

CAPITAL MARKETS AND INFORMAL EQUITY INVESTMENTS

Framework paper

To be discussed at the ICE meeting, 12-13 October 2006

Prepared by FORA, Denmark

Table of Contents

BACKGROUND	3
PURPOSE	4
DEFINING RISK CAPITAL.....	4
THE SUPPLY OF RISK CAPITAL	6
Research Grants	7
Informal Risk Capital: Business Angels	7
Formal Risk Capital: Institutional Funds.....	8
THE DEMAND FOR RISK CAPITAL.....	9
THE FINANCING GAP	10
A SUPPLY AND DEMAND SIDE MODEL	12
POLICY ISSUES.....	15
RISK CAPITAL DATA AND INDICATORS	17
New indicators (possible ones)	19
CONCLUSIONS	21
REFERENCES	22
APPENDIX A	24

Background

Access to risk capital through well-functioning capital markets is fundamental for the development of vibrant entrepreneurial climates. However, numerous studies have shown that capital markets continuously fail to provide sufficient sources of risk capital to young entrepreneurial firms (Sohl 2003; HM Treasury 2003; Harding et al 2003; Vækstfonden 2004). Very often this shortage of risk capital is referred to as the 'financing gap'.

While governments have introduced a variety of public funded initiatives addressing the gap, the question is whether the policies are efficient. For instance, if demand (entrepreneur) side issues predominate, any policy efforts aiming at improving the supply (investor) side could distort the market and vice versa. In addition, the extent to which demand/supply side issues predominate could vary across countries, and still same policies might be used in different countries.

Despite years of debate on the issues, little is still known about best practice policies. This is likely to be explained by the fact that the reasons behind the gap are not well captured. From the beginning, most risk capital data and policies have been concentrated around fuelling and measuring the supply of capital. Public policies were seen as successful if only they increased quantitative measures such as the number of investors and capital under management, not fully taking into account the demand side. In effect, there is a need to develop a more comprehensive approach to risk capital policies encompassing both supply and demand side issues. On top of this, lacking international compatible risk capital data and definitions hampers international comparisons between risk capital performance and policies. Across countries, institutions applying different definitions, investment classifications and standards generally plague the markets and some market elements are simply under researched.

Consequently, policymakers lack systematic and comparable knowledge to measure and improve policies, and researchers are constantly faced with the challenge of comparing risk capital results between countries based on varying definitions.

In January 2006, the *International Consortium on Entrepreneurship* (ICE) agreed to strengthen its work on risk capital. In order to focus national risk capital policies, two member countries, Canada and the Netherlands, expressed an interest in launching an international risk capital project within the ICE. Such a project should include work on risk capital data/definitions and policies in ICE member countries. Members of the consortium agreed to explore this idea further.

As secretariat for the consortium, FORA was asked to investigate the opportunities for further work in the field. In response to this, FORA has prepared this framework paper to be presented at the upcoming consortium meeting on 12-13 October 2006 in Copenhagen.

Furthermore, based on the analytical framework presented in this paper, a project proposal for a possible study of risk capital markets has also been prepared (see project proposal *Risk Capital Policies and Data*).

Purpose

Much of the previous risk capital research has been concentrated around the supply of capital and has indeed brought a greater understanding of the market.

However, acknowledging that there is a need to examine additional indicators on both the supply and demand side as well as investigate and compare the effects of public policies, this framework paper seeks to address the current knowledge gap on risk capital markets.

By discussing the market mechanisms and looking into what type of new data is required, a more concise picture of relevant policies could be created. In particular, the framework paper aims to provide ICE members with the following:

- Introduction to risk capital concept with a view to familiarize the reader with some of the key mechanisms and challenges on risk capital markets
- An analytical framework - the supply/demand model - to be used in ICE for further work with risk capital
- Existing indicators on risk capital are discussed and possibly new indicators related to the supply side, demand side and public policies are suggested.

Consortium members should consider the suggested analytical framework for the overall project, whereas the way forward is described in the mentioned project proposal.

The framework paper is structured in the following way. First, it provides a theoretical overview of the supply and demand side on risk capital markets, market failures and reasoning for public policies. Second, a supply and demand model is presented and an investment policy model is developed as an instrument to be used in future research. Finally, existing risk capital indicators are discussed. Some new possible indicators for risk capital are suggested based on the supply and demand model.

