Report
2011:05

Competent **capital?**
- Three countries, three attempts

The Report is the 2nd out of a total of four relating to Growth Analysis' task of evaluating the Swedish initiative with regional co-investments funds. Experience of Government capital procurement initiatives in Scotland, Finland and Norway is fed back and discussed. Important lessons can be learned in areas such as understanding the context, farsightedness, the structure of incentives, geographical dimensions and the design of policy measures.

growth analysis

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Foreword

In the Government Letter of Instruction for 2009, the Swedish Agency for Growth Policy Analysis (Growth Analysis) was tasked with evaluating the initiatives implemented with a view to increasing the regional range of equity capital for the period 2009–2014 within the scope of the eight regional structural funds programmes. Reports on this commission must be submitted: three interim reports and one final report. The first report, *The State and Risk capital* [Staten och riskkapitalet], was submitted to the government on 15 March 2010. Hence the present interim report, *Competent capital?* [Kompetent kapital?], is the second in the series. The emphasis is in accordance with formulation of the commission in the Letter of Instruction for 2011 concerning in-depth case studies involving similar international capital supply initiatives. Experience has been gleaned from initiatives in Scotland, Finland and Norway.

The three initiatives studied describe the structure and the experiences of the stakeholders involved. In all three cases, the government is trying to involve private capital. The objectives of this structure are: (*i*) to ensure a supply of capital to companies with growth potential; (*ii*) particularly to focus initiatives for early phases and with a great degree of uncertainty, and (*iii*) to improve “thin” capital supply markets.

Overall, these three objectives involve the challenge of acting from a policy perspective, and the study demonstrates differences in structures and priorities.

Lessons have been learned in five key areas: contextual understanding, incentive structure, design of policy actions, geographical dimension and long-term strategy.

The informal investors appear as an important group, particularly in terms of early initiatives and a geographic presence. There is a lack of relevant knowledge in this field, and Growth Analysis therefore proposes an in-depth international study in which experiences of promotional measures in respect of this group are studied more closely.

The report has been written by analyst Jörgen Lithander (project manager at Growth Analysis), Roger Sørheim, (professor at the Department of Industrial Economics and Technology Management at the Norwegian University of Science and Technology (NTNU) and the Bodø Graduate School of Business), and Dr. Einar Rasmussen (Bodø Graduate School of Business, University of Nordland).

Hence the original report is also written in two languages: chapters 1, 2 and 4 are written in Swedish, while chapter 3 is written in Norwegian.

This is the English version.

Östersund, November 2011

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Director-General

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Summary

Swedish regional venture capital funds – a few reflections at half time

The initiative involving Swedish regional venture capital funds formally began in 2009. There were no criteria for full operation at that time. The work has increasingly taken shape thanks to the funds' own work and with constructive support from the Swedish Agency for Economic and Regional Growth and evaluators. Knowledge and understanding of the regulations have grown, structures have been developed and the rate of investment has gathered speed.

In 2011, attention has been paid to the funds' *rate of investment* in connection with the risk of repayments to the European Commission. All indications are that the funds have managed this in terms of volume. The most recently available figures (September 2011) indicate that 127 investments have been made thus far. In total, SEK 957 million (c. 105 million euro) has been invested, including both public and private capital.[1] Of the available European Regional Development Fund (ERDF) financing, around one third or SEK 178 million (c. 20 million euro) has been utilised.

Expectations on *levels of return* differ between the funds and the private co-investors. It is likely that the funds' lower expectations, at least partially, reflect the broader target structure to which they must relate.

The issue of *additionality* is methodologically difficult to manage. From the material available, a cautious interpretation may be that the endeavour to-date appears to have been leverage for private investments that have thereby shifted up. Additionality appears to exist for a bare majority of the investors. Potential displacement effects (for private investors) cannot be assessed, but nor can they be ruled out entirely. The Swedish Agency for Growth Policy Analysis (Growth Analysis)[2] believes that it is important that these surveys are carried out regularly and with underlying data which is as good as possible.

The accuracy of the funds in terms of investments *at an early phase* is considered to be well within the intentions of the initiative.

The arrangement of regional venture capital funds tied to a specific programme area makes the *geographical dimension* important. The conditions for every individual fund are far from identical.

Experiences from Norway and the previous Swedish pilot study indicate a number of deficiencies in terms of *cooperation* between the funds themselves and other stakeholders. Consequently, it is important for cooperation and experience exchange in the current initiative both to be encouraged and to actually take place. A common target is important to facilitate cooperation, but not simple to achieve.

