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Venture Capital for Knowledge Economy

Analytical Compendium

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I. State of the Art

Ferrary and Granovetter (2009) refer to **Silicon Valley as innovative cluster which is based on complex network theory**, meaning that economy is a complex network, where the agents (various firms) are linked with financial and economical ties (Ferrary & Granovetter, 2009). According to Ferrary and Granovetter (2009) venture capital inspires interaction among the innovative cluster's agents. In the perspective of Silicon Valley complex network, **venture capital has five main functions** (Ferrary & Granovetter, 2009):

- 1) **financing** (it is the main function of venture capital to provide financing for the start-up, thus they are able to pay salary for the employees, as well for contractors, such as lawyer and consulting firm are);
- 2) **selection** (venture capitalists screen a lot of innovative ideas and very few business plans are selected for the financing);
- 3) **collective learning** (venture capitalists are quite settled, they work for one company for the long time, their experience and knowledge they have, can share with the entrepreneur whose business plan they are financing);
- 4) **embedding** (meaning that social ties in complex network is essential in success start-ups. The more entrepreneur is embedding in the complex network the more resources will be available from the cluster);
- 5) and **signalling** (innovative companies usually is associated with high risk, and many services provider (agents) are reluctant to have business with such companies, but in the other hand, reputation of venture capitalists who are financing such companies signals to other agents of Silicon Valley that it is quite reliable partner).

(Venture capital a tool in fostering innovativeness of tenants of science and technology parks, pg. 3)

A successful venture capital industry is not easy to create. **Of the 36 economies** with a national venture capital association, **fewer than 10 have industries of any significance**. As an institution, venture capital is quite fragile and requires a number of preconditions for emergence and growth.

The most important single factor for explaining the development of a vibrant venture capital industry is **availability of investments capable of providing sufficiently large returns to justify the high risk**. In other words, there must be a sufficient supply of opportunities capable of supporting a community of venture capitalists. If the number of venture capitalists is insufficient, a downturn in the economy and the failure of a few could lead to the collapse of the industry. In other words, without a sufficient number of deals, it might be possible to establish a venture capital industry, but the industry would not be sustainable.

Context is also important. There should be a relatively **transparent and predictable legal system** that offers some **protection to investors**. If foreign investors are to be encouraged, then **currency convertibility** is important. It is also necessary that a portion of the **labor force be well educated and capable of managing start-up firms** through the rapid growth process. All of these attributes appear to be in short supply in a number of East Asian countries. Venture capital requires that entrepreneurs be willing to sell significant amounts of equity to the venture capitalists and **be prepared to share control**.

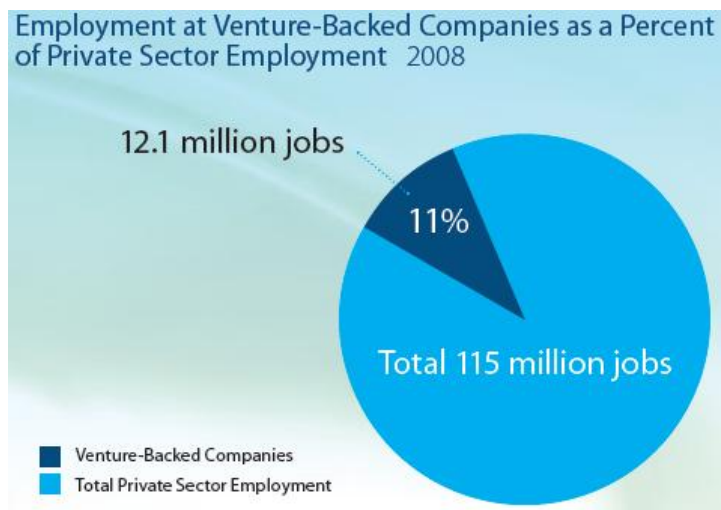
In economies where many or most of these conditions are missing, it will be difficult to create a vibrant venture capital industry capable of supporting small start-up firms. There may be a financial sector that labels itself as venture capital industry, but it will differ significantly from our deal type. Moreover, this venture capital industry is unlikely to exhibit the dynamism experienced by the **classic venture capital industries** in economies such as **Israel, Taiwan (China), the United States**, and—more recently—**India**. **(Venture capital industries, pg. 11)**

Countries and regions continue to display **strong segmentation in their venture capital markets**, reflecting a **host of national barriers**. The entire range of public funding mechanisms for science and research activities is heavily restricted to within national borders. Countries with substantial public venture capital involvement tend especially to find themselves confronting severe limitations in their investment

strategies. Public investors in venture capital likewise continue to be marked by **traditional obligations to ensure that invested capital resides in companies within their national borders**. As a result, such investment strategies tend in practice to be at odds with the internationalisation trend. Among other things, this situation prevents public investors from interacting efficiently with the more internationalised investors in the private market. (*The Role of Venture Capital, Global Trends and Issues from a Nordic Perspective*, pg. 61)

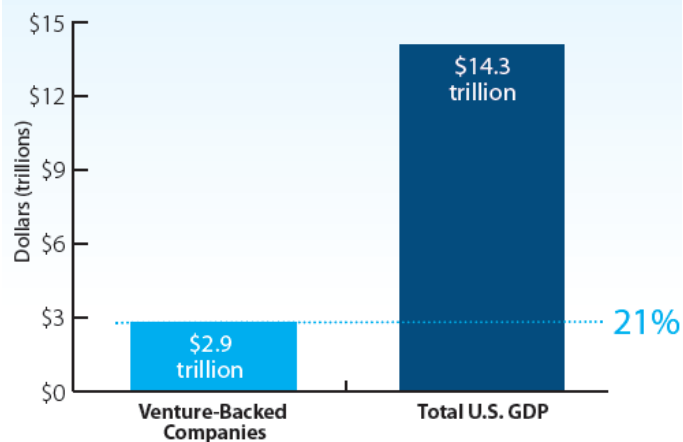
Access to seed financing is crucial to the growth platform of new young companies and the venture capital market as a whole. **Seed financing is highly profitable to the overall economy**. But markets are prone to rapid shifts following changes in investment or market sentiments, which makes the supply of finance to potential high-growth companies in the early stages of development distinctly erratic. As for venture capitalists, one of the greatest benefits deriving from their activity is the ability among investors to alter the balance between risk and growth prospects. As discussed, they have a high capacity to shift risk away from the single entrepreneur onto a diversified investment portfolio. On the other hand, venture capitalists are **not willing to back ventures subjected to genuine uncertainty**; they do not let innovators and entrepreneurs have it their way in trying out **blue sky projects**. In addition, the recent years' development in markets has turned investors more risk-averse and venture capitalists have been shunning earlystage investments. (*Op.cit*, pg. 91)

Venture capital activity entails opportunities to restructure regional markets and respond to growing transnational demands. Mechanisms and means for such adaptation are often lacking. Despite the tendency towards a measure of global convergence in today's markets, developments towards integrated industries are hindered by discrepancies in **national legal systems, public support systems and investment cultures**. Relatively small domestic markets may make countries more prone to welcome collaboration across borders and may serve as an advantage in triggering initiatives and reforms that improve openness and learning. **Private businesses from Denmark, Finland and Sweden currently collaborate intensively with local players and companies in neighbouring countries**. At the same time, the presence of remaining multiple barriers – even within the realm of a single megalopolis such as the Öresund region – accounts for a slow integration process in an area at the very heart of competency generation for new growth industries and restructuring processes marked by high value-added. Major results appear realistic only in the long term. (*Op.cit*, pg. 93)



(*The Economic Importance of Venture Capital-Backed Companies to the U.S. Economy*, pg. 11)

Revenue at Venture-Backed Companies Relative to U.S. GDP



(Op.cit, pg. 12)

Venture-Backed Company Employment as a Percentage of Total Industry Employment Top Five Industry Sectors - 2008

Industry	Venture-Backed Employment	Total Employment	Venture-Backed Companies Share of Employment
Software	817,166	1,008,929	80.99%
Telecommunications	736,961	994,862	74.08%
Semiconductors	309,437	418,998	73.85%
Networking and Equipment	392,505	668,058	58.75%
Electronics/Instrumentation	271,224	528,148	51.35%

Venture-Backed Company Revenue as a Percentage of Industry Revenue Top Five Industry Sectors - 2008

Industry	Venture-Backed Revenue (millions)	Total Sector Revenue (millions)	Venture-Backed Companies Share of Revenue
Electronics/Instrumentation	\$129,597	\$193,427	67.00%
Semiconductors	\$86,776	\$157,660	55.04%
Telecommunications	\$256,136	\$501,729	51.05%
Biotechnology	\$209,358	\$444,028	47.15%
Computers and Peripherals	\$315,054	\$711,331	44.29%

(Op.cit, pg. 15)

Ernst & Young's Global Venture Capital Report 2007 provides some numbers to support the headlines. In 2006, venture capitalists invested almost \$2 billion in China, a growth rate of 58%. Growth continued into the second quarter of 2007, with twelve new funds raising a total of \$ 2.36 billion (Zero2IPO, 2007). Foreign VC funds (primarily from the US but also from Taiwan) continue to play the key role, representing 89% of the total VC investment in China during that period. (**Governing the Global Knowledge Economy: Mind the Gap, pg. 18**)

Another way of saying that integration is limited is that **there is a higher level of home country bias in this area of finance than others**. Indeed, the **bias often goes beyond the country**: “**friends and family**” investors are limited by social relationships; **angel investors** often stick to their own geographical regions; and many venture capitalists notoriously adhere to the “**no connecting flights**” rule. Because the payoffs of investments in innovation take a long time to materialize and the indicators of potential success are so subtle, investors prefer to keep **a close personal eye on their interests** so that they can provide input and exercise control at key junctures. Even multinational firms, which have a full suite of tools available for virtual oversight of far-flung technology projects, still display a **headquarters bias in R&D** in part for these reasons. (*Op.cit*, pg. 29)

Large firms such as Cisco, Intel and Microsoft also provide venture capital to start-ups. The changing innovation process has brought small start-up firms to the fore, as they are exploring new frontiers (electronic commerce, genetic engineering) and developing specialised niche markets. The United States’ experience contrasts somewhat with that of Europe. Many European Internet companies are spin-offs of existing (telecommunications) enterprises. This may partly be linked to **different conditions for start-ups in Europe and the United States** (Nicoletti et al., 1999), but may also reflect a need in Europe to develop more flexible structures outside the control of existing firms, as existing firms may be too rigid. (*A New Economy: The changing role of innovation and information technology in growth*, pg. 39)

Nearly one third of the budget of the Competitiveness and Innovation Framework Programme (CIP) is allocated to financial instruments that aim to facilitate SMEs’ access to finance. They complement financial schemes at national level.

With a **total budget of over € 1.1 billion** for the period 2007- 2013, the CIP Financial Instruments should enable financial institutions to provide about **€ 30 billion of new finance** for up to 400 000 small and medium businesses in Europe. More than 360 000 SMEs have benefited from predecessor programmes. These instruments, which are part of the Entrepreneurship and Innovation Programme under CIP, address SMEs’ needs for financing at various stages of development. They cover areas of the market where there are few private investors, mainly the **seed, start-up, expansion and business transfer phases**. These instruments increase the investment volumes of risk capital funds and provide guarantees for lending to SMEs. (*What is CIP: Increasing competitiveness through innovation*, pg. 4)

The Lisbon Programme notes that the limited availability of finance is an obstacle in setting up and developing businesses in Europe. A Eurobarometer poll published in 2005 showed that **many small- and medium-sized enterprises (SMEs) find it increasingly difficult to obtain bank loans**. In response to the question as to what would best assure the development of their company, fourteen percent of 3,047 interviewed SMEs in the EU-15 stated easier access to means of financing. The results of the fourth community innovation survey (2004) support country specific surveys and shows that **23.6%** of a sample of 70,623 interviewed innovative firms in the EU-27 **complain about innovation costs being much too high**; thus this is an important factor of hampering innovation activities. (*Financial systems and innovations – determinants of early stage venture capital in Europe*, pg. 4)

A crucial factor in sustaining growth on a long term basis is the existence of universities and business schools in close proximity such as UCLA & Stanford. But, despite the existence of a lot of domestic students, 40% of all engineering and science PhDs go to foreign born students and it appears vital to attract this pool of mobile talent. California attracts a massive inflow of labour at all levels and virtually all the production activities are carried out by immigrant labour. Finance is also vital and venture capital, by allowing risk sharing, encourages risk taking. **Silicon Valley firms alone received 23% of all new venture capital investment, by far the largest share of any US region**. (*Regional competitiveness and the role of the knowledge economy*, pg. 32)

After the 1990s crisis, reforming the banking system and strengthening the capital markets, including **venture capital**, were important to make financing available for the growth of the new knowledge-intensive sectors of the economy, particularly the ICT cluster. Moreover, the financial and economic restructuring that took place after the crisis broke the traditional banking-led relationships including with Germany and Japan and led to a **more dynamic and open financial system led more by stock market**

capitalization. The financial restructuring also included the liberalization of capital accounts and the removal of restrictions on foreign investment. These two actions did not occur until 1993, when Finland joined the European Economic Area, and they were fundamental in transforming the economy. By 2000, **67 percent of the shares of the Helsinki stock exchange were foreign owned** as were more than **90 percent of Nokia's shares.** (*Finland as a knowledge economy*, pg. 17)

Angel Investing in the United States

The US being the most hit by the crisis, saw an **overall rise in number of companies that received Angel funding in 2009**, with the total dollar amount of **investment falling by 8.3%** over 2008 to USD **17.6bn.** **57,225 entrepreneurial ventures** received Angel funding in 2009, a reserved **3.1% increase** from 2008 whereas the number of active investors in 2009 remained unchanged at 259,480 from 2008. A decline in the deal size by 11.1% as compared to 2008 indicates that while Angel investing activity has not significantly decreased, the overall commitment is of lesser dollars, backed by lower valuations and a cautious approach to investing.

Angel Investing in Europe

Based on a study conducted by **the European Business Angels Network (EBAN)**, the market consisted of **334 networks** in 2009 with an estimated **75,000 Angels** in the region. Around €3.0 - 5.0mn was invested in the European business Angel market. In 2008, the more mature Angel markets such as the United Kingdom (except Scotland), Sweden, Germany, Belgium, Italy and the Netherlands experienced a **decrease in the number of Angel networks.** The fall in the number of networks is largely attributed to the **gradual professionalization of the industry**, where the **less performing networks cease to operate** after the first few years. (*Angel and venture capital investing in MENA vs. Developed Countries*, pg. 12)

Venture Capital investment in 2008 was down 8.0% in the United States and 12.8% in Europe compared with 2007, but both were still higher than 2006 levels. In 2008, more Venture Capital in value terms was invested in seed, start-up, and early stage companies in the United States than in Europe. The number of companies that received VC investment in the US was much smaller compared to Europe, lending the average investment size to be larger. (*Op.cit*, pg. 14)

Venture Capital Investment in 2008

Year 2008	USA	Europe
Seed, Start-up & Early Stage	\$6.68	\$3.95
No. of Invested Companies	1,462	3,701
Average Investment Size	\$4.57	\$1.07
% of GDP	0.05	0.02

Venture Capital Investment Stages

Seed, Start-up & Early Stage	24.2%	39.5%
Expansion & Later Satge	75.8%	60.5%
	100.0%	100.0%

(*Op.cit*, pg. 14)

Young technology companies are particularly interesting in macro-economic context as they develop radical technologies which may be the trigger for the development of new clusters. This is why they also grow quickly. According to a report from the **European Venture Capital Association, EVCA** (2006), during the period 2000–2004, companies financed by venture capital posted an annual growth in employment of **30 percent**, as against a **0.7 percent** growth within the overall economy throughout the EU area. The subsidiary group of venture capital-financed companies based on **spin-offs from university** environments posted an **annual growth rate of 60 percent.** The growth of employment involving companies with venture capital investors tends to be higher for the smallest and most knowledge-intensive businesses.

Studies from **Sweden** also confirm a pattern according to which companies with private equity grow more quickly. NUTEK (2005) shows that the companies in **Swedish Private Equity Funds'** portfolios had an annual growth in turnover of **21 percent** during the period from 1999 to 2004. In comparison, quoted companies grew by **7 percent**, whereas the growth for all Swedish companies legally bound to maintain accounting records was **1.5 percent**. (*Venture capital and innovation*, pg. 10)

Moreover, the difference between venture backed and non venture-backed firms is particularly marked among young, technology based enterprises, where annual growth rates amount to 70 % on average for venture backed companies compared to 10 % for a comparable sample of firms financed by nonventure investors (Kjærgaard and Borup, 2004). One conclusion to be drawn is that venture capitalists manage to combine the unique ability to "pick the winners" with the ability to make the winners grow. Consequently, both the quality and quantity of venture capital markets greatly influence the extent to which a society is capable of capitalizing on its strengths in areas such as ICT, R&D and human capital, and has great impact on economic growth throughout the world. (*The venture capital market*, pg. 21)

The Canadian venture capital industry has a significant impact on the economy

Between 1996 and 2007, venture capital investors financed 2,175 technology companies in Canada. 1,740 of those were operating in Canada in 2008. In addition, prior to 1996, it financed 15 companies that are still operating and have sales larger than \$ 50 million in 2008.

On average these 1,755 companies have sales of \$ 10.5 million and employment of 47 direct jobs each. They are a mix of small, medium and large companies.

In aggregate, they generate sales of \$ 18.3 billion:

- \$ 15.4 billion in ICT,
- \$ 1.9 billion in Life Sciences,
- \$ 1.0 billion in Other Technologies.

They employ **63,955 people in Canada** and **17,760 abroad**. In addition, they generate **83,549 indirect jobs** in Canada for a total of 147,504 direct and indirect jobs generated in Canada which represents 1.3% of all private sector employees in Canada.

(Why venture capital is essential to the Canadian economy, pg. 4)

According to a study by Josh Lerner¹², "by the end of 2004, **venture-backed firms that had gone (and remained) public** made up over **14 percent of the total number of public firms in existence in the United States at that time**. And of the total market value of public firms (\$21 trillion), venture backed companies came in at \$2 trillion—**9 percent**. Venture-funded firms also made up over 4 percent (\$0.6 trillion) of total sales (\$13.9 trillion) of all U.S. public firms at the time and employed 3.5 percent of the total public company workforce—most of these jobs high-salary, skilled positions in the technology sector." In specific industries, the impact has been even higher: "For example, companies in the computer software and hardware industry that received venture backing during their gestation as private firms represented more than 75 percent of the software industry's value".

Another study¹⁴ that encompasses all venture-backed companies estimated that in 2006 "the **total revenue of venture capital financed companies comprised 17.6% (\$2.3 trillion) of the nation's gross domestic product (GDP)** and **9.1% (10.4 million) of U.S. private sector employment**". Moreover, employment in venture capital-backed companies **grew by 3.6% a year** between 2003 and 2006 when **total employment grew by only 1.4%**. (*Op.cit*, pg. 20)

For growth-seeking entrepreneurs, external financing becomes necessary when their initial funds have been exhausted. Knowledgeable private investors are critical for the launching of entrepreneurial businesses, but there is a serious and persistent lack of business angels and other seed investors in Europe. Business angel investments in Europe are estimated to be less than 10% of those in the United States.

The seed investment decision is based largely on subjective appraisal of the prospects of the entrepreneur. Accumulated experience is important in making such judgements, which is why individuals with a successful track record as entrepreneurs are often best-placed to evaluate and back new

opportunities. They should be encouraged to become investors – business angels. **Europe has too few business angels**, just as it has **too few private venture capital funds** that also invest in the seed stage.

The lack of seed investors is partly due to low returns that make such investments unattractive. The 10-year return on overall venture capital investments was **6.3% in Europe** compared with **26% in the US**. These **low rates of return clearly cannot generate the levels of private investment that Europe needs**. Yet the failure to develop seed and start-up investments in particular prevents new enterprises from reaching a size where they can attract expansion capital. Rigidities in product and labour markets reduce returns, and gaps in the financing chain prevent many start-up firms from achieving their growth potential. **(Financing SME growth; adding European value, pg. 20)**

Statistics have shown an **upward trend in European private equity and venture capital (PE/VC)** investments, notably since 2004. The buyout sector especially has been the driving force. In 2005, PE funds raised 71.8 billion EUR, up 2.5 times from 2004 levels; **PE investments totaled 47 billion EUR**, up 27% from 2004 and reached an all-time high (of the total amount invested, seed investments represented 0.2% by amount at 97 million EUR and 4% by number of investments; start-up investments represented 5% by amount at 2.3 billion EUR and 29% by number).

Over the last ten years, European equity markets as a whole have developed markedly. Investments by European PE and VC funds increased by more than eight times from 5.5 billion EUR in 1995 to a record 47 billion EUR in 2005 (of which 34.3 billion EUR was buyout and replacement capital and 12.7 billion EUR venture capital). Within the increasing venture capital amounts, the **major share continued to go to expansion capital** and a **smaller one to seed capital**. A modest positive trend is reflected in the share of VC investments as a percentage of GDP which in 2005 amounted to 0.11% (whereas buyout investments were 0.31% of GDP). Some countries with a more open market approach also have a higher share of private equity investment as a percentage of GDP (i.e. the **UK** and **Sweden** above **1%** in 2005, while the **European average** was around **0.4%** of GDP).

(Expert group report on removing obstacles to cross-border investments by venture capital funds, pg. 3)

The fragmentation of the European Union's venture capital markets **along national lines** seriously limits the overall supply of early-stage capital for innovative SMEs. There are currently **27 different operating environments**, the stage of development and maturity of VC markets varies and there are different conditions along with divergent national approaches, which adversely affect both cross-border fundraising and investing in innovative SMEs.

While operating across multiple borders is possible, it has become increasingly complex, costly and **smaller VC funds thus tend to avoid operating outside their home jurisdictions**. In smaller Member States and in jurisdictions where the VC market is new, funds face problems reaching the critical mass to spread their portfolio risk and cover their costs. Facilitating cross-border operations could help VC funds to overcome these hurdles, specialise, diversify their portfolio, increase the overall supply of early-stage capital and deploy their investments towards high-growth companies all over Europe.

Some Member States have more developed venture capital markets with functioning fund structures, while some other Member States still need to enable framework conditions. **A single venture capital fund structure** based on harmonisation **could be the optimal solution**, though having consulted industry and national experts this solution seemed not to be possible in the short-term.

There are naturally **arguments against cross-border investments**. Some established and functioning VC markets and some VC funds might have no need to consider cross-border deals, as they have sufficient deal flow locally and perform well. Such funds provide local solutions for firms seeking equity and if there are no bottlenecks in the investment cycle that would limit later investments and exits, these funds might not need to entertain any thoughts to make investments outside their jurisdictions.

(Cross-border venture capital in the European Union, pg. 3)

Venture capital is often complemented by stock options which allow new, cash-less firms to hire, retain and motivate highly skilled staff whom they could not otherwise afford. Stock options imply that executives and employees are taking on a considerable amount of individual risk. According to a survey by the National Venture Capital Association, **92% of venture-backed firms in the United States awarded stock options to their employees in 1996.** While they were initially mainly provided to high level senior staff, an increasing number of companies, small and large, give options to a large proportion of their employees, and sometimes to all. In the United States, stock options have become so important that they are estimated to have reduced compensation growth by one-quarter of a percentage point a year between 1994 and 1998 (Lebow et al., 1999). The use of stock options is expanding in other countries, if only to avoid a large gap in compensation with the United States. **(A New Economy: The changing role of innovation and information technology in growth, pg. 33)**

The CIP is divided into three operational programmes. Each of them has its specific objectives, aimed at contributing to the competitiveness of enterprises and their innovative capacity in its own areas, such as ICT or sustainable energy:

The Entrepreneurship and Innovation Programme (EIP), with a budget of € 2166 million, has as objectives:

- Better access to finance for SMEs through venture capital investment and loan guarantee instruments
- Business and innovation support services delivered through a network of regional centres: The Enterprise Europe Network
- Promotion of entrepreneurship and innovation
- Support for eco-innovation
- Support for policy-making that encourages entrepreneurship and innovation

The Information Communication Technologies Policy Support Programme (ICT PSP), with a budget of € 728 million, aims at:

- Developing a single European information space and strengthening the European internal market for ICT and ICT-based products and services
- Encouraging innovation through the wider adoption of and investment in ICT
- Developing an inclusive information society and more efficient and effective services in areas of public interest and improving quality of life

The Intelligent Energy Europe Programme (IEE), with a budget of € 727 million, aims at:

- Fostering energy efficiency and the rational use of energy sources
- Promoting new and renewable energy sources and energy diversification
- Promoting energy efficiency and new energy sources in transport.

(What is CIP: Increasing competitiveness through innovation, pg. 1)

“Enterprise Europe Network”: a network of business and innovation service centres

Enterprise Europe Network is a “one-stop shop” for the innovation and business needs of SMEs in the EU and beyond. It provides enterprises with a range of quality and free-of-charge business and innovation support services to help make them more competitive, such as:

- Information, guidance and customised assistance on EU funding opportunities, including in the Research area (FP7)
- Technology audits and technology transfer
- Business partner finding

(Op.cit, pg. 2)

RISK CAPITAL FOR INNOVATIVE AND HIGH-GROWTH SMEs

The **HIGH GROWTH AND INNOVATIVE SME FACILITY (GIF)** contributes to the establishment and financing of SMEs and reduces the lack of equity capital in the markets. GIF provides:

- **Risk capital for innovative SMEs in their early stages (GIF1)** - EIF can usually invest 10-25% of the total funds raised by the intermediary venture capital fund. Co-investment in funds and investment vehicles promoted by business angels, may also be available.
- **Risk capital for SMEs with high growth potential in their expansion phase (GIF2)** - EIF can invest 7.5-15% by the total funds raised of the intermediary venture capital fund.

The EIF can invest, exceptionally, up to 50% in GIF1 and up to 25% in GIF2 for new funds likely to have a particularly strong catalytic role. In both cases, the maximum commitment for a single fund cannot exceed € 30 m and the funds have to make investment decisions based on normal commercial criteria. A part

(more than € 160 million) of the overall budget of this facility is specifically earmarked for the support of eco-innovation oriented investment funds.

(Op.cit, pg. 5)

The new **JEREMIE** (Joint European Resources for Micro and Medium Enterprises) scheme has been set up with the support of the European Investment Fund (EIF) to **improve access to finance**, including micro-credit, in European regional programmes for 2007-2013. It can provide micro-credit, guarantees for both loans and equity and venture capital finance to SMEs. In the past, national and regional programmes supported by the Structural Funds have provided capital and other support in a less systematic way for micro-credit operations, for example, in disadvantaged urban areas. **(The European initiative for the development of micro-credit in support of growth and employment, pg. 13)**

Specialised as well as mainstream VCs are getting more active in the field as well. However, experts noted that up to now **VC investment in eco-technologies** amount to **14% in the US** compared to **2-3% in Europe**, partly due to the bigger size of single investments in the US. **(Seed finance for high-growth SMEs in eco-innovation, pg. 5)**

The Enterprise Europe Network offers support and advice to businesses across Europe and beyond and helps them make the most of the opportunities in the European Union. The services are specifically designed for SMEs. By the end of 2010, there were **78 framework partnership agreements** signed within the EU and **14 with CIP participating countries**. Additionally, there were 14 cooperation agreements signed with third countries (Japan, Tunisia and additional regions from China were added in 2010). Five more cooperation agreements are expected to be signed in the near future. The Network now covers the EU and, EEA countries and major economic areas such as USA, Russia, South Korea, Japan and China. It is present in 48 countries and has 589 partners in total. An amount of € 64,710,000 has been committed to cover part of the network grants for the second operational cycle within the same framework partnership agreements. An amount of € 3.5 million was originally planned for Network animation; € 700,000 of this amount was reallocated to Network grants. Nearly 100% of this budget has been committed. **(2010 EIP Implementation report, pg. 6)**

At the 2009 EIB Conference, Laura Bottazzi (Bologna University) reviewed the role of venture capital in financing new dynamic firms in Europe. On the basis of her own research, Bottazzi finds that **venture capital in Europe is not associated with particularly dynamic or successful companies, whether one looks at sales growth or employment**. This stands in contrast to US experience, where venture capital has tended to accompany the formation and growth of dynamic companies. A **key factor in the effectiveness of venture capital appears to be its own human capital**. Human capital affects the level of activism of venture capitalists and thus the value added that they bring to the firms they invest in. This points to the **importance of postgraduate education for the level of professionalism** in the European venture capital industry. **(The knowledge economy in Europe, pg. 29)**

Black and Gilson (1998) argue that **stock markets are important for the development of venture capital finance** because with initial public offerings of venture-capital backed firms, the venture capitalists can build reputation more easily and, thus, they can raise capital from outside investors at more favourable conditions. **(Explaining the regional distribution of new economy firms, pg. 9)**

Interorganizational learning is therefore also a process of intercultural learning. As such, it entails managing the costs and benefits of diversity. Adler (1997), for example, points out that **diversity offers the opportunity for greater creativity and clearer, sharper thinking, because the partners need to probe each other's thinking**. It also entails the greater **risk of misunderstanding and tension because the partners cannot build on previous shared mindsets, common values and language**. The entrepreneur is likely to find that the **venture capitalist will not appreciate the intricacies of the new business idea** and may misjudge it by comparing it to a project in a different industry he or she is more knowledgeable about. The venture capitalist is likely to be operating under **different time frame expectations** than the entrepreneur and be impatient with the entrepreneur's attitude towards plans and objectives. If the two individuals— or teams--as representatives of their two organizations cannot share

knowledge and achieve an understanding of their different perspectives, the relationship is likely to be unproductive. (*Interorganizational learning in the knowledge economy*, pg. 2)

Government subsidies can also cause market distortions if there is a chance for opportunistic behaviour on either side. Lerner (2002) submits four demands for government venture capital:

- i. Cooperation with private venture capitalists is essential and bureaucrats' decisions should adapt in industry context.
- ii. Government venture capital should focus on funding companies that don't meet private capital because of high-risk technology.
- iii. Bureaucrats need to understand high uncertainty in venture capital and required post-investment activities.
- iv. Public sector actors must have same criteria in investment decisions as private investors to distinguish best ventures from underperformers.

(*Performance of the government venture-to-capital activity*, pg. 5)

Venture capital investors' ability to add value in portfolio companies would primarily appear to be related to the provision of three distinct factors: fuel, management and complementary input.

- Competent owners **provide capital in the right amounts at the right time**, – the rate of innovation and growth increases.
 - Competent owners **provide strategic and financial competence and manage portfolio companies**, – this enhances overall effectiveness and increases the rate of growth.
 - Competent owners **communicate closely with management in the portfolio companies, providing relevant competence and networks** – this strengthens companies' ability to realise their strategies.
- However, there is not enough venture capital available during the companies' first phase, paradoxically the phase during which the value of such an investor is greatest. This system-related weakness can only be lessened through policy measures or public sector funding. (*Venture capital and innovation*, pg. 26)

Venture capitalism is an institutional and systemic innovation that combines and articulates a number of local innovations in the organization of knowledge based transactions. As such it provides a partial remedy for the traditional market failure in **allocating the correct amount of resources for generating new knowledge**. Venture capitalism has major systemic effects in terms of higher levels of selection and dissemination (and indirectly creation) of technological knowledge within the economic system. While trade of knowledge as a separate good may be difficult because of its well-known limitations, it can be bundled with complementary goods and then traded. These mechanisms trigger **increased levels of incentives** for research activities, with clear positive effects on division of labour in generating new technological knowledge, specialization, and productivity of knowledge-generating activities. Venture capitalism has thus played an important role in increasing the **birth of new high-tech firms** together with its central function in **favouring the social generation and exploitation of knowledge**. (*Knowledge-intensive property rights and the evolution of venture capitalism*, pg. 17)

Moreover, while the **government** can address some underlying issues – such as access to venture capital and skills – it **cannot easily address the problem of market size**. The US has a huge, wealthy and diverse internal market with a common language. Europe has made significant progress to reducing internal trade barriers, but still has to fully liberalise services and differences in language and institutions remain important informal barriers. This fact in turn raises the possibility that the apparent 'fragility' of gazelles in the UK is simply because owners of successful gazelles either sell them on or sell on an original idea to large firms who are better able to exploit and develop early innovations. Such a linkage is more likely through the collaborative networks that may be becoming more common in the knowledge economy. According to a recent EU Commission paper accompanying the European Small Business Act, it has been suggested that part of an **efficient innovation system might be one where gazelles pioneer and develop new ideas and established players then develop them for mass markets**. (*Knowledge economy and enterprise*, pg. 38)

The **growth of biotechnology firms** hinges not only on **structural** but also on **cultural adaptations**— that is, not merely on their embeddedness within relational networks (Powell et al., 1996; Powell et al., 2005) but also on their capacity to institutionalize academic norms, where the latter provide strategic

means with which to attract and retain top-quality scientific expertise and, in turn, venture capital as well. This point compares intriguingly with recent findings reported by Owen-Smith (2003), indicating that the success of academic institutions increasingly rests on their **ability to deploy hybrid strategies for growth**, commercializing their scientific research and using such assets to support academic pursuits. The equivalent point may be true for biotech firms as well. The suggestion that emerges here is that managers and administrators on either side of the university–industry divide are increasingly led to adopt similarly hybridized strategies, combining previously distinct logics to achieve organizational goals. **(Contradiction, convergence and the knowledge economy, pg. 22)**

Of particular importance is the Lisbon target of 3% of GDP spent on R&D by 2010. As argued above the Knowledge Economy must increase rates of innovation which is unattainable without additional levels of investment available to firms. This investment comes in three forms, **capital, skills and ease of market access**. It must become easier for firms with high innovation potential to access capital more quickly. Levels of venture capital funding need to be increased especially given the South East's spatial advantages and track record. Perhaps major lending institutions could be encouraged to develop regional strategies with greater network dynamics to be encouraged between different lending sources. This will develop the current attempts to build **funding 'escalators' for new and growing businesses**.

Clearly existing initiatives such as **Enterprise Hubs and Enterprise Gateways** and the **South East Regional Business Support Board** are excellent ways of encouraging young companies to start and then grow. These mechanisms aid networking, knowledge transfer, ease of access to capital and fast track building of competence. But more can be done. More noise needs to be made around successes. Regulations from central Government and Europe need to be smarter to enhance further the ability of individuals to start businesses and sustain them. **(The 21st century and the knowledge economy, pg. 14)**

Economic activity

The economic size and growth of an economy, as well as the wealth of its citizens, influence the number of start-ups. This key driver captures the state of a country's economy (i.e., the GDP, inflation levels and unemployment levels), all of which, intuitively, affect its VC attractiveness. An economy's size is an indicator of the number of corporations and deal flow opportunities. Economic growth should lead to demand for finance. If the economy is growing quickly, more attractive opportunities exist for entrepreneurs. **(Back to basics: Global venture capital insights and trends, pg. 21)**

Entrepreneurial culture and deal opportunities

Access to viable investments is one of the most important factors for the **attractiveness of a regional VC market**, especially for early-stage or start-up deals. This key driver reflects a country's capacity for innovation and R&D, as well as the ease of starting and running and closing businesses in terms of time, costs and administrative requirements, and the quality of the IT infrastructure. Industrial and academic research and development (R&D) expenditure significantly correlates with VC activity. The innovative capacity of a country and the technical sophistication and literacy of its people affect the need for venture capital. **(Ibid.)**

Depth of capital markets

A well-developed **stock market that permits venture capitalists to exit through an initial public offering is crucial for the existence of a vibrant VC market**. This key driver captures the size and liquidity of the stock market, level of IPO and M&A and debt and credit market activity. Venture capital firms provide temporary financial support for young businesses, but must divest their exposure and eventually return the proceeds to their investors. For that reason, the **divestment conditions must be favorable** — that is, the **M&A and IPO markets should be liquid**. A bank-centered capital market tends to be less effective in supporting an efficient VC infrastructure not only because it lacks a strong stock market, but also because its secondary institutions compromise entrepreneurial activity, given the bankers' conservative approach to lending and investing and the social and financial factors that reward entrepreneurs less richly and penalize failure more severely. **(Ibid.)**

Investor protection and corporate governance

In general, a **strong legal infrastructure**, the **protection of investor and property rights**, **robust corporate governance** and the **presence of deal-supporting institutions**, (such as banks, auditors, lawyers and consultants) are important to facilitate VC investments and influence the attractiveness of a VC market.

This key driver takes into account the level of corporate governance, security of property rights, quality of legal enforcement and regulatory quality within a country. The legal environment strongly determines the size and extent of a country's capital market and local companies' ability to receive outside financing. Furthermore, experienced law firms, and even more important, a high-quality legal system and law enforcement possibilities are required to handle potential issues in VC contractual obligations. (*Ibid.*)

Taxation

Lower corporate taxation, more tax incentives and **fewer administrative burdens** are also crucial for a vibrant VC market. This key driver assesses a country's tax incentives and administrative tax burdens. Corporate tax rates strongly affect entrepreneurship. Greater entrepreneurial activity takes place in countries with lower corporate taxes. Indeed, some countries create start-up incentives by taxing personal income higher than corporate income. On the other hand, less entrepreneurial activity emerges from countries where the government poses substantial hurdles that increase administrative efforts and start-up costs for entrepreneurs. (*Op.cit*, pg. 22)

Human and social environment

National culture shapes both **individual orientation** and **environmental conditions**, which lead to different **levels of entrepreneurial activity** in particular countries. This key driver incorporates the **quality of education and human capital, labor market rigidities, levels of bribery and corruption** and **costs of crime** within a nation. In order to foster a growing risk capital industry, **research culture**, especially in universities and laboratives, plays an important role. **Rigid labor market policies negatively affect the evolution of a VC market**. To allow entrepreneurs and VCs to harvest the fruits of their efforts, the costs and efforts needed to recruit, hire and lay off employees must not be so high as to be discouraging. Finally, the **highest societal barriers and costs for start-ups** in different countries are **associated with corruption, crime, a larger unofficial economy and bureaucratic delay**. (*Ibid.*)

Finally, an important new development is that smaller U.S.-based high-tech companies, and even start-ups, are facing considerable **pressure to engage in innovation offshoring**. In fact, venture capitalists in Silicon Valley now require start-ups to present an "offshore outsourcing" plan as a precondition for receiving funding. The emerging business model is to **keep strategic management functions like customer relations and marketing, finance, and business development in Silicon Valley**, while increasingly **moving product development and research work to offshore locations**.

This shift has given rise to **new models of innovation offshoring** that frequently involve foreign-born engineers from Taiwan, China, and India. A typical example is a start-up company in Shangdi Information Industrial Base in Beijing's Haidian District that specializes in mixedsignal chip design (Ernst, 2007c). Chinese engineers who hold Ph.D. degrees from leading U.S. universities and have worked as senior project managers in leading U.S. semiconductor companies founded the company. It has received venture capital funding for developing chip designs in both China and Silicon Valley. (*Governing the Global Knowledge Economy: Mind the Gap*, pg. 10)

Enabled by digitalization and liberalization, **corporate strategies largely shape the pace and contents of the global knowledge economy**. That is not to say that the state has withered away. (Rodrik, 1999; Hart, 2005; OECD, 2007) We should, of course, remember that **public policy has played and continues to play a leading role in both digitalization and liberalization**. More important for this paper, nations (and, in many places, provinces and localities, too) have undertaken a variety of policies intended to recruit knowledge economy assets, such as venture capital, from abroad and to jumpstart indigenous development. (Ostry and Nelson, 1995; Ernst and O'Connor, 1989).

These interactions among organizations and places have the potential to induce many positive feedback effects, expanding educational investment, accelerating legal and financial reform, and speeding the development of infrastructure, as well as pushing the pace and expanding the scope of innovation. But

such effects are not automatic. **Global competition involves potentially pathological asymmetries that must be recognized and controlled** in order for the positive dynamic to be unleashed. (*Op.cit*, pg. 19)

Much of the knowledge that serves as the fuel for the global knowledge economy resides in people, rather than on paper. The **mobility of this tacit knowledge**, like that of codified knowledge, is increasing. To be sure, **highly-skilled and highly-educated people remain significantly more constrained by borders** (and by choice) than other key assets in the global knowledge economy (like codified knowledge and financial capital), but they are moving more frequently and in more directions than ever before. These moves occur both within an organizational context, as firms shift personnel among locations and academic institutions exchange students and scholars, and outside such a context, as individuals seek to improve their lives on their own.

Because knowledge typically takes a long time for individuals to learn, **the size of the global talent pool** (and any field-specific portion of it) **is fixed in the short run**. The desire of countries (and companies) to meet perceived short-term needs, or to stockpile talent for the future, drives them to offer talented people increasingly better deals, not only financially but in terms of legal and social status. Many OECD countries have expanded their **quotas of highly skilled immigrants** in recent years and allowed these immigrants more rights and privileges, including in many cases full citizenship. **Source countries** that seek to retain would-be emigrants, or to induce them to return to their original homes, **counter with attractive packages of their own**. (Kapur and McHale 2005). (*Op.cit*, pg. 25)

The **European Investment Fund** (EIF) is the European body specialised in small and medium-sized enterprise (SME) risk financing. The EIF is part of the European Investment Bank group and has a unique **combination of public and private shareholders**. It is owned by the EIB (61%), the European Union through the European Commission (30%) and 30 public and private financial institutions from 17 countries (9%). The EIF fosters EU objectives in support of innovation, research and regional development, entrepreneurship, growth, and job creation.

The EIF supports high-growth innovative SMEs by means of equity (venture capital and private equity) and guarantee instruments via a variety of financial institutions, using either its own funds, or those available under mandates given by the EIB (the **Risk Capital Mandate**), the EU (the Competitiveness and Innovation Framework Programme), Member States or other third parties. Complementing the EIB's product offering, the EIF has a crucial role to play throughout the value chain of enterprise creation, from the early stages of intellectual property development and licensing to mid and later-stage SMEs.

The **EIF's technology transfer programme** focuses on the **needs of European research organisations**. Technology transfer is the process by which the results of research and development are transformed into marketable products or services. This commercialisation can take place through a number of means, in particular collaboration between research organisations and industry, licensing or assignment of property rights and the creation of start-up businesses or university spin-out companies. (*Supporting the knowledge economy*, pg. 6)

Patents to serve not only as intellectual property protection, but also **as collateral**, is that they have a residual market value outside the investing firm. European experience in this area has so far been mixed. Some intermediaries have attempted to provide external finance to innovative firms based on their patent portfolios. Patents have been used either as collateral, or as assets in patent funds seeking to commercialize the patent rights. Patent auctions are indicative of a nascent market for patented technology. Supported by changes in valuation techniques and accounting regulation, it seems likely that **patent rights will increasingly be used as collateral in debt finance**. The development of a liquid market for technology and the use of patents as collateral are complementary, but they depend crucially on an appropriate design of patent systems. Uncertain and questionable patent rights tend to hamper the development of markets for technology and the use of patents as collateral, which in turn drives up the cost of innovation finance. (*The knowledge economy in Europe*, pg. 31)

Considering that the exchange of tacit knowledge is an interaction requiring a certain amount of affinity and trust, it is not surprising that research (which to date has been conducted primarily in the United States) indicates that the degree of **“match” between the venture capital company and the new firm is a significant factor for the success of the investment relationship** (Thornhill/Amit 2000; Ehrlich / DeNoble / Moore / Weaver 1994; Hall/Hofer 1993; Sapienza 1992, Hisrich/Jankowicz 1990; Sapienza/Timmons 1989). Both partners report that **a sense of fit, “the chemistry” needs to be good**. A comprehensive survey recently undertaken in Germany confirms that venture capitalists here, too, attach great importance to the **quality of the match** (Weber, Dierkes, in preparation). (*Interorganizational learning in the knowledge economy, pg. 2*)

If performance objectives are not met, the VCs must make a decision: **should the firm’s strategy be reconsidered or must the management be changed** (GORMAN/SAHLMAN, 1989)? HELLMAN/PURI (1999) show that **VCs replace the founder twice as often as non VC-backed firms**. In the worst case, the **venture capitalist stops his activity**. Even if the venture capitalist decides to continue the project, he or she demands a greater participation on the part of the firm. So the **venture capitalist has a powerful position**. The venture capitalist usually receives **convertible preferred stock**. Like a debt contract, preferred stock requires the firm to make fixed payments to the shareholders whereas the promised payments must be made before any common shareholder gets dividend payments and impeded in that way that the entrepreneur is not paying himself high dividends (BERLIN 1998). When a venture capitalist holds the shares of a young firm, which means the shares are not marketable to other investors, the venture capital investor avoids the free-rider problem. The investor is able to earn profit from its monitoring activities and relieve the information costs of moral hazard (HUBBARD, 2008, p.240). VCs in the US are due their selection process, specialization, know-how and financial instruments able to invest efficient in young innovative firms.

(Financial systems and innovations – determinants of early stage venture capital in Europe, pg. 6)

There are some further problems which especially banks face. **Due to fixed interest payments, banks do not participate in the high returns of successful outcome. They are therefore more concerned with the probability of failure when calculating the price of a loan**. In this context, STIGLITZ/WEISS (1981) analyze why it could come to credit rationing instead of a higher interest rate which clears the market. The effects of moral hazard and adverse selection in debt markets explain why lenders may deny a loan agreement even if the project is profitable. Because of asymmetric distributed information about the risk characteristics and default probabilities of firms investment projects, **lenders may ration credit rather than accept a higher interest rate to clear the market**, because **increases in the interest rate induce low-risk borrowers to exit the pool of applicants first**. In addition, borrowers whose actions cannot be monitored by lenders have an intrinsic incentive to invest in risky, higher-return projects that increase the probability of bankruptcy. It is primarily for this moral hazard problem that **equity rather than debt** is considered the natural source of external finance for firms investing in risky R&D projects (KUKUK/STADLER, 2001). (*Op.cit, pg. 10*)

The empirical results in this paper suggest that the technological capability, low corporate taxes and labor costs, growth opportunities, entrepreneurial activities, interest growth rates as well as later stage capital enhance the activities of early stage venture capital investments. Remarkable is that also the financial system could play a significant role in generating and attracting early stage VC. While it might be unsurprising that developed stock markets go along with high investment activities, but the fact that the **size of the banking sector has a significant negative impact** is notable. The hypothesis that banks substitute VC due to their similar business model might be an explanation but nevertheless one has to be careful to interpret these results. (*Op.cit, pg. 20*)

In Finland, government has a significantly larger role in the V2C space, than in the USA. The role is both indirect and direct. There are several different government agencies and semi-public organizations subsidizing young growth companies on the national as well as local level. The system presents itself as fragmented, complicated, time-consuming and ineffective (Koivula, 2005, 59). **In Finland, unlike in the USA, the government itself is strongly in the V2C business**. It builds and protects specific institutions as a centrally controlled delivery channel of subsidies to growth companies. In the **USA, the government**

seems to rather seek for private sector avenues to channel public resources to growth companies.

In the view of Hautamäki and Lemola (2004), the **current situation in Finland is paradoxical**. The general attitude on entrepreneurship is increasingly positive, the market continuously boasts grand opportunities, education of the workforce is at a demonstrably high level in global comparison, but still **only few Finns start their own company**. Hautamäki (2003, 33–34) uses Silicon Valley as an example of combining high knowledge and high technology to respective attitude towards entrepreneurship. In Silicon Valley, people respect entrepreneurs and seek prosperity, but still **money is not the only motivation**. Therein, a genuine interest to **put new technology to work in the market is a remarkable driver for new venture activity**. In Finland, people seem to **appreciate security more than adventure, social equality more than prosperity**. This helps explain the acceptance, in Finland, of high income tax levels. Also, it helps explain why high income tax levels do not promote entrepreneurship, although capital gains tax levels are much more competitive in Finland, in international comparison.

Consequently, **founding entrepreneurs are not driven by extreme growth aspirations**. In result, also due to historic differences in fiscal and social security policy, there is **a shortage of high net worth individuals dedicated to business angel activity**. Also, due to the larger role of government in the V2C space, among other reasons, the **VC community is not as vibrant as in the USA**. Because of the **government's policy to control for the delivery of public resources to the growth ventures, a relatively massive network of various advisory, business development, and incubator organisations – those who live off the growth company process, rather than the success of individual growth companies – has emerged, in Finland**.

(Performance of the government venture-to-capital activity, pg. 4)

In view of the abovementioned factors one would also think that **knowledge companies located in cities would have easier access to capital** and therefore experience smaller financing problems than companies situated elsewhere in the country. However, this is not the case according to a study completed by Norsk Institutt for By- og Region-forskning (NIBR, 2004). Financing problems appear to be unrelated to geographical location. This may be because demand for venture capital is so much larger in the cities than elsewhere in the country; in relative terms, therefore, the provision of financial investment is no better in central- than in less densely populated areas. In view of the fact that such a large part of the knowledge-based companies is located in the cities, the competition for risk capital will also be greater there than elsewhere in the country. *(Venture capital and innovation, pg. 24)*

The arguments on **trade and openness are valid for credit and financial sector policies** as well. In general, the quality and maturity of the banking system will affect the ease with which a country can transform its industrial technological capability using global knowledge. Recommendations would be made in country knowledge strategies regarding the connection between credit policy, financial sector development, and the knowledge economy. Financial sectors must function in such a way as to provide funds to innovative companies. Some countries have used **directed credit to ensure the high-tech or other preferred sectors** obtain funds. This is probably not the best approach in EU accession countries. More work needs to be done on policy stimulants for encouraging venture capital investment, which is found to be an important ingredient for innovation. *(A preliminary strategy to develop a knowledge economy, pg. 18)*

The success of the **'new economy' in the United States** is embedded in **particular kinds of labor regulation and financial markets regimes** which Europe does not have and Europe's citizens may not wish to have... Europe currently does not have a labor market structure comparable with the US degree of labor market flexibility, and Europe's political leaders in various countries differ about whether they wish to have such a labor market structure... the US 'new economy' is rooted within a financial market structure which is highly facilitative of entrepreneurship... By way of contrast Europe's venture capital markets are less developed ... and poorly integrated into the wider stock market structure. The overall argument is that 'Europe' cannot be the relevant social or financial space for embedding the 'new economy' as long as Europe's labor and stock markets retain anything like their existing character. *(Education and ideologies of the knowledge economy, pg. 4)*

In other words, despite significant public involvement in recent years, the **role played so far by governments is highly controversial**. A well-functioning venture capital industry is not guaranteed through public intervention, nor does it necessarily develop by market forces alone. Undoubtedly, there is an **urgent need for governments to rethink their positions**. **On the one hand, the public sector is responsible for supporting and fostering technological development. At the same time, it should be able to identify and react to market failures in order to justify intervention** in venture capital markets. Hence, to be efficient in policymaking, governments must ask questions such as: **why intervene in venture capital markets, and what ways are most effective** when doing so? (*The venture capital market*, pg. 22)

As will be further discussed in this report, venture capital markets worldwide respond to demands in both national and regional industrial structures – and much is to be learned from the various markets. The size and history of the venture industry has resulted in the **US market being studied in detail** and many efforts have been put into **replicating this model elsewhere**. Still, very little effort has been directed towards evaluating whether it is desirable or appropriate to do so. Whereas nations are trying to learn from the **financial risk-taking culture** that has developed in the United States, instructive developments are taking place in other countries and regions. In the Nordic countries, venture capital industries have expanded and are very mature and competitive in some regions. Both domestic and international investors are intensifying their activity, and as will be shown, the Nordic countries have experienced some distinctive developments in their venture capital markets – with noticeably smaller declines in investments after the 2001 crash. Moreover, public and semi-public players are playing a pivotal role in the advancement of private sources in the Nordic countries, although severe challenges still remain to put in place sufficient conditions for new entrepreneurial firms. (*Op.cit*, pg. 23)

Not only will **options for exit** mean that investors providing risk-capital have a greater chance of being adequately rewarded. Exit also offers a venture capitalist the possibility of **freeing up capital when needed** and **relocating it into new investments**. It further reduces the risk that an investor's reputation will be tarnished in case a project will go wrong, and thus it makes it more likely that future opportunities for co-investing with other investors in the market will remain open. Thus, **success stories in the venture capital industry influence the overall flow of funds to businesses in the future**.

Sometimes, an **IPO** is depicted as the **pinnacle of successful exit** because it provides a tangible market value for shares. In practice, an IPO is a less common form of exit than an acquisition or a merger with another firm. However, although primary and secondary markets play no initial role in funding companies, they certainly influence the total supply of capital. In other words, if investors can exit via IPO, they are more willing to put forward funds, and they are even more likely to do so if they have access to a secondary market that provides transparency and a structured framework for effective valuations. (*Op.cit*, pg. 34)

Norton then explores the **importance of geographical proximity to the entrepreneurial innovation** that is hypothesized to lie at the **heart of the new economy**. This is where he draws on Micklethwait and Woodridge's anatomy of the apparent success of Silicone Valley as an innovative cluster, concluding that tolerance (of failure or treachery), risk-seeking, restlessness, reinvestment in the cluster, meritocracy, collaboration, variety, product-obsession and low entry barriers compromise the culture of this economic community, the capital of the new economy, 'a milieu conducive to spin-offs and start-ups'. His conclusion is that Silicone Valley, and other, lesser, though also new economy places are characterized by the geographical concentration of scientists, engineers, entrepreneurs, and venture capitalists looking for value from technological discontinuities, the more disruptive, hence rarer, the better. (*Op.cit*, pg. 97)

The key mechanisms facilitating the flow of knowledge, whether intra-regional, inter-regional or international, are knowledge itself, resources (particularly finance), and human capital. In strong market systems, venture capitalists that are proactive in seeking and assessing knowledge competences in laboratories are crucial links across the exploration/exploitation boundary (Kenney, 2000). They are increasingly highly attuned to the nuances associated with specific, advanced fields of research, the 'star' scientists associated with leading edge research, and risk assessment associated with its

commercialisation. In systems such as Silicon Valley **some scientists and engineers are highly attuned to stock markets, prospects for venture funding and initial public offerings (IPO)**. It is clear to see that the systemic nature of the likely interaction between scientific research, i.e. 'knowledge generation' (itself involving exploration and *examination* knowledge, the latter involving trialling and testing competences), and innovation or 'knowledge exploitation' is massively assisted by these 'boundary crossing' competences. To that must be added the **prevalence of 'academic entrepreneurs' managing a spinout firm** while keeping an academic post in a nearby university, and receiving business management support from venture capital. These and their staff convey knowledge of distinctive kinds across boundaries too, and the micro-system of the firm operates as a seamless web. But added value comes from the fact that venture capital invests in portfolios of proximate and non-proximate firms among which, at the inter-firm and inter-research centre levels, comparable knowledge transfer occurs both formally and informally. It is this network form embedded in market transactions and some 'untraded interdependencies' that typifies the **'open systems architecture' of the ERIS** or Entrepreneurial Regional Innovation System. (*The regional development agency in the knowledge economy, pg. 12*)

There is controversy on the effect of work experience and of the initial (employment) size of the firm on growth prospects. On the one hand work experience can provide on the job-learning, leading to valuable knowledge for managing a growing business. However, this depends on type of activity and type of organization in which experience has been gained. Gompers et al. (2005) show that **young venture capital backed firms are a fertile breeding grounds for new venture capital backed firms**. In these types of organizations, employees learn from their co-workers about what it takes to start a successful new firm and are exposed to a network of suppliers and customers who are used to dealing with start-up companies. Entrepreneurs with lengthy work experience are likely to become more cautious and conservative than entrepreneurs with shorter work experience. (*Entrepreneurship in the knowledge economy, pg. 10*)

Venture capitalism and the dynamics which it generates involve (a) **highly skilled venture capitalists**, new intermediaries combining the selective allocation of funds with the provision of competence, and rare business skills; (b) the **selection of new technological knowledge** together with the organizations within which it is embedded and the assessment of its industrial and commercial viability; (c) the **creation and growth of new knowledge-intensive firms**; (d) the **listing of new knowledge-intensive firms** with high potential on stock markets. In venture capitalism, the goal of new company founders and of venture capitalists is not, as in the past, to assure company growth and profitability, but rather its listing on a dedicated stock market or its eventual acquisition by another company. Both favour (e) the **creation of knowledge-intensive property rights** that enable risk-averse investors to spread risks by creating a portfolio of shares of new small knowledge-intensive property rights, and (f) the **emergence of a dedicated market** for knowledge-intensive property rights where start-up shares are traded after initial public offerings. Venture capitalism can thus be considered as a fundamental step towards the creation of a surrogate knowledge market. (*Knowledge-intensive property rights and the evolution of venture capitalism, pg. 5*)

What determines the provision of non-contractible services? In this paper we use venture capital data to examine what determines investors' involvement with the companies they finance. Our findings **reveal the importance of human capital. We find that venture capital firms with partners that have prior business experience provide higher levels of non-contractible services**. Within-firm analysis also shows that partners with more venture experience provide higher levels of non-contractible services. These results are robust to the inclusion of a variety of organizational and contractual variables. (*Human capital in knowledge-based firms, pg. 5*)

The **Canadian venture capital industry** is currently experiencing a **very difficult transition**. Direct support by governments has diminished at a time when, as is the case for many other venture capital industries around the world, the **industry has not yet been able to deliver strong enough returns** to consistently attract institutional Canadian and foreign investors. As a consequence, **fund raising is shrinking** and the **investment pace by Canadian funds is contracting**. During the past four years, this decline has been partly compensated by an increase in investment by US funds. However this **US-based funding generally supports later stage companies** and sometimes results in a shift of the company

activities to the US. Building a strong and innovative technology based economy in Canada requires a strong Canadian based venture capital industry. (*Why venture capital is essential to the Canadian economy*, pg. 37)

Tax barriers to cross border venture capital investments

Recently the **Venture Capital Expert Group**, established by EU Commission, delivered a report which identified the **main tax barriers** to Venture Capital cross-border investments in the EU. In the report one of the main challenges addressed is to **avoid double taxation** of venture funds performing cross-border investments. Consequently the report recommends that the State into which a Venture Capital (VC) fund invests should never treat the activities of the VC fund manager as constituting a permanent establishment (PE) of the fund. Furthermore, to prevent double taxation, all Member States should recognize the tax classification of a VC fund applied by the Member State in which the fund is established. Following the ambitions of EU 2020 strategy it is expected that the Commission will follow up on the recommendations. (*Nordic venture capital: Cross border investments*, pg. 13)

VCFs assess business plans that are submitted to them for their potential commercial success. They evaluate the promise of the firm's technology and consider the experience and flexibility of management and potential market size. Like business angels, they rely heavily on personal contacts in their search for – and initial screening of – venture opportunities; **in the U.S., nearly two-thirds of proposals considered by VCFs were referred by personal or business acquaintances** (Smith and Florida, 2000: 213). A second characteristic shared with business angels is that VCFs will also often demand preferred stock, representation on the board of directors, and numerous restrictive covenants as conditions for their investments. These investments are usually made in stages so as to closely monitor potential profitability of funded projects over time. In addition, venture capitalists maintain close contacts with managers to continuously scrutinize every aspect of the firm over the investment period; in most cases, the VCF will demand an active role in management and decision-making. Often, venture capitalists will insist that, as a condition of investment, the company move its offices closer to those of the VCF. As a result of the personal contacts that drive many venture capital investments and of the desire of venture capitalists to be in close contact with their portfolio companies, sources of venture capital and the firms it funds tend to be highly geographically concentrated. (*Risk financing for knowledge-based enterprises*, pg. 13)

II. Benefits from Venture Capital

Just as venture capital has played integral roles in the development of the biotechnology, semiconductor and Internet industries, the industry is poised today to use its expertise gained in building these industries to create a new one: **clean technology**. The development of clean tech, which comprises companies operating in areas such as alternative and renewable energies, recycling, electric cars, clean water, power-grid management and battery technology, comes at a critical time for the U.S. economy. VCs invested \$4.1 billion into clean tech companies in 2008 – making it the **industry's fastest growing sector**. Clean technology investment is quintessential venture capital in the sense that there is a tremendous amount of innovation to be realized in the space and a growing demand to employ these new technologies. Like all venture-backed companies, these start-ups will take years to mature, but they offer the promise of green jobs that will remain here in the U.S. – employing Americans and addressing critical climate change and sustainability issues. (*The Economic Importance of Venture Capital-Backed Companies to the U.S. Economy*, pg. 16)

In addition to offering financing, venture capital investors often venture capital take an active role in the strategic development and day-to-day running of the company. Investors typically specialize in specific areas such as ICT or Life Science. Investors will therefore provide the company with valuable competences, such as access to networks, customers, and managements. This **infusion of competences** contributes to company growth. Entrepreneurs' access to effective venture markets is

therefore critical to the growth potential of new companies and to the overall economic growth of a region and a country (Vækstfonden, 2009). (*Entrepreneurship: An assessment of performance, education and venture capital in the Stockholm, Helsinki and Copenhagen regions*, pg. 15)

Although **venture capital** is typically seen as a **quintessentially private activity**, it is **undergirded by an institutional framework with critical public elements**. In the U.S., a series of regulatory and legislative changes in the 1970s vastly expanded the range of potential investors and the pool of funds that the industry could tap into. (Lazonick 2005: 23). **Venture capital also requires a pool of high-tech entrepreneurs who, in addition to being financially savvy, are able to provide hands-on start-up experience, built up over time.** (*Governing the Global Knowledge Economy: Mind the Gap*, pg. 19)

US studies suggest that venture capital finance has a **positive impact on the development of firms**. In the sample of Silicon Valley start-ups analysed by Hellmann and Puri (2000), **venture-capital-backed firms bring their products earlier to the market** than their non-venture-capital-backed counterparts do so that the former can realize **first mover advantages**. Moreover, evidence found by Megginson and Weiss (1991) suggests that the **total costs of going public including the underwriters' fee are lower for venture-capital-backed firms than for their non-venture-capital-backed counterparts**. In addition, Kortum and Lerner (2000) show that venture-capital-backed firms take out significantly more patents than other comparable firms. (*Explaining the regional distribution of new economy firms*, pg. 8)

Venture capital consists of **equity or equity-linked investments in young, privately held companies**. The investor is a financial intermediary, which typically takes a role as director, advisor or even manager of the firm. VC investment goes considerably beyond financing, as it adds complementary measures to increase the chances of success. **First, business plans are intensively scrutinised** – a very low proportion of submitted plans are actually financed. **Second, VC disburses funds by stages**. To ensure that money is not wasted, managers of VC-backed firms must return regularly to their investors for additional capital. **Third, VC monitors managers intensively**, by demanding representation on the board of directors and preferential stock embodying restrictive clauses. In most cases, **VC firms provide start-up firms with experienced management and strategic advice** and give them **access to a business network**. **Fourth, VC firms aim at integrating the technologies they handle to make them complementary**. **VC is thus much more than investment; it nurtures new firms in a process which is highly dependent on the venture capitalist's experience**. These arrangements also help to mitigate the selection and monitoring process, often a key challenge for VC investors, owing to the complexity of technology, **uncertainty** with regards to **future demand** and the **absence of a track record for the would-be entrepreneur**. (*A New Economy: The changing role of innovation and information technology in growth*, pg. 31)

VC companies are typically specialized in very few or one industry sector. This specialization deepens technical knowledge and enables the VCs to select risky investments more efficiently. FENN et al. (1995) estimate that **only one percent of all firms seeking capital obtain venture capital financing**. GEBHARDT/SCHMIDT (2001) also conclude that **VC promotes less than five percent of all potential projects**. Even actual data of National-, European- and US Private Equity and VC Associations confirm this ratio (see EVCA, NVCA). As a result of such a stringent selection process, KORTUM/LERNER (2000) find out for the US that increases in VC activity are associated with significant increases in patent rates. Moreover, they show that **VC investments are three times more effective in generating industrial innovation than R&D expenditures**. A very similar study for Europe by POPOV/ROSENBOOM (2009) finds out that the impact of an Euro of private equity relative to an Euro of industrial R&D expenditures is **2.6 times more effective** in terms of **producing innovations measured by patents**. (*Financial systems and innovations – determinants of early stage venture capital in Europe*, pg. 6)

It has been suggested that **venture capital** is 'more than money'. MacMillan and others (1989) differentiate between **three different involvement strategies** relating to venture capital: **laissez faire, moderate involvement and close trackers**. The venture capital companies' involvement happens

through directorships on companies' boards and through active follow-up of the management in question. This puts pressure on management, but at the same time provides support as far as strategic choices are concerned. To what extent venture capital may actually be 'knowledgable' capital is naturally dependent upon how it is in fact provided.

According to a Norwegian analysis (Langeland, 2005) of Norwegian companies financed by venture capital, some **60 per cent** of the companies involved said that the **venture capital company's contribution to strategy and networks was important or very important**. Although the investors were thought to have done a good job as members of the Boards of Directors of the companies involved, their other forms of contribution were deemed to be average or mediocre. 40 per cent of the companies were not very pleased with the venture companies' support for day-to-day management. An obvious conclusion is therefore that Norwegian venture capital funds, despite the fact that they would themselves maintain that the opposite were the case, still have some way to go before they would be regarded as innovation promoters within the knowledge economy.

This is very different from, amongst others, Fried & Hisrich's (1994) study of **US venture capital**, which concludes that the entrepreneur can regard the venture capital investor as a **de facto partner** in the company. During the last decade, there has been a development towards increased specialization of the funds in as much as they specialise within certain industrial and commercial sectors and more specifically, from an investment point of view, in the different stages of a company's development (Sjögren and Zackrisson, 2005). It is reasonable to assume that this would result in a more competent ownership involvement, coupled with increased technical understanding. The two lastmentioned authors have compared the financing of small high-tech companies in Linköping and Silicon Valley and found that the **businesses in Linköping prefer venture capital to other capital**, i.e. **banks and other investors**, even though **bank financing is cheaper and simpler**. (*Venture capital and innovation*, pg. 21)

From this perspective, the activity of **venture capital firms involves the bundling in various combinations of at least five classes of clearly distinct types of assets: (a) technological knowledge, (b) R&D capabilities, (c) managerial competence, (d) business services, (e) financial assets, and (f) reputation**. We assume that bundling affects transactions on both sides in different combinations. Venture capitalism shows how intermediation and bundling offer a superior institutional setting when information is costly and the environment is turbulent. (*Knowledge-intensive property rights and the evolution of venture capitalism*, pg. 6)

A substantial body of literature suggests that **venture capital firms operate successfully** because they are **embedded in many social networks** that play a critical role in reducing information asymmetries or in compensating asymmetries through their reputation. This facilitates selecting start-ups to invest in and increases venture capitalists' capacity to provide some form of added value to their portfolio companies, for example in linking with specialized providers or services/inputs. **Proximity and the consequent localized reduction of information asymmetries increase the ex-ante assessment of the reliability and sustainability of the entrepreneurs and the other partners** (Sorenson and Stuart, 2001). On the other hand, venture capital firms can build up a professional reputation within circumscribed social networks. This is a key element in attracting new venture proposals and in building the syndication networks that may lead to the creation of the start-ups. (*Op.cit*, pg. 7)

Knowledge-intensive property rights traded on a public stock market provide the best exit opportunity for venture capital firms. We argue that venture capital could not develop to the levels already reached without a **dedicated and public market for knowledge-intensive property rights**. Venture capital needs a market for equity where as many customers can purchase 'slices' of the new knowledge intensive companies as possible in a context where much **information is available about the characteristics of the firms** and there is the **largest possible number of potential customers**. Exchanges on stock markets are 'public'. They differ sharply from private transactions, not only in the quantity and variety of agents involved both on the demand and on the supply side, but also and particularly in the density, frequency, recurrence, and concentration of transactions. Moreover, the quality of **information about the firms listed is standardized on a stock market and inspected by the regulatory authorities**. Each transaction is public and everybody can easily access the relevant

information about the structure of transactions in terms of density, quantities, and price fluctuations. This has clear **benefits for prospective investors** and the **general public**. (*Op.cit*, pg. 11)

III. VC Market Barriers

The following barriers to improving the integration of European VC markets have been identified:

On the supply side: VC funds face obstacles when investing across borders in Europe, since they are often liable for **separate registration or establishment** in each Member State, which increases costs and time spent for fund structuring. Some larger VC funds that are nevertheless operating across EU borders have to channel investments through complex and costly **parallel vehicles** established in other countries. National regulatory frameworks could be more responsive in recognizing the need for VC funds to be able to invest outside their home market without having to establish parallel structures.

On the demand side: many innovative and high-growth firms face difficulties in accessing equity finance. Although external equity capital is an important source of financing only for a limited number of innovative firms, understanding its importance for growth financing is essential also for entrepreneurs. Improving entrepreneurs' **investment readiness** is the necessary counterpart for improving the supply of venture capital and providing basis for a rapid expansion of high-growth firms. (*Expert group report on removing obstacles to cross-border investments by venture capital funds*, pg. 10)

There were **mixed views on the merits of business angels' registration systems**. Many business angels do not want the publicity that inevitably comes with a registration system. This is reflected by experience in the UK where culture is more one of self-assessment/regulation. Thus, only a very small proportion of those who have put money into the **UK Enterprise Investment Scheme** were known to be business angels. The fact that few people invested more than once in the scheme is also an argument against having a formal business angels register. In Spain, on the other hand, it is felt that a formal registration system needs to be developed as a way of creating transparency and reflecting the legal environment of the country. Overall, the conclusion was that what is appropriate for one country is not necessarily suitable for another. (*Seed Finance: Summary report of the workshop*, pg. 6)

Despite improvements, the **EU innovation system** continues to suffer from **shortcomings** that negatively influence the market rewards and incentives for private investment in innovation which as a consequence remains lower than that of our main competitors: the **single market needs to be completed** in a number of areas, the legal framework for the **protection of intellectual property** remains incomplete, the **venture capital market is fragmented** and the **level of equity funding low**, the **standardisation process is not yet sufficiently synchronised with research results and market needs**, the **knowledge triangle between business, education and research needs to be further strengthened**, and the **EU still lacks critical infrastructure to enable innovation**. Despite progress already achieved, the efforts to increase the capacity of the EU educational systems to contribute to an innovative and agile knowledge society must continue. An adequate legal framework to protect knowledge properly is a precondition for an innovative society. In the area of **Intellectual Property Rights**, among other things as a result of the **failure to introduce a Community patent**, the EU is still not providing favourable conditions for the development and diffusion of innovation. The European patent system is costly and fragmented, discouraging innovation compared to the US and Japan²⁰. The difference in patenting costs in comparison to these countries is significant and is not being reduced. (*Reviewing community innovation policy in a changing world*, pg. 10)

The second rationale for public involvement in risk financing is that of the overall underinvestment in R&D due to the inherent positive spillovers (externalities). Competitors may gain access to a firm's innovations and imitate them, developers of complementary products could profit without they themselves investing in the R&D, and consumers could reap benefits beyond those calculated into the product price. **Small**,

knowledge-intensive companies are the main victims of this underinvestment, since they are particularly unlikely to successfully defend their intellectual property positions or to extract most of the rents in the product market (Lerner and Kegler, 2000: 312-315). The growing recognition of the importance of NKBEs and of the challenges they face in raising risk financing has led to a proliferation of government programs to close perceived financing gaps, especially those faced by smaller and highly innovative firms during the initial period of their existence. For example, one study estimated that in the U.S., the federal government provides between twenty and twenty-five percent of all funds for early-stage technology development (Branscomb and Auerswald, 2002a: 20-24). **(Risk financing for knowledge-based enterprises, pg. 23)**

IV. Good practice cases and instruments

One way of activating more risk capital is through **business angel networks**. The current low levels of informal risk capital in **Sweden** strengthen the bargaining power of venture capitalists in regard to entrepreneurs but weaken the long-term supply of entrepreneurs and the emergence of new viable projects. In order to improve access to private active investors, a national business angel network called **SwedBAN** was founded in 2001. This is a for-profit association based on private and some public support. From the start, SwedBAN was considered also to be **the national umbrella organisation**, but that role has ceased. The national initiative has since been in the hands of **NUTEK**, which has stimulated the creation of some **20 regional networks** through **grants of SEK 150,000 each**. NUTEK also runs a website for business angels and supporters. At present it is arranging conferences and workshops aimed at promoting the creation of a national organisation. This organisation is then expected to take over NUTEK's role. In order to succeed in this work, NUTEK should increasingly join forces with local, private and experienced players and organisations. In order to improve the transparency in the business angel and informal capital market, matchmaking events should be organised and include collaboration with universities and incubators on a regional level. This would encourage the various players to collaborate and would also expand awareness about business angels and the possibilities for entering partnerships with incubators. **(The Role of Venture Capital, Global Trends and Issues from a Nordic Perspective, pg. 87)**

Pooling expertise in investment-seeking companies and between venture capital investors is undoubtedly **critical for the region**. Investors are often a valuable source of advice and input for entrepreneurs. Venture capitalists need to screen and help businesses to manage capital and to attract other investors. Thus, when a venture capital market matures the development and attraction of sufficient resources is fundamental. For the **Öresund region**, there appear to be insufficient forces underpinning synergies in niche-based competencies appropriately tailored to the existing and emerging regional skills and industries on the two sides. While interest has grown among foreign funds in investing in the Nordic countries, especially in telecommunications and biotechnology, there has been little appetite for cross-border investment in the Öresund region – in spite of the clear potential for growth-oriented clusters. Along with structural impediments and barriers, this suggests that there is a case for more active promotion of cross-border networks among venture capitalists. **(Op.cit, pg. 81)**

There is room for improvement in public policy for the purpose of strengthening public-private partnerships and boosting initiatives in the early stages of commercialisation and the innovativeness of small businesses more generally. Current approaches are generally inadequate. Nevertheless, for any country, there are good reasons to examine approaches practiced by others, to lay an informed basis for new ways to experiment with initiatives to strengthen seed funding. The **US Small Business Innovation Research (SBIR) programme**, which specialises in this area, merits careful scrutiny. The varying approaches of the Nordic countries lay the basis for other observations and lessons. **(Op.cit, pg. 92)**

Collaboration Among Key Regional Stakeholders

Increases Deal Flow and Leads to Market-Driven Funding Decisions In a style akin to Monday morning partner meetings held at venture capital firms across the nation, **TechColumbus** regularly convenes a unique gathering of venture capitalists, angel investors, domain experts and other commercialization

specialists for the **Deal Flow Assessment Committee (DFAC)**. The DFAC brings together local sources of deals and capital for deal sharing, collaboration and enhanced communication. **DFAC members evaluate potential opportunities from grass roots and institutional sources and determine the best steps and resources to help an idea or company advance to the next stage of formation.**

One of the key responsibilities of the DFAC is to **initially screen all startups** in contention for TechGenesis and TechColumbus Pre-Seed Funding and to **make recommendations** to the TechColumbus Investment Committee as **to which of these startups represent the strongest promise for yielding high-growth companies. Even those companies who don't receive funding benefit from the process of presenting before this diverse group of experts.** Through this experience they refine their business plans and gain introductions to the connections that may eventually help them successfully reach their next goal in launching their startup. This unique collaboration helps ensure that funding decisions are market-driven and based on the broad expertise, judgment and perspectives of all DFAC members. It has further led to a marked increase in the number of promising young investable companies that have launched in the region. **(The 2010 Central Ohio Innovation Capital Report, pg. 6)**

Venture capital is described as money provided by investors to privately held companies with perceived long-term growth potential. The **Irish Government** announced that up to €500 million will be invested in a new venture fund, known as **'Innovation Fund – Ireland'**, which will support early stage research and development. In addition, Finance (No.2) Act 2008 provides a more **favourable tax treatment** with respect to the share of profits received by a partnership or company in respect of the management of a 'relevant investment'. Where such profit is received by a partnership it will be deemed a chargeable capital gain and subject to a rate of capital gains tax of 15 percent.

Where it is received by a company it will be subject to a corporation tax rate of 12.5 percent.

A 'relevant investment' is broadly an investment in unquoted shares/securities of a private trading company, which remains in place for at least six years. The private trading company must carry on qualifying research and development or innovation activities and in addition satisfy certain conditions:

- It must be set up on or after 1 January 2009
- It must not have been owned or carried on by another entity/person prior to this
- The share of the profit is restricted to 20 percent of the total profit from the investment

(Ireland as a knowledge economy, pg. 4)

There is a clear role for the State in funding ventures at the seed stage. Venture capital funds seek to minimise risk for their investors (often pension funds) and in the main target investment from a successful seed phase onwards. There remains a gap in funding for seed or very early stage investments, typically prior to a prototyping stage. While it is recognised that some progress has been made in this regard by **Enterprise Ireland** and certain venture capital firms, the focus of State intervention should be to **support funding mechanisms and initiatives at the seed stage** so as to support the development of technologies to the stage where venture capital firms will invest.

The continuation of the Seed and Business Expansion Schemes in 2004 is also welcomed and essential to the growth of technology based industries.

(Building Ireland's knowledge economy, pg. 4)

The German federal government, the **KfW banking group** and the firms **BASF, Deutsche Telekom** and **Siemens** joined together in 2005 to form **High-Tech Gründerfonds (HTGF)** with an initial capital fund of **€262 million**. HTGF invests venture capital in young, high-opportunity technological companies implementing promising research results in an entrepreneurial manner.

In addition to start-up capital of between €0.5 and 1 million, HTGF provides their chosen companies with management supervision and support. More than 90% of HTGF's capital comes from public authorities, and the remainder from large private sector firms. The private sector provides much of the crucial advisory support. The fund specialises in the ICT and biotech sectors and its main aim is to prepare start-ups for a second round of VC funding. Seven of the 43 companies supported so far have successfully moved on to receive second-phase funding.

A key factor in HTGF's operations is the **standardization of investment procedures, reducing transaction costs** by making the same offer to all potential investees. **(Bringing down the barriers for SME finance, pg. 3)**

BAs play a key role in addressing the equity gap, being more willing to risk investment in early-stage companies. They possess the necessary industry and management experience to review and invest in promising technology transfer projects as they have the expertise to advise on the commercial potential of these technologies, which increases the likelihood of start-up enterprises to survive.

Specific cross border projects have been developed as regards financing ecotechnologies. **BanVlaanderen** and **EDEN** (French entrepreneurship platform) have for instance developed a sectoral approach for companies active in energy technology seeking seed finance for their projects.

Waban – B2A, another cross border BA network, made 10% of the deals in ecotechnologies: successful projects range from wood pallet production, wind turbine to solar energy industry.

Differences in the business environment for start-ups, such as their **access to human capital and venture capital**, the degree to which they are subject to administrative regulations, and the **conditions for entrepreneurship**, may **affect innovation and economic performance**. Many “successful” OECD economies, such as Australia, Denmark, Ireland and the United States, **have relatively low administrative barriers for start-ups**. Differences in financial systems, particularly the degree to which they are able to finance risky projects, may affect innovation in emerging industries and therefore growth, as new firms have limited access to finance and may be unable to grow or invest in innovation. Countries with **well-developed financial markets** and **active venture capitalists** may be **better geared towards innovation and the reallocation of capital to such new industries than countries where traditional banking plays a dominant role**. **(A New Economy: The changing role of innovation and information technology in growth, pg. 3)**

One really felt the **entrepreneurial spirit at Stanford**. In the corridors and restaurants, there was constant talk of new enterprises, translating the advances in ideas into new products and new businesses. Venture capital firms sought out these new opportunities, providing not just with capital, but with managerial know-how. The focus was on **creativity and wealth creation**, not on the rearrangements of the use of already existing assets and corporations, the take-overs and mergers, the corporate restructurings that were so much the center of attention on Wall Street. There is **no prescription for how a country creates such a culture**, just as there is no prescription for how a corporation can create such a culture. But government does have a role— a role in education, in encouraging the kind of creativity and risk taking that the scientific entrepreneurship requires, in creating the institutions that facilitate ideas being brought into fruition, and a regulatory and tax environment that rewards this kind of activity. **(Public policy for a knowledge economy, pg. 6)**

I believe that one of the important reasons for **success of the U.S.** in the arena of the knowledge economy are its **vibrant capital markets**, and especially its **venture capital funds**. American capital markets have long been far more competitive than those in many other countries. Anti-trust authorities would have looked askance at the kinds of concentrations in banking that are found in many other countries. While it is not apparent what else one can do to encourage this kind of innovative lending, clearly **tax policy** may be able to play a role.

In the U.S. there are some **features of the tax code that have encouraged innovation**, some that have discouraged it. The incremental research and experimentation tax credit has long received official blessing, but has only been renewed on a year-to-year basis. Perhaps this is because there is some evidence questioning its efficacy. There is a recently enacted provision to encourage small new enterprises (by exempting capital gains), but it is too soon to tell its effectiveness, including the extent to which it helps create new knowledge based enterprises.

The limitations on loss deductibility, however, serve as a major deterrent to risk taking. Research, by its very nature, is a risky undertaking. It is like drilling for oil. Success is measured by whether one strikes one successful hole in ten. The corporate income tax is often described as leading to the government as

a silent partner; but while a partner who shares risk can encourage risk taking, a partner that shares in the successes but not in the losses is likely to discourage risk taking.

In the **United States, preferential treatment of capital gains** has been defended on the grounds that it **encourages risk taking and entrepreneurship**, of the kind associated with the knowledge economy. But most of the tax preferences go not to this kind of entrepreneurship, but, for instance, to speculative real estate lending. I referred earlier to the importance of a change in culture. A tax system that **rewards the returns to speculative real estate** in the same way that it rewards real innovation is **not supporting the culture of innovation.** (*Op.cit*, pg. 24)

There can be no doubt that the **U.S. venture capital model** has **worked well** in the past and has been successfully transferred to certain nations. Whether it is an appropriate model for all nations can be determined only after examination of that nation's initial conditions. Unfortunately, few other models have proven to be strong substitutes for creating an entrepreneurial environment based on high technology. Thus far, there have not been many successful hybrid models—venture capital seems to be a fragile institution that does not hybridize well. The Asian economies that have been most successful in creating a venture capital industry are those with the closest human ties to the United States—namely, Taiwan (China) and Singapore. Also, these nations have largely adopted the U.S. model with specific changes to suit their environment. In each case, the **governments developed policies that singled out venture capital as an important aspect of their efforts to mobilize entrepreneurship.**

Despite the many obstacles to creating a vibrant venture capital community, during the past two decades the industry has taken root, especially in Hong Kong (China), North Asia, and Singapore. There are also reasons to be guardedly optimistic about the prospects for China. The current downturn is a major test for the industry in all of these economies, and it is likely that many firms will fail. Unfortunately, there may be **little governments can and, indeed, should do to protect venture capital from failure.** However, the venture capitalists and national venture capitalist communities able to survive without becoming wards of the government may be poised for growth during the next recovery. (*Venture capital industries*, pg. 34)

V. Recommendations

It is imperative that the public sector strives to operate so as to compensate for the lack of private capital provision in areas where there is a **strong social motivation for investment**, but also so as **to catalyse better functioning private markets.** In addition, the **public sector needs to give high priority to ensuring appropriate conditions for the individual entrepreneur and risktaker** – in other words, an **operational risk-reward ratio for the human being who ultimately stands behind any potential high-growth venture.** (*The Role of Venture Capital, Global Trends and Issues from a Nordic Perspective*, pg. 91)

There is also a **need to push reforms so as to alleviate the distortions that deter risk-taking.** The **risk-reward ratio** confronting the individual needs to be scrutinised and improved in many cases, for example by **tax reforms** and initiatives to **improve societal attitudes towards entrepreneurship.** Necessary tax reforms that may be considered include the **reduction of capital gains taxes**, which could stimulate more risk-taking and entrepreneurship. This must be combined with consistent **reforms that raise the ability of institutional investors to diversify sources of venture funding.** There is also a **need to strengthen business angel networks and their links to technology incubators and complementary support services.** (*Op.cit*, pg. 93)

Supporting capital formation begins with a tax policy that rewards long-term investment and encourages calculated, entrepreneurial risk taking. Tax differentials, such as favorable rates for capital gains and carried interest, serve as important tools for encouraging investment in emerging growth

companies. In our current financial system, venture capital is the only source of long-term, institutional funding for such companies. When government increases the tax burden on venture capital, however, it inhibits the flow of dollars to innovative young start-ups.

Venture-backed companies also require a reasonable, efficient and predictable regulatory apparatus. Due to the relatively long-term investment horizons (typically five to seven years and often longer) and the uncertainties inherent in new product development, **venture capital is already one of the most risk-intensive asset classes in the world.** Additional **delays** and **uncertainties** caused by **swings in regulatory policy, inconsistent guidelines** and **processes for federal agency approvals** and **slow-moving bureaucracies** can **push the risk profile of even the most exciting innovation beyond what a venture capitalist can consider acceptable.** A promising company has a greater chance of receiving venture funding if there is **transparency around the regulatory approval process** through which it will move.

Finally, the **government** has an **important role** to play in the **funding of basic research.** It's from this pipeline of scientific advances in fields like information technology, life sciences and clean technology – achieved at government and university labs – that the **venture capital community has traditionally drawn its innovations. VCs then commercialize these advances through a process called applied research.** In this way, the **government** and the **venture capital community** have enjoyed a **symbiotic relationship** in **bringing new discoveries to market.** Without government funding of basic research, however, this pipeline would dry up. (*The Economic Importance of Venture Capital-Backed Companies to the U.S. Economy*, pg. 22)

Conclusion: strong investor protection leads to liquid capital markets and deal flow and exit opportunities, which ultimately affects the attractiveness of a country's VC markets. We can conclude that **strong investor protection leads to liquid and efficient capital markets**, and these establish the necessary environment to secure deal flow and exit opportunities for VC funds. This ultimately affects a country's attractiveness for institutional investments in the VC class. However, this discussion reflects the capital supply side only. **Without a sufficient entrepreneurial culture and entrepreneurial opportunities, with rigid labor markets, bribery and corruption, there will be no demand for VC. If there is no demand, there is no opportunity to establish a vibrant VC market.** (*Back to basics: Global venture capital insights and trends*, pg. 25)

Need for entrepreneurship education: Most VC investments in emerging markets go to revenue generating or profitable companies rather than early-stage ventures. One important barrier to developing vibrant early-stage investment in emerging markets is the dearth of entrepreneurship education in their engineering and science schools. Early-stage VC investors also shy away from seed or start-up companies when the founders lack an understanding of how to start, build and grow a substantial company. It is simply too much work for investors to engage first-time teams. **Building an entrepreneurial curriculum into science and engineering education is as important as building incubators.** (*Op.cit*, pg. 8)

By training students in entrepreneurship their ability to identify and act on business opportunities is enhanced. This **sense for business opportunities can be socially contagious:** The presence of a few entrepreneurial individuals in a social group can increase the entrepreneurial interest among other members of the group.

This social "contagion effect" may explain why entrepreneur courses in higher educational institutions have a positive impact on growth-oriented entrepreneurial activities for the entire population. Not all students need to be taught entrepreneurship during their studies – an adequate level of exposure is enough to trigger a socially contagious effect

According to the World Economic Forum (2009) **competencies should be developed through the use of didactics that encourage students to experiment with entrepreneurship** e.g. by working with case studies, simulations, projects, company visits and other practical and involving activities.

Mentoring potential entrepreneurs and exposing them to business through experienced entrepreneurs and managers as well as large mature companies is of vital importance. In this connection, the **teacher becomes more of a moderator than a lecturer**. However, focus on new methods will not necessarily remove or swallow up the resources allocated to secure that the **teachers have the right professional skills as well**.

(Entrepreneurship: An assessment of performance, education and venture capital in the Stockholm, Helsinki and Copenhagen regions, pg. 15)

Exits

Venture funds earn their profits by exiting their portfolio companies. Hence **favorable exit options must be present for a venture fund to gain a positive yield from their investment**. If no favorable exit options exist, venture funds will be inclined to postpone the exit, thus making more follow-on investments and fewer initial investments. *(Op.cit, pg. 32)*

As with publicly subsidized scientific research, the benefits of R&D tax credits or government venture investments are not necessarily retained domestically in a global knowledge economy. **Subsidized firms, in fact, are likely to have greater control over the location of spillovers from their innovative activities than scientists who publish in the open literature**. If the firm's strategy is to serve foreign markets and the subsidized activities are just one link in its global innovation network, there may be few channels by which the domestic public can benefit. In the extreme, one might see isolated, subsidized high-technology enclaves that serve to export a nation's intellectual labor, much as maquiladora factories export physical labor. **Domestic policies have vital roles to play in avoiding this sort of "internal brain drain"**.

Governments can facilitate forward and backward local linkages from subsidized firms, and they can also foster spin-off entrepreneurship, appropriately constrained by intellectual property protection. Yet, there is a role as well for global governance, particularly (as in the case of high skill migration) with respect to **smaller countries that lack the leverage to impose conditions on foreign investors**. **Global norms and rules need to be devised that would enhance the odds of domestic or intra-regional spillovers**. *(Governing the Global Knowledge Economy: Mind the Gap, pg. 29)*

The results suggest that goal of policy makers should be to support a **single European stock market**, which is appropriate for an **investment exit via IPO** to realize higher investment returns for VC investments in Europe. Imaginable is a European stock market segment like the AIM in UK where investors have essential tax benefits if they invest in companies traded on AIM. One adequate instrument to spur early stage investments which follows the same goal is to implement low tax rates for potential portfolio firms. This also enhances the value of the firm and makes it more attractive for venture capitalists to invest in Europe. This strategy seems to be more effective than a direct subsidy for innovative SMEs. A **uniform tax regulation for Europe** might enhance transparency, but it impedes competition for a best practise solution and does not account for country specific conditions. *(Financial systems and innovations – determinants of early stage venture capital in Europe, pg. 20)*

Putting in place national mechanisms through Public Private Partnership

In many countries, governments have played a significant role in boosting private investments. By responding to the demand for risk capital, actions by specialised public investors have helped catalyse and pool private resources particularly in high-risk and earlystage market segments. At the same time, major challenges remain for public sector players. Public actors need to refrain from acting in isolation, or from being governed solely by short-term political objectives.

The **responsibility for a well-functioning venture capital market should not be viewed as public or private**. Countries should ensure that, in the development of venture capital industries, public and private forces are **complementary** in enabling sufficiently strong mechanisms for the support of high-risk early stage investment activity. In this process, it is imperative that the public sector strives to operate so as to compensate for the lack of private capital provision in areas where there is a strong social motivation for investment, but also so as to catalyse better functioning private markets. In addition, the **public sector** needs to give high priority to **ensuring appropriate conditions** for the individual entrepreneur and risk-

taker, i.e., an operational risk-reward ratio for the human being who ultimately stands behind any potential high-growth venture. (*The venture capital market*, pg. 97)

Enhancing cross-border activity

In recent years, **cross-border venture capital has become an economically important phenomenon**. However, while globalisation of venture capital activity gradually becomes a reality, a number of impediments still exist **hindering the convergence of markets** and the **development of a full-fledged global industry**. This is true not only between developed and developing regions, but also between venture markets throughout the most collaborative regions such as North American and Europe. As discussed, the ability of venture capital markets to get involved in flows of investments across borders largely depends on the maturity of the industry. Moreover, the **lack of sufficient infrastructure** prevents crossborder investments from taking place. **Legal structures** which are **nation-specific** create border-issues that are not easily transpassed, and complicate collaboration between actors located in different countries, especially when in regard to support of high-risk ventures. Where governments are directly involved in transactions, additional issues arise. Countries and regions with **heavy public venture capital involvement** tend to find themselves with certain **limitations in their investment strategies**. Hence, **governments should ensure that investment policies are adapted to the ongoing globalisation process, putting in place structures and playing rules which can enable and support cross-border activities and investments.** (*Ibid.*)

The **VC Tax Expert Group** looked into these problems from May 2007 to June 2009. In accordance with its mandate, the Group identified a number of situations where taxation, and specifically the **risk of double taxation**, was a potential issue in cross-border investment situations. In the light of this, the Group discussed a number of possible solutions that could provide a “toolbox” for consideration by EU Member States. Some experts of the Expert Group believe that the conclusions should be limited to VC funds and investors resident in EU Member States, arguing that expanding the favourable treatment proposed in the report to entities or individuals that are located in non-EU low tax jurisdictions or are not subject to full liability to tax could cause competition between non-EU funds and investors and EU funds and investors. However, the majority of the experts represented in the Group oppose such a limitation.

The **possible solutions** are as follows:

1) The optimum solution to the taxation problems would be for the tax authorities of the state of the portfolio company to confirm that the activities of the Manager of a VC fund in connection with the VC fund and its investors can be **classified as those of an independent agent**, as defined in the OECD Model, and therefore cannot be treated as a permanent establishment of the VC fund or its investors in the country where it carries out its management functions. This could be achieved through **clear statements** from **tax authorities** that they agree with this **treatment of VC Fund Managers**.

2) If, however, an investor has a permanent establishment in another jurisdiction and the investment in the fund is properly attributable to that establishment, the **profits arising to the investor could be taxed in that other country**.

3) The state of the portfolio company would still retain full taxing rights over any income/gains arising to the VC fund in its jurisdiction. If the VC fund is non-transparent for tax purposes, then the state of the portfolio company would apply the DTC between itself and the jurisdiction of the fund vehicle (if one exists and if the fund meets the conditions provided by the relevant article of this DTC to be considered a resident) in order to determine whether to apply tax on dividends, interest and capital gains flowing to the fund. If the VC fund is transparent, the state of the **portfolio company would apply the DTCs** between itself and the countries of residence of the investors.

4) The VC Fund Manager should be **taxed on an arm's-length basis on the management fees that it earns in respect of services that it performs in each jurisdiction in which it has a presence**.

5) Those Member States agreeing with the conclusions of this report should arrive at guidelines or at a legally binding agreement concerning mutual recognition of the classification for tax purposes of the legal forms of VC funds. This would provide that all Member States would **recognise the tax classification**

and tax treatment applied by the home country of a VC fund (i.e. as transparent or non-transparent; subject to tax or not subject to tax; trading or nontrading). Where a VC fund is treated as non-transparent in its home country, Member States would, as a result of this mutual recognition, agree that the fund is resident in that country for the purposes of the application of DTCs if it meets the conditions provided by the relevant articles of these conventions to be considered a resident. This would help to increase legal certainty and reduce the risk of economic and/or juridical double taxation.

6) Another solution would be that **EU Member States would agree on a list for the classification as either transparent or non-transparent** of certain specific legal forms which are often used for VC funds. (*Report of Expert Group on removing tax obstacles to cross-border Venture Capital Investments, pg. 1*)

In aiming at a well-functioning common Nordic venture capital market, a recent NICE project group presented **overall Nordic recommendations**, as follows – mostly related to taxation issues:

- VC funds organised as limited partnerships should be **transparent in taxation**:

This means that no income tax should be imposed in the country where the fund is established or where the management carries on the investment activities. Tax, if any, should only be paid in the country where the investor comes from.

- **No VAT should be imposed on management services** of the venture capital fund:

A VC fund pays a management fee to the company that manages this fund. As a general rule, all supplies of goods and services, such as management services, are subject to VAT. Since VC funds generally are not registered for VAT (because they do not carry on any activities subject to VAT), any VAT charged on the management fee will not be recoverable. This means that any VAT paid on the management fee may be an additional cost that in the end will be paid either by the investors or the management team.

- **The risk of taxing foreign funds should be abolished by explicit regulations**:

In situations where local related advisors are used or decision making takes place locally, it is currently possible that foreign VC funds are considered to have permanent establishments in target countries.

(*Expert group report on removing obstacles to cross-border investments by venture capital funds, pg. 19*)

The importance of **alternatives to legal solutions** was emphasised, for example through exchanging best government and market practices in promoting venture capital investments. Further, there is a need to build **further cooperation among national regulators**.

For example, to aim for a uniform approach among regulators would be useful, in particular on core principles and best supervisory practices. Moreover, according to EVCA, there are a number of key objectives that practitioners of VC take into consideration when structuring an appropriate VC fund, and that national regulators would benefit when taking into account:

- **Suitability**:

A fund should be suitable for all its institutional or eligible investors (whether taxed or tax-exempt, such as pension funds) and capable of being marketed to suitable investors on a cross-border basis.

- **Simplicity**:

All investors like simplicity; legal and administrative clarity and certainty would facilitate cross-border investments.

- **Efficiency**:

Final investors and the fund itself should not be subject to economic or juridical double taxation. Tax is the main driver for complexity. (*Op.cit, pg. 20*)

The most reasonable way to progress in the short term, apart from **exchanging good market and government practices**, would be the following two approaches, for which participating national experts were in general supportive:

First, through a mutual recognition of venture capital funds from other jurisdictions: **a fund should be established and registered only in its home jurisdiction and should be recognised in other Member States and not be liable for separate registration or establishment in each jurisdiction.**

National authorities could recognise that venture capital funds domiciled in another country and operating in their market are already subject to regulatory and taxation regimes in their country of residence.

Second, through a mutual recognition of management company of the fund: if the management company, which is subject to regulatory and taxation regime in its home country, could operate directly from the home country also in the investee country without being established there, costs and time required would be reduced.

Steps could be taken towards **mutual recognition of the existing national frameworks** that allow VC investments. This should gradually lead towards a regulatory framework that all Member States could adopt if they wish. (*Ibid.*)

Public policies establish the playing field: they further or hinder VC activity on many levels:

— **Entrepreneurship-friendly regulation** (such as low taxes, little red tape, protection of property rights, a reasonable bankruptcy law) lowers entry barriers. High costs of starting a business, for instance, are a drag on entrepreneurial activity.

— **A liberal immigration policy** designed to attract the best talents from all over the world can spark entrepreneurial activity. Many founders of hightech startups in the US were born abroad.

— **Research and technology policies**: a high level of education and strong technological capabilities are the foundations on which the most interesting startups thrive. Co-operation with academic institutions are important sources of knowledge transfer.

— **The tax and legal framework** governing VC activity itself is a somewhat contentious issue – not least the new AIFM directive (for an industry perspective, see the statements by EVCA). Some rules appear to be geared towards bigger buyout or hedge funds and put disproportionate burdens on smaller VC funds. (*Venture capital adds economic spice, pg. 6*)

Overall Nordic recommendation

Since the publication of this report in 2007, some positive steps have been taken in Finland towards removing obstacles to operating venture capital funds on shore based on the Finnish governmental program. In addition, certain positive court practices regarding venture capital funds have emerged. However, no actual changes in legislation have yet occurred, and it is not clear whether the planned actions will be realized as contemplated. As to the other Nordic countries, very few, if any, positive reforms have taken place. Consequently, the overall Nordic recommendation for removal of tax obstacles to venture capital investments remains fundamentally the same as before.

1. Venture capital funds organized as **limited partnerships** should be truly and fully transparent in taxation. This means that no income tax should be imposed in the country where the fund is established or where the management carries on the investment activities. The guiding principle should be that investors are only taxed in their countries of residence, i.e. taxation should be imposed at the level of investors, not at the level of the partnership. All the countries should look through the venture capital vehicle to the end investor to ensure that **tax is only imposed in the home state of the investor**.

2. **No VAT should be imposed on management services** of the venture capital fund. Since venture capital funds do not carry out any activities subject to VAT, the VAT charged on management services will not be recoverable and therefore becomes an additional cost paid by the investors or the management team. Although it is possible to avoid VAT in certain situations, some uncertainty always remains and therefore it should be clearly stated in the local VAT regulations that no VAT should be imposed on management services for venture capital funds.

3. In situations where local related advisors are used or decision-making takes place locally it is possible that foreign venture capital funds can be considered to have permanent establishments in target countries. **The risk of taxing foreign funds should be abolished by explicit regulations.**

Recommended actions

The Project Group recommends the Nordic Council of Ministers to support that each Nordic

Country:

1. continues the important work of **removing obstacles to Nordic based venture capital funds** in order to enhance the conditions of the common Nordic venture capital market
2. moves from the fact finding and benchmarking phase into that of **presenting tangible proposals for the removal of existing obstacles**
(*Obstacles to Nordic venture capital funds*, pg. 9)

What the EU can do:

- **Create co-investment funds** through **public-private partnerships at European level** is essential to develop local financial communities and ecosystems. Moreover, they provide an incentive for investors to remain active in follow-on rounds and continue to make their time and network available to their investee companies. Experience has shown that **co-investment funds** are an efficient way to **leverage private sector participation in the market**.
- Encourage Member States to create or increase special **fiscal incentives for investments in Young Innovative Companies**, thereby stimulating the participation of a higher number of business angels in the market.
- **Remove obstacles to cross-border investments** by venture capital funds through mutual recognition and a stronger and more transparent regulatory framework to conduct cross-border investments.
- **Lighter regulation in the early-stage investment market**.
(*Early stage investing, an asset class in support of the EU strategy for growth and jobs*, pg. 5)

Creating a **pan-European trading platform and quoted market for small cap growth companies** is not a trivial exercise. Previous efforts to do so – such as the create of EASDAQ or the emergence of cross-border alliances between fledgling new markets – faltered for a variety of reasons including intense competition from national exchanges, poor timing, and a lack of financial industry support.

EVCA has spent time talking to the various members of the ecosystem, including its own members, the stock exchanges growth companies, regional and global investment banks, and institutional investors. There is a broad consensus that it would be highly desirable to establish a pan-European trading platform and a view that **aftermarket liquidity would be significantly enhanced** provided that several important steps are taken. These include:

1. The **harmonization of listing criteria across exchanges**. Specifically, standardised criteria regarding requirements for minimum total assets, years of trading history, and number of independent Directors.
2. The **promotion of the cross-exchange platform** through the marketing of sector indices and their inclusion in the financial press throughout Europe.
3. The **involvement of additional non-domestic market makers** willing to commit capital in the trading of small cap growth company shares.
4. The development of **simple connectivity for investment banks in remote locations**.
5. The implementation of **low-cost settlement systems**.
6. A streamlining of regulatory procedures for IPO filings similar to the “light touch” model adopted by AIM and more recently by Alternext.
7. Discrete and **confidential listing approvals for secondary offerings**.
8. The adoption of **fair acquisition and minority squeeze out regulations and provisions**.

(*Fulfilling the promise of venture backed high potential companies*, pg. 6)

Stimulate Risk-Taking and bring down the Cost of Capital in Europe at all Levels

Move forward the process of financial integration in Europe as it is road-mapped in the final Lamfalussy report, especially where this relates to venture capital. Eliminate situations where **tax treatment discourages investment in the form of venture capital**. Encourage the EIB to continue to review its financial instruments in order to redirect funding towards support for business start-ups, as well as other risk capital initiatives. (*Actions for competitiveness through the knowledge economy in Europe*, pg. 9)