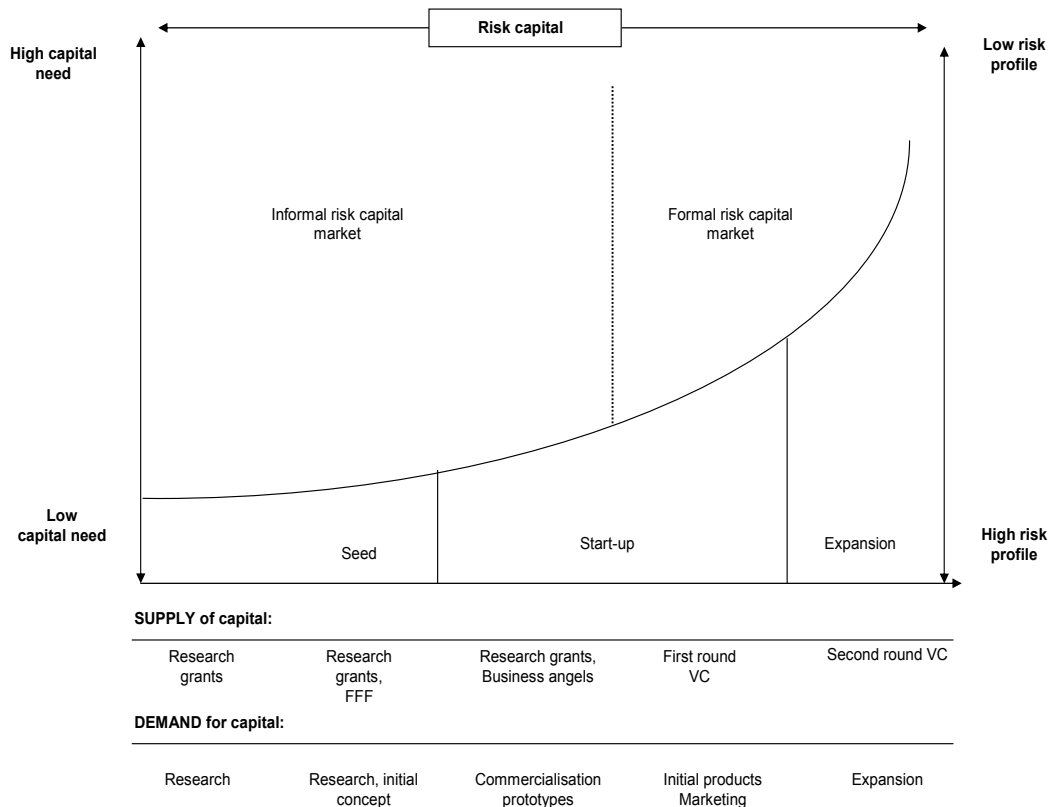
Defining Risk Capital

In this framework paper, risk capital is understood as high-risk economic investment, which possibly is rewarded with a return higher than the economic risk connected to the investment and faced by investor. Risk capital does not include sources of debt financing.

Types of risk capital vary according to factors such as investment stages, types of investor and entrepreneurial activities as shown below in Figure

1. Each of these factors can be influenced through public policies, and sound investment frameworks can encourage investment activities on both the supply and demand side.

Figure 1: Defining Risk Capital



Sources: Adapted from Andersson & Napier, 2005; Western Technology Seed Investment Fund.

As seen in Figure 1, risk capital is investment in stages including seed, start-up and expansion stages.

It consists of various capital sources including investments from professional investors such as business angels (BA) and public and private sources of institutional investors (funds, incubators and other equity financing forms). Whereas business angels represent the *informal* types of risk capital, public and private institutional investors (venture capital funds and other forms of equity) represent the *formal* market. They invest in a demand for capital, which includes firms with high growth potential. As shown in the figure, the firms typically need capital for activities such as research, commercialisation, initial products and expansion.

The investment is considered risk capital until the investor exits through merges and acquisition (M&A) or initial public offering (IPO).

Although financing through friends, families and fools (FFF) or so-called "love money" is not traditionally associated with market failures because this type of funding is constrained by ties such as blood and marriage, we will also look into parts of this segment. In particular, it would be

interesting to compare ways of activating potential business angels by for instance taxation schemes for private individual investors.

The use of risk capital in this paper can be compared to how other investors, policymakers and researchers use venture capital and/or private equity. At the same time, comparing venture capital and private equity is far from easy and differences in the use of the two terms occur. Whereas venture capital and private equity have been used to describe two different types of investment, early and later stage investment respectively, countries have adopted and applied varying versions. For instance, US investors refer to venture capital as investment in both early and later stages (see also Appendix A for differences in definitions).

According to the National Venture Capital Association (NVCA), "the venture capitalist may invest in a company throughout the company's life cycle and therefore some funds focus on later stage investing by providing financing to help the company grow to a critical mass to attract public financing through a stock offering. At the other end of the spectrum, some venture funds specialize in the acquisition, turnaround or recapitalization of public and private companies that represent favorable investment opportunities" (NVCA 2006).

On the contrary and according to the European Venture Capital Association (EVCA), "venture capital is, strictly speaking, a subset of private equity and refers to equity investments made for the launch, early development, or expansion of a business" (EVCA 2006).

Not surprisingly, such differences in definitions between countries and regions hamper international comparisons. Lately, a number of international working groups have addressed the need for harmonising definitions, most recent in Brasilia. The *OECD Global Conference on Better Financing for Entrepreneurship* in Brazil recommended further work with definitions and suggested a handbook of venture capital definitions (OECD 2006a). Also, the European Commission and US Department of Commerce Working Group have recently discussed the needs for initiatives aimed at clarifying definitions in the area of risk capital (European Commission and US Department of Commerce 2005). Subsequently, the European Commission has suggested actions that will help improve data collection across the European countries in the period 2007-2013 (European Commission, 2006).

Therefore, consensus in the use of venture capital and private equity definitions is required in order to produce reliable and compatible risk capital data. By applying a more neutral term - risk capital- this paper seeks to contribute to this process.

The Supply of Risk Capital

Various sources of risk capital investment exist. Looking into investors types, three main sources of risk capital are discussed below.

Research Grants

Research grants exist in different countries and used to support entrepreneurs in the very early seed stage to carry out research in relation to their business model. In some countries they are offered through an incubation system, and in others they are granted directly to the entrepreneur either through subsidies or public procurement.

Informal Risk Capital: Business Angels

Although informal types of investment have been fuelling entrepreneurs long before institutional investment kicked off, the role of informal investment has only been recognized recently. As formal investors increasingly investment in later stages of firm development, more attention has been given to the contribution of informal sources risk capital. Business angels (also referred to as angel investors, informal investors, and private investors) are known as the main source of informal investment.

Business angels are high net worth, non-institutional private equity investors (Hindle and Wenban 1999). They act as active grassroots finance for newly born firms, where there is no family connection (Mason & Harrison 2000). They invest in sectors and stages that are complimentary to those in which institutional risk capital firms focus (Freear and Wetzel 1988).

Much of the research on business angles is concentrated on business angels' ABCs (attitude, behaviour and characteristics), and researchers have been able to identify some common business angel characteristics across countries.

The typical business angel is characterised as follows:

- Male. Numerous studies have found that most business angels are men. In Denmark, 100% of the interviewed business angels were men (Borup, Kjaergaard & Napier 2002). The reason for this can be that fewer successful women entrepreneurs with senior positions in larger firms exist. However, those studies that do include women conclude that women angels have similar ABC as their male colleagues (Harrison & Mason 2005).
- Between 45-65 years old. Business angels in the US and Nordic countries are slightly younger (Landstrom 1993) and recent studies show that many angel investors are gradually getting younger (Infometrics 2004). Some reasons for this could that more entrepreneurs cashed out successfully during the technology boom in the 1990s.
- Successful cashed-out entrepreneurs and typically well-educated (Harrisson and Mason 2005, Reynolds 1997)

- Hands-on and active investors. Business angels often spend ½ - 1 day a week in portfolio firms. Apart from investing, they coach entrepreneurs and provide human and social capital (Borup, Kjaergaard & Napier 2002).
- Although the average investment sizes vary, business angels invest smaller amounts compared to the formal investors. In the US, business angels invest in average \$470,000/deal, while the number is closer to \$130,000/deal in Europe (EBAN Stat 2005).

On the growing body of angel research, some researches have also developed different business angel typologies (Coneney and Morre 1998; Sørheim and Landstrom 2001). One of the angel types is the so-called 'virgin angel'. This is a potential angel investor that for various reasons has not made the first investment yet. Since business angels - and virgin angels in particular, represent substantial sources of untapped risk capital (Suret and Arnoux 1995; Borup, Kjaergaard & Napier 2002), it is important to identify policies, which can encourage them to activate/invest more of their passive capital.

Canada has conducted some thorough business angel research, which could inspire new international research in the area (Riding and Belanger, 2006). Also Sohl (2006) has conducted some quite comprehensive business angel research showing that the angel market in the US is well alive. The value of angel investments reached \$12.7 billion over the first two quarters of 2006. The growth rate of these investments was 15% higher than occurred in the first half of 2005 (Sohl, 2006).

Despite some international research in this area, we still lack comparable information on business angels' investment preferences including stages, industries and investment sizes etc. More accurate information is required in order to decide whether investors' investment preferences generally are met in the market. In addition, data on private persons' wealth could be useful in order to obtain a better picture of the untapped resources among potential angels or virgin angels. This data collection will to some extent require looking into the FFF segment as some of the FFF segment potentially could turn into business angels through appropriate policy efforts such as business angel training and awareness campaigns.

Formal Risk Capital: Institutional Funds

While business angels invest their own capital, institutional risk capital funds invest and manage funds on behalf others. Consequently, positive financial inflows and success rates are important to the funds as they will affect their future fundraising opportunities. The size of fund management can vary from a single person to a team of several investment managers. Some funds are specialised in sectors or stages, and they can be operated privately or publicly.

Risk capital funds invest larger amounts per deal and in later stages compared with business angels (EBAN Directory; EVCA). In the US, risk capital funds invest around \$6-7 million/deal (Venturesource 2006). In the Europe, the average deal size is typically lower. In for instance Denmark, institutional investors invest only half of what is invested in the US (Vækstfonden 2006).

Like business angels, institutional investors invest non-financial assets such as networking and management as well as provide experts to firms' boards. In return, they require large shares of ownership.

Before investing, risk capital funds conduct due diligences, an investment process in which they screen and select firms based on geographical location, sectors and management team. Previously, risk capital funds were mainly local investors. Today risk capital funds have become more global and often invest in geographically distant firms.

Sorenson and Stuart have explained the declining impact of close geographical location in due diligence processes with factors such as growing cross-country alliances, syndications and social networks between investors in different countries (Sorensen and Stuart, 2001). Along with globalisation, the possibilities for syndications with trusted co-investors in other countries increase competition for risk capital on national markets as domestic investors have improved investment opportunities.

Following this development, entrepreneurs should have equally improved opportunities for identifying investors abroad. Their situation differs in practice, however. In fact, having a national investor is very often considered a precondition for succeeding with finding an investor abroad. The reason is that many investors often see it as a sort of "last way out for desperate entrepreneurs", when entrepreneurs from abroad contact them without having domestic investors onboard the project. It seems they tried all possibilities in home countries, but without luck.

So, although globalisation of risk capital markets has led to expanded supply of project proposals for investors, it has not necessarily brought similar advantages for entrepreneurs. Globalisation challenges the national investment frameworks as well as the quality of entrepreneurial projects. In order to investigate the impact of internationalisation on national markets, further research is required.