One of the issues that will become increasingly important over time involves *exit options*. This can be a concrete issue where experience transfer between the funds may have a significant part to play.

In general, there is a shortage of *systematic evaluations* of State initiatives on the capital supply market. The Swedish initiative has the potential to contribute a wide range of

[1] Exchange rate Swedish kronor (SEK) → euro as at November 2011 (throughout the report).

[2] In Swedish: Myndigheten för tillväxtpolitiska utvärderingar och analyser (Tillväxtanalys).

experience. This naturally requires high quality data. It is therefore very important that the conditions for such data collection are secured.

The *half-time report* produced by Ramböll in its capacity as a procured evaluator doing "ongoing evaluation" includes many relevant aspects. It is hoped that the stakeholders involved will study the report in earnest and that the initiated cooperation will continue to be developed.

International case study

The main purpose of this study has been to map experiences with hybrid seed funding models in Finland, Norway and Scotland. More specifically, overarching goals, organisation, effects, incentives and geographical distribution have been under scrutiny.

In *Scotland*, the Scottish Co-Investment Fund (SCF) was established in 2003. Based on an already established initiative that aimed to develop business angel networks (BANs), this programme established a co-investment model whereby Scottish Enterprise approves the partners that will take part in the programme. The programme partners (typically investor networks and venture funds) are responsible for identifying, evaluating and negotiating deals with potential portfolio companies. When investing, SCF will co-invest up to 50 per cent of the investment amount under the same conditions as private players. Therefore, the decision to invest is made by the programme partners. There are no other risk-reducing elements in the programme, but it is necessary to bear in mind that the United Kingdom offers very attractive individual tax incentives on both invested capital (*front end*) and any returns (*back end*). Studies have shown that this programme has been important in building robust investment networks that invest in the early stages of the company life cycle. Moreover, these investors often take on a strategic role, and sometimes even an operational role, in the companies in which they invest. The economic effects of SCF are as uncertain at present as only a small number of companies have exited at a significant rate of return. This must be viewed in the light of the financial crisis, and the fact that it often takes seven to ten years to develop profitable new growth companies. However, it is reasonable to question whether there has been sufficient emphasis on exit, and whether the relatively young investment networks established have the necessary experience to facilitate successful exits.

The *Finnish* government has experimented with different programmes to stimulate the emergence of new high growth ventures. Examples of such programmes are include different types of monetary contributions to potential growth ventures, programmes for stimulating the creation of new ventures, and various types of governmental seed funds. Realising that projects with significant growth potential need more capital, the VIGO programme – which was very much inspired by the Yozma programme in Israel – was established in 2009. The intention of this programme is to provide a fast track to finance and competence for companies. A key component in this programme is the use of incentivised business developers with international experience. The programme began by choosing six specialised accelerator networks (VIGOs) consisting of serial entrepreneurs, investors and business developers with international experience. The rationale behind the establishment of the VIGOs was that the competence, experience and network inherent in these could contribute to the realisation and of more, better ideas. The programme is still at an early stage, but a number of projects have already succeeded in attracting significant amounts of capital from international venture capital funds. At the same time, several of the VIGOs have expressed frustration with the fact that the public players Seed Vera

Venture and Tekes make independent assessments of individual projects in addition to the evaluations conducted by each VIGO network.

In *Norway*, two rounds involving regional and national seed funds have been set up by the Norwegian seed capital programme. The programme has been organised as a traditional venture capital model with general and limited partners. The government has committed liable loan capital equal to the private capital infused. Additionally, a fund that is subject to claims from realised losses has been established, where 25 per cent of the loan capital can be written off (a maximum of 50 per cent of the loss in each project). The first round of seed funds, established in 1998, has given a non-satisfactory rate of return, and only a few of the investments have given a reasonable return. When evaluating the first round, the following explanations were found for the non-satisfactory returns: insufficient risk-reducing mechanisms, lack of competence among fund managers, funds that were too small, and an unsatisfactory liable loan capital model. In the second round of seed funds, established in 2006, a total of nine regional and national seed funds were established. Attempts were made to rectify some of the shortcomings in the first round by focusing more on the choice of fund managers (requiring competent fund managers), much larger funds, and facilitating the sharing of experiences between the various funds. Moreover, the liable loan capital was offered with slightly better conditions. However, there is still much grappling with the fact that with this model, private players have to bear the cost of fund management, making this management expensive as far as private investors are concerned. Furthermore, the funds have been criticised for not actually making many “real” seed investments. According to the funds themselves, this is due to lack of predictable governmental regulations. The seed programme in Norway is not a “permanent” model, and at present the fund managements are waiting for signals from the Ministry of Trade and Industry as to whether or not the programme will undergo further development. This uncertainty implies a lack of dynamic and makes the seed programme a modest contributor to the development of sustained, robust networks of fund managements.

All three of these programmes are attempting to *involve private capital* in order to increase emphasis on investments in companies with genuine growth potential. This illustrates the following dilemma between the main objectives of the programmes:

- *Firstly*, attempts are being made to involve private players so as to ensure that investments are made in projects with significant growth potential in real terms.
- *Secondly*, the programmes’ intentions are clearly to encourage investment in projects at a very early phase; that is to say, investments with a genuine degree of uncertainty (possibly involving research-based spin-offs from the university and institute sector). However, this intention is not always aligned with the risk profiles of private investors.
- *Thirdly*, there is quite clearly a desire to develop “thin” capital markets so as to increase the strength of these markets with the supply of additional capital and competence (particularly with regard to phase and industry, but also to regions to a degree).

Clearly, addressing all these primary goals in a single programme is very demanding. In the three programmes explored in this report, the goals are weighted differently; and as a consequence, the programmes have different characteristics. In the study, the VIGO programme places the greatest emphasis on the *competence dimension*. It is emphasised here that the VIGO accelerators should be involved in a very early stage of a company’s life. Partners are more or less expected to involve themselves in operational matters within

the companies in order to place the companies in a position to benefit from domestic as well as foreign investments after a period of one to two years. A key objective in the Scottish programme is to engage business angel networks that can supply strategic and operational competence to portfolio companies. The competence dimension is also emphasised in the Norwegian model, but the involvement from general partners in individual seed funds is more strategic than operational.

In addition, this study shows that the *historical context* needs to be taken into account when introducing and developing different programmes. For instance, the SCF programme in Scotland would obviously not have been as successful without the existing tax incentives and investor networks. In the absence of this infrastructure, players would not have been able to exploit the benefits presented by the initiative. In this case the introduction of the programme has enhanced the effects of existing means. On the other hand, Finland has faced challenges when trying to operationalise the programme within the scope of the current means, although the various players mean well.

Another central finding in this study is that the focus on hybrid seed capital models must maintain a *long-term perspective* and involve a high degree of *predictability* in order to maintain the interest from private players. A lack of predictability may persuade private players to terminate their investments, behave more cautiously or reduce their planned investment activity. Maintaining a long-term perspective is difficult for the government as it wishes to see quick results so that it can be sure that public money is being invested well. Given the fact that it could take up to 15 years for a satisfactory evaluation of these types of programmes to be undertaken, this is an obvious dilemma. Moreover, it is difficult for evaluations of such types of programmes to gauge the economic effects of public funding employed to develop capital markets. However, it is entirely possible to undertake partial evaluations over time. Such evaluations should be conducted in close cooperation with fund managers in the various programmes as these managers regularly collect data for internal use. By using this data, it is possible to conduct follow-up evaluations that can provide public authorities with far better decision data for development of new programmes or adaptation of existing ones.

The Swedish model is in many ways similar to the Norwegian seed model, but the regional dimension is even more evident. With this study and previous research in mind, there is every reason to question whether this model would be a good solution for Sweden. A number of studies have shown that regional seed funds struggle to succeed commercially. When a regional model has been chosen, it is important for the programme to be flexible and possible to tailor to the regional context. It is unlikely, however, that a regional programme without some kind of risk-reducing mechanism will deliver reasonable rates of return to its private and public owners. At the same time, it is clear that many of these funds could play a central role in regional development as fund managers gather competence and experience that is not present in many of the regions. Another question involves whether establishment of such funds is capable of engaging serial entrepreneurs in the different regions. Serial entrepreneurs are the people who, in many cases, can provide the operational and strategic involvement that is invaluable in the very earliest phases of a company's development. This ability to contribute on both an operational and a strategic level is what determines, in many instances, whether a prospective growth company is able to realise its potential.

Policy discussion

In the three initiatives studied, the experiences of the involved stakeholders and the structures are described. In all three cases, the government is trying to involve private capital.

From an evaluation perspective, notable deficiencies can be confirmed in systematic *evaluation theorems*. Few evaluations have been done and they provide more of an impression of individual studies than parts of a cohesive, long-term evaluation systems.

The study by Sørheim and Rasmussen emphasises the significance of *long-term* rules and *predictability*. Government initiatives at irregular intervals, uncertainty regarding extensions and potential changes to structures and terms risk influencing stakeholders' willingness to invest (in volume and phase) and make the building of competent environments more difficult.

One lesson that can be learned from the above is to shift the initiatives from short, direct policy measures to more long-term, indirect and system-impacting venture capital strategies, such as incentive structures and regulatory changes. The long-term challenge is, however, to build up and maintain an institutional structure that is stable and long term on one hand, and stimulates learning and innovation on the other.

The three case studies clearly indicate *the significance of context.* An overwhelming majority of the issues we face in Sweden are internationally applicable. This means that methods and solutions from other countries are highly relevant to us as well. The challenge is to take in these foreign experiences and at the same time take into account the context in which they have developed. In this case, initiatives in the capital supply field have to be interpreted on the basis of factors such as history, the nature of the financial market and differences in the business structure.

With this in mind, it can be confirmed that the Scottish experiences point to the existence of business angels and tax incentives as two crucial contextual factors for the Scottish Co-investment Fund's (SCF) successful implementation in Scotland. In Finland, business angels do not have as clear a part to play, but there is a national business angel network – Investor Extra. In Norway, capital from business angels has constituted a small part of total investments, but is still judged to have played an important role when mobilising institutional capital. The question of tax relief for investors in an early phase was also posed in Finland, but has not yet found sufficient political support. In Norway, the issue has, however, not been discussed to any mentionable extent.

Historical heritage also influences how new initiatives are perceived and succeed in their implementation. In Finland, a structure is being tried that markedly deviates from previous handling. The rapid decision process that is sought for is based on the VIGO accelerators' valuation being adequate and that public stakeholders automatically comply with their decisions. This is an entirely different way of working for Seed Vera Venture and TEKES than before. The results have also initially become a significantly more sluggish decision process than intended.

The now working Corporate Income Tax Committee in Sweden will probably propose possibilities of tax relief for natural persons for venture capital investments. It is conceivable that we may see an *incentive structure* in the Swedish tax field in the future, with elements reminiscent of the Scottish system.

On a general level, it can be asked what the *actual goal* is of the government's actions? Or, to put it another way, what is the public undertaking? Is there a long-term ambition to develop the capital supply market to the furthest extent possible so that the need for government market intervention and selective measures can be reduced? Or should the goal be viewed as more short term, focusing on the promotion of a smaller number of growth companies in specific initiatives? Although both aspects can naturally be said to be significant to a country, how they are prioritised and communicated plays a role.

In very simple terms, some differences can be identified in the overall objectives of the three cases studied. Finland is making a stake on few selected growth companies at a very early phase, with business development, rapid access to financing and international connections as main points. Norway has a traditional venture capital model where the government participates by contributing lending capital. The emphasis is on innovative growth companies, and a clear geographical dimension is added through regional funds. Scotland's SCF more seeks to develop the market, increasing capacity and competence among private investors. All initiatives concern an "early phase".

Geographic delimitations or objectives have been included in various ways in the three countries. Finland's VIGO system is entirely divided by industry and consequently only has an indirect geographic dimension. In Scotland, there are no express geographic considerations. However, at the same time, it can be noted that the stimulus of business angel networks has also meant that investors in rural areas have become organised and entered the market. Norway has a clear geographic character in its initiative involving four national and five regional funds. The goals for the latter are challenging: to infuse capital, competence and networks to knowledge companies with considerable growth potential in the areas characterised by depopulation and a weak economy. In practice, these funds can reasonably be considered to be more regional development players than distinct seed financing funds and should perhaps also be judged based on this.

Investors would like to invest in their geographical local area and have portfolio companies within "reach". The reasons are intuitively easy to explain – it is easier to find cases and easier to take care of and monitor them.

If the political objective is to improve the supply of venture capital in the entire country, the above experiences are an interesting background. Two conceivable policy implications can be made. A first alternative is to assign venture capital funds strict geographical delimitations to ensure where investments are made. The second alternative is to work with national funds and supplement these with non-financial promotion initiatives in respect of players, known as *investor/investment readiness* programmes. Well implemented initiatives increase the likelihood of investment action, enhance competence and reduce the search costs for both groups. The likelihood thereby reasonably increases that active informal investors meet investment-ready companies in their local area. Growth Analysisis deems the latter alternative to be considerably more attractive than the former.

Informal investors stand out as an important group, not least in terms of early initiatives and a geographic presence. Unfortunately, this also coincides with an unclear statistical situation. Growth Analysis therefore proposes an *in-depth* international study where experiences of promotional measures in respect of this group will be studied more closely.

1 Introduction

Between 2009 and 2014, a capital provision initiative is ongoing within the scope of Sweden’s eight regional structural fund programmes. The purpