Medical	13.9
Other products & Services	10.1
Consumer related	6.8
Biotechnology	6.4
Semiconductors/Other electronics	5.2
Computer hardware	4.5
Industrial/Energy	1.9

Source: NVCA 2000 (www.nvca.com)

Table 9: Technology venture capital funds in Israel, 1991 to 1997
Capital raised by year (estimated), (million $)

Technology Venture Capital Funds	1991	1992	1993	1994	1995	1996	1997
Yozma Funds	-	-	149	40	15	20	5
Private Funds	49	29	49	86	64	267	573
Public & other Funds	9	88	22	0	0	0	0
Total	**58**	**117**	**220**	**126**	**79**	**287**	**578**

Source: Israel Venture Association 1998 Yearbook, p. 93.

Table 10: Venture capital raised by Israeli startups (US$ millions)

Period	**Israeli VC funds**	**Foreign VC funds**	**Total**
1Q 1999	76	93	169
2Q 1999	99	123	222
3Q 1999	121	157	278
4Q 1999	140	203	343
1Q 2000	217	460	677
2Q 2000	261	349	610
3Q 2000	381	677	1,058

Source: The Industry Standard, October 30, 2000, p. 59. [Zinook Research and Data Center]

Table 11: Venture capital in India, 1996 – 2008 (million Rs and US$)

Year	Rs. Million	U.S. $ million
1996	700	20
1997	3,200	80
1998	6,100	150
1999	14,000	320
2000*	32,000	750
2001*	50,000	1,200
2008*	450,000	10,000

Source: www.nasscom.org/ * projections

Table 12: Venture capital in India. Investment by states in 1998, (million Rs)*

States, Union territories	1998	
	Rs. Million	Number of projects
Maharashtra	2,928.12	167
Tamil Nadu	1,802.35	121
Andhra Pradesh	1,607.13	92
Gujarat	1,597.67	54
Karnataka	1,312.61	106
New Delhi	970.20	27
Haryana	318.59	20
West Bengal	297.97	23
Uttar Pradesh	246.24	26
Madhya Pradesh	238.43	12
Punjab	125.70	7
Kerala	125.52	15
Rajasthan	114.29	11
Goa	111.80	15
Bihar	63.50	4
Orissa	34.90	5
Dadar & Nagar Haveli	32.50	1
Himachal Pradesh	28.00	3
Pondicherry	22.58	2
Overseas	581.75	17
Total	**12,559.85**	**728**

Source: http://venturefundindia.mit.gov.in/new_vcf.htm

* according to the source, 42 Rs are equivalent to 1 US Dollar.