The Demand for Risk Capital

When some entrepreneurial firms are looking for external funding to finance more risky business, radical innovation and rapid growth activities, risk capital, rather than debt finance, is more in hand.

In this framework paper, we refer to demand for risk capital as firms with high growth potential. In most cases, the potential high growth entrepreneurial firms are micro or small firms with up to 50 employees. They are in early stages of business development, either seed, start-up or

expansion stages with capital needs varying between \$100,000 and \$10 million depending on their development stage.

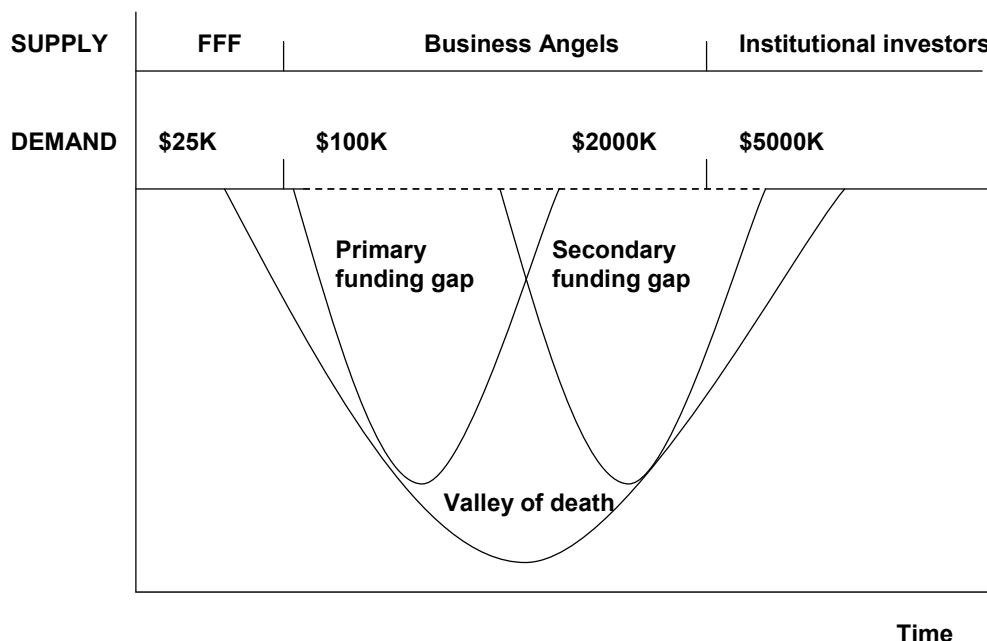
Typical for the demand side, is that it very often is not prepared for meetings with risk capital investors or as described by Mason and Harrison, investment-seeking entrepreneurs are simply not 'investment ready' (Mason and Harrison 2001). The lack of investment readiness can add to the financing gaps as shown in Figure 3.

The Financing Gap

The early-stage risk capital market is fraught with imperfections due to asymmetric information, lack of transparency and high transaction costs causing gaps in entrepreneurial financing (Freear, Sohl and Wetzel 1994; Harrison and Mason 1993; Landstrom 1993; Mason and Harrison 1992; Gaston 1989; Riding and Short 1987).

According to OECD surveys, 80% of OECD countries experience financing gaps and most of the gaps are found within the provision of equity financing (OECD 2006b).

Figure 2: The financing gaps



Source: Adapted from Sohl 2003 and Cardullo 1999.

As shown in Figure 2, investment-seeking entrepreneurs face two substantial capital gaps. According to Sohl and Cardullo, these gaps are understood as a primary seed stage gap and secondary post-seed gap and experienced during the period described "valley of death".

The *primary seed stage gap* occurs in the seed and start-up stages, when firms are looking for external finance between approximately \$100,000

and \$2 million. In Europe, the primary gap can extend as high as \$4 million depending on sectors (Sohl 2003, HM Treasury 2003, Harding et al 2003). Measuring and comparing the average deal size by business angels and institutional investors in different regions lead to these figures.

The primary gap occurs when capital sources from FFF are exhausted and last until the firms are attractive for the first round of risk capital funds.

To some extent, business angels fill a large part of the primary gap. But although business angels accounted for 80% of the investment in seed and start-up technology-based firms in the US, their investments were not sufficient to fill the whole gap (Sohl, Van Osnabrugge and Robinson 2001).

The *secondary gap* occurs between approx. \$2 million and \$5 million (Sohl, 1999). In practice, this is the period after business angels have invested and before formal risk capitalists get involved in the project. Average investment sizes can vary between countries, but American business angels invested in average \$470,000/deal (\$23.1 billion in 49,500 ventures) in 2005, which is far below the beginning of the second gap. In the same period, formal risk capitalists invested on average \$7.4 million/deal (\$22.1 billion in 3008 deal), which is far above the size of the secondary gap.

While some researchers refer to the lack of financing as gaps in certain investment sizes, others describe the lack of capital according to activities. For instance, in European countries, firms planning for internationalisation find it more difficult to raise capital compared to other firms.

The secondary gap has gradually increased since the early 1990s, where institutional investors invested smaller amounts per deal (Sohl 2003). Earlier business angels had more success with exiting their investment to institutional risk capital after only one round of financing. Today they are increasingly forced to provide more follow-up investment in order to fill the gap. Syndications between angels are often necessary to provide sufficient amount of capital. In fact, syndications among business angels have become very popular. According to Sohl, this constellation could contribute to increasing the primary gap (Sohl 2003).

However, there is no doubt that business angels play an important role as providers of deal flow to risk capital funds, although at later stages. Madill et al (2005) notes that, 57% of technology angel-backed firms succeed in receiving funding from institutional investor compared with only 10% of the non BA-backed firms. Although there should be no doubt that business angels and institutional investors complement each other, the relationship is not straightforward.

Following the technology downturn in 2000, many business angels suffered tremendous losses, and together with angels' inability of providing follow-up investment and the much lower valuation of their

investment, institutional investors have been in position to seriously dilute the business angels (Mason 2006).

There might be differences between countries and regions to what extent business angels and risk capital funds complement each other in terms of money per deal and investment stages. In effect, the financing gap might vary across countries as mentioned.

For instance, whereas business angels in the US clearly operate as early stage investors, while institutional risk capitalists take over at later stages, the situation differs in a country like Denmark. Here business angels and venture capitalists tend to invest smaller amounts in same (later) stages.

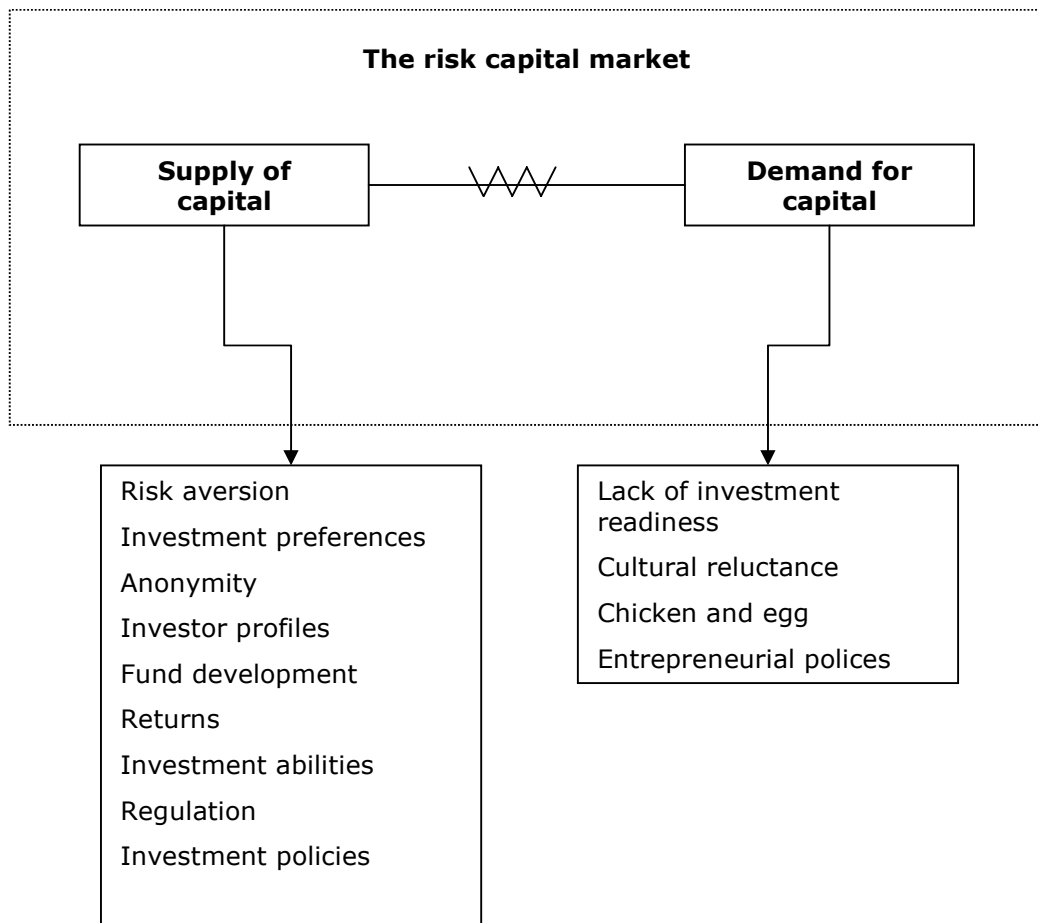
According to a business angel survey, around 50% of the business angels invest in later stages than start-up. At the same time, approximately 60% of investments are less than \$170,000, which equals around 2% of the total amount invested by business angels. The vast majority of angels therefore invest smaller amounts often in later stages (Borup, Kjaergaard & Napier 2002). One explanation for this could be that Denmark is too small a country compared to number of cashed-out entrepreneurs (traditional entrepreneurial business angels) required. As a result, Denmark mainly has business angels with industrial manager background and therefore likely to be less interested in the entrepreneurial start-up activities.

To investigate the financing gap, the business angel and venture capital syndications and the role of public policies, more precise and internationally comparable data is required.

A supply and demand side model

What are the reasons for the funding gaps and to what extent does supply versus demand side issues play a role?

Figure 3: Supply and demand model



Source: FORA

As shown in Figure 3, several researchers have pointed to both sides when explaining the prevalence of the financial gaps.

From the supply side, the following factors can explain the financing gap:

- The restricted supply of risk capital is because private and institutional risk capital investors exhibit *risk adverse behaviour*. They simply don't invest as much as expected in seed projects due to the high risk associated with this type of firms. It has been argued that some industry trade associations have stopped statistical measuring of age of investee firms and only refer to investment stages in order to keep the image that risk capital investors continuously invest in early stages (Robb 2006). Since the technology downturn, investors risk adverse behaviour has become even more pronounced (Mason 2005).
- Investors' *investment preferences* are not mirrored in the market. The demand for risk capital simply doesn't match investors' preferences as regards sectors such as life science and information technology (Robb 2006; Government of Canada 2000).

- *Investor's (business angels in particular) anonymity* causes inefficient flows of information and lack of transparency. Entrepreneurs are simply faced with difficulties when locating risk capital. According to this explanation, the primary financial gap could be reduced with increased transparency (Sohl, 2003).
- *Investor profiles* and skills are not sufficiently developed, which results in lack of expertise and competencies among institutional investors (OECD 2004).
- Whereas institutional risk capital previously would invest smaller amounts, the economic downturn and *larger institutional funds* make investors scale up and invest bigger amounts at later stages. This causes the secondary gap in particular. *Due diligence and monitoring costs* are high and not proportional with investment size, which encourages investors to have fewer but larger investments.
- *Lower returns* on early stage investment, compared to later stage investment especially on European markets, which makes investors allocating their capital to later stages (EIB 2001).
- *Regulation* can prevent investors from investing their capital such as with pension funds in some countries (OECD 2004).
- Poorly developed *investment framework* including secondary stock markets prevents investors from investing their capital (OECD 2004).

From the demand side, the following issues have been brought forward:

- There is generally a lack of quality deal flow and *investment ready firms*. Firms lack the managerial skills and many projects can not offer the elements required to attract risk capital investors (Harrison & Mason 1994; Mason and Harrison 2001; Sohl 1999).
- Entrepreneurs' *cultural reluctance* towards risk capital is viewed as a major barrier for investment. In practice, entrepreneurs are not interested or prepared for opening up to external investors and their influence (EIB 2001).
- The *chicken and egg problem*. Expectations among entrepreneurs regarding possibilities for fund raising depend on market volume and composition of investors. Difficulties in accessing risk capital discourage entrepreneurs and potential entrepreneurs from entering the market and hence reduce the overall supply of investment proposals, which again will have a negative effect on investors' perception of market opportunities and possibly lower their investment volume (Vækstfonden 2003).

- Poorly developed entrepreneurial policies can result in limited knowledge stocks, which have a negative effect on firms' innovative capacity (FORA, 2005).

Policy Issues

In order to tackle inefficiencies on risk capital markets, governments have played a central role in allocating high-risk capital to certain vulnerable market segments. A variety of policy instruments have been introduced to reduce imperfections on both the informal and formal markets.

Whereas initiatives such as business angel networks and different types of market places have been used to improve transparency and reduce transaction costs on the informal capital market, venture capital funds and funds-of-funds have been financed and managed with public money to improve access to capital in certain segments on the formal market. On the demand side, business introduction services and risk capital introduction training schemes have been implemented as to increase investment readiness.

Based on years of experience with public policies, different views on the policy design and effects exist. Some researches have argued that standard policy solutions such as taxation have little or no effect, and that governments should think out of the box, and in particular address the demand side more adequately (Robb, 2006).

Others again have stressed that public risk capital policies should plug into other complementary entrepreneurship policies related to technology, innovation and education (OECD 2004).

Generally, public programmes are thought to play a role within a limited period of time. Once the government has intervened and the market forces have been developed sufficiently, the public initiative should be phased out and/or privatized. This was the case in for instance Israel, where the venture capital fund Yotma Group operated as public entity until its privatisation ten years later.

Based on the discussion throughout the paper, an investment policy model has been developed taking into account the various elements and mechanisms in the market.

Figure 4: The investment policy model

Investment opportunities	Investment capital	Investment abilities	Investment incentives	Investment culture
Entrepreneurial culture	Personal wealth	Human capital (investor profile, competencies, experience)	Public guarantee schemes	Special cultural beliefs (values, basic assumptions)
Investment readiness (training)	Public funds	Social capital (networks, associations)	Public co-investment schemes	Capital market traditions
Flow of investment proposals (start-up rates, meeting places)	Regulation of formal investors		Fiscal initiatives	Investment history
Investment specialisation (sectors, sizes)	Syndication		Taxation	
Knowledge stock (R&D, patents)	Internationalisation of markets		Administrative barriers	
Foreign opportunities	Exit markets and opportunities		Opportunity costs	

Source: FORA

As shown in Figure 4, the market outcome are assumed to depend on five factors; investment capital, investment opportunities, investment abilities, investment motivation and investment culture. These factors are taken from FORA’s work on entrepreneurship and are in this paper applied to the investor.

Investment opportunities represent the demand side of the model – the entrepreneurs requiring capital for their ventures. As the model applies an investor’s perspective, the investment opportunities is seen as a country’s entrepreneurial culture, possible deal flow, the investment readiness of the deals and the composition of entrepreneurial proposals in terms of sectors and stages. The potential deals are also represented by the knowledge stock and foreign opportunities.

Investment capital represents the supply of capital from various sources. Investment capital measures both the size of the capital and the regulations affecting the sources’ ability to invest. Finally, exist possibilities are also included as they represent a source of capital supply and exit opportunities affect investor’s willingness to supply capital in the first place.

Investment abilities include the human and social capital associated with the investors. Human capital is personal aspect of the investors like experience and understanding of the market. Social capital is investor's access to networks and associations, which could include business angles networks.

Investment incentives represent the cost and benefits associated with an investment. These costs are represented by taxation, administrative burdens and opportunity costs. All three factors reduce the return on a given investment and thereby reduce the incentives to invest. The benefits are represented by areas that increase the average return on investments like public guarantee schemes, public co-investment schemes and fiscal initiatives.

Finally, *investment culture* represents areas like capital market traditions (bank or equity oriented) and the cultural beliefs of the investors. These beliefs are difficult to affect and measure, but important for the final market outcome. The historical return on investments in a region for example affects the investments today.

For each of the five factors (capital, opportunities, abilities, motivation and culture) a number of policy areas have been identified based on the descriptions above. No correct number of policy areas exists as aggregation and dis-aggregation of the policy areas can decrease or increase the number of policy areas. Initially, the analysis contains 25 policy areas (Figure 4). By grouping the factors as shown, it is possible to prioritise policy efforts. The areas and factors as listed above could contribute to developing an analytical framework.

When analyzing the demand side, the entrepreneurial policy framework model from the Entrepreneurship Index 2005 will be used.

Risk Capital Data and Indicators

A decade ago, the main risk capital issues were related to how private and public actors could kick-off and fuel a supply of capital, which then could form the market of risk capital.

Table 1: Examples of existing risk capital indicators and sources

Examples of existing indicators	Source
Investment pr. sector and stage (OECD countries)	OECD
Investment pr. geographical location (OECD countries)	OECD
Fund under management (OECD countries)	OECD
Number of business angel networks (Europe)	EBAN
Number of institutional investors (Europe)	EVCA
Number of business angels (US)	Sohl

As shown in Table 1, the existing indicators on risk capital give a fairly detailed description of some market activities. Much of the research has been directed towards quantitative issues such as the challenges with increasing the supply side including market sizes, capital under management, capital invested and number of investors etc (see also EVCA Yearbooks; CVCA; NVCA).

Governments have benefited from the existing indicators, as they have helped to measure the effect of their policies. Increased market activity among private investors has in part been seen as a result of successful policies.

But the existing indicators also have severe drawbacks. First of all, the indicators have been developed in a period with immature markets and therefore lack of consensus on definitions and various methodologies for data collection have been applied. As a result, it has been difficult to compare data on risk capital activities and performance between countries and regions.

Secondly, the existing indicators are as discussed from a period, where the political focus was on increasing the supply of capital. Today policymakers struggle with other issues such as bridging the financing gaps, increasing investment readiness and attracting investor syndications and cross border investments. As a result, the existing risk capital indicators used to guide in policy analysis are not necessarily updated to reflect the more recent challenges. Third, little attention is given to whether the indicators measure the outcome of the investment process (performance indicators) or the foundation for the outcome (business environment). These aspects need to be clarified if policy conclusions are to be based on the indicators.

Therefore, there is a need to develop new indicators, which can be used in cross country comparisons as well as address the more current challenges.

New indicators (possible ones)

In order to shape policies that respond to the more recent situation, new and additional indicators are required. In the following, some possible indicators for supply, demand and policy issues are listed. The lists should not be seen as definitive, but rather as examples on areas in which more work could build. No attempts are made to distinguish between performance and business environment indicators.

Table 2: Possible indicators for the supply side

Supply side indicators
Types of research grants and models (not informal)
Types of investors (BA, FFF, VC funds etc)
How many BA per group: active, latent, virgin
Wealthy private persons as % of total population (potential virgin angels)
How much do they invest, total, per deal, per stage
How much of their capital allocated to investment is actually invested
Reasons for not activating all capital
How many projects succeeded/failed
Rate of return
Investment preferences: size firms, stages, sectors etc. (Compare this with entrepreneurs' profiles to see if they match. And to see if it is the same that the country would like to build their future on in terms of technologies etc). Stages can also show if they compliment/overlap funds.
Investment activities (start-up, expansion, internationalisation etc)
Accept rate: how many investment/project presented
Investor profiles
Years in investment before exit
Exit strategy
Number of syndications
Syndications per sector, partner, stages, deal sizes, national/international partners and projects

Reasons for syndicating

How do you exit investment (in the US BA exit by selling, in Europe BA complain about being squeezed out. This probably reflects better division of labour between BA/VC in the US than Europe).

Number of real new investment pr. year.

Some possible new indicators related to investigating the supply side are shown in Table 2. It is necessary to have a more structured picture of business angels and their investment preferences. In addition, it makes sense to examine factors that can increase the overall supply of capital including virgin angel activities. In addition, it could be useful to investigate the collaboration between business angels and venture capitalists taking into account that many syndicate or that business angels at least exit to formal risk capitalists.

Table 3: Possible indicators for the demand side

Demand side indicators
Sector
Development stage
Investment need (size)
Potential growth firm
Contact to investor

As shown in Table 3, it makes sense to investigate whether certain firms, sectors, stages have more difficulties in getting access to finance than others and if they match the investor's investment preferences.

By investigating the entrepreneur's demographic profile, it is possible to know if the funding gap is a question about lack of match between demographic issues (mainly demand side issue) or strictly financial need issues (mainly supply side issue). Some possible indicators are listed below.

Table 4: Possible indicators for investment policies

Policy indicators
Which policy instruments, legislation etc have been implemented (divided into demand and supply side instruments)
Which stages have the policy instruments, legislations etc primarily been directed towards?
How much has capital been dedicated/invested as public risk capital

How many and how much have been invested in policy instruments?

How many initiatives have been implemented on regional vs. national level?

What has been done (if any) within the BA/BAN segment?

Are there any policy evaluations available?

Specification of policy evaluations and effects

As shown in Table 4, new indicators used to better understand the role of policies could include types of policies that have been implemented, the stages and investor they address and policy evaluation.

Conclusions

The portion of 'interested and able' investors does not always match the group of 'willing and able' entrepreneurs. This situation can lead to a mismatch referred to as the financial gap, which is critical in early stages of business development.

In order to address this financing gap, a more systematic and comprehensive policy study is required. There is a need for new types of risk capital data, which can be compared across countries. Based on international risk capital studies, countries stand a better chance for focusing their risk capital policies.

Further to this framework paper, a project proposal has been prepared suggesting an international risk capital project (see also *Risk Capital Policies and Data*). Consortium members should consider the overall analytical framework suggested in this paper and their participation in the international risk capital project suggested in the other paper.

References

(List not completed)

Andersson, Thomas and Napier, Glenda (2005) "The venture capital market – global trends and issues for Nordic countries", IKED, Malmo.

Borup, Jacob, Kjaergaard, Rolf and Napier, Glenda (2002) "Business Angels i Danmark", Vækstfonden.

Business Development Bank of Canada (2001) "Economic Impact of Venture Capital in 2000".

Cardullo, Mario (1999) "Technological Entrepreneurism", Research Studies Press.

Cardullo, Mario (2004) "Venture Capital: Definitions and Valuations – Need for Harmonization", presentation.

European Commission (2006) "Commission staff working document". Annex I to the Communication from the European Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions "Implementing the Community Lisbon Programme: Financing SME Growth – Adding European Values".

European Commission and United States Department of Commerce (2005) "Working group on venture capital", Final report.

EVCA (2006)

http://www.evca.com/html/PE_industry/glossary.asp?action=search&letter=yes&AZ=opq

FORA (2005) "Entrepreneurship Index 2005", Copenhagen.

HM Treasury and Small Business Services (2003) "Bridging the finance gap: next steps in improving access to growth capital for small businesses", HM Treasury London.

Mason, Colin (2005) "Informal Sources of Venture Capital", Hunter Centre for Entrepreneurship.

Mason and Harrison (2000) "The size of the informal venture capital market in the United Kingdom". Small Business Economics, Vol. 15, No. 2, September.

Mason and Harrison (2001) "Designing an 'Investment Readiness' Programme: some considerations". Report to the Small Business Service.

NVCA (2006) <http://www.nvca.org/def.html>

OECD (2004) "Venture Capital: Trends and Policy Recommendations", Paris.

OECD (2006a) "The OECD Brasilia Action Statement for SME & Entrepreneurship Financing", the OECD Conference on Better Financing for Entrepreneurship and SME Growth, Brazil.

OECD (2006b) "OECD Keynote Paper for SME Financing Gap: Theory and Experience", Brazil.

Riding, Allan and Belanger, Brad (2006) "Informally financed SMEs", Government of Canada.

Robb, Richard (2006) "Perspectives on the performance of the continent's economies", CESIFO.

Sohl, J.E. (2003) "The US angel and venture capital market: Recent trends and developments, The Journal of Private Equity, Vol. 6, No. 2, pp. 7-17.

Sohl, J.E. (2006) "Angel Investor Markets Grows in First Half of 2006", Centre for Venture Research.

Sorenson, Olav and Stuart, Toby (2001) "Syndication Networks and the Spatial Distribution of Venture Capital Investments", AJS, Vol. 106, No. 6, p. 1546-1588.

Vækstfonden (2004) "Efterspørgsel på venturekapital i Danmark", Copenhagen.

Western Technology Seed Investment Fund:

Appendix A

Table 1: Varying definitions of venture capital and private equity

	Private Equity	Venture Capital
Asian VC Journal	Includes equity capital for entities not publicly traded	Equity finance of unquoted companies ranging from small early stage to large management buy-out
European Venture Capital Association (EVCA)	Includes equity capital for entities not publicly traded	Venture capital is, strictly speaking, a subset of private equity and refers to equity investments made for the launch, early development, or expansion of a business
US National Venture Capital Association (NVCA)	Universe of all venture industry, buyout, mezzanine, fund of funds, secondaries	Investment in companies ranging from venture firm backed seed to later state pre-IPO
Israel Venture Capital Association (IVCA)	All non-technology and non-early stage funds	Private, corporate and public funds that focus on investment in early stage technology companies
Australian Bureau of Statistics	Investment into target companies classified into the following stages: seed, early, expansion, turnaround, later, MBO/MBI/LBO	Investment into target companies classified into the following stages: seed, early, expansion, turnaround and late

Source: Cardullo, 2004

Table 2: Varying definitions of investment stages

Investment stage	Asian VC journal	EVCA	NVCA	IVCA
Pre seed Angel				
Early stage				
R&D	x		X	X
Seed	X			X
Start-up	X	X		
Initial revenue	X	X		
Expansion/Development				
Expansion	X		X	
Revenue Growth		X		X
Later Stage				
Bridge	X		X	
Non-Venture Capital				
Mezzanine	X			
Replacement		X		
Acquisition			X	
Buy-out/Buy-in	X	X	X	
Restructuring/Turnaround	X			
MBO/LBO				
Other	X			

Source: Cardullo, 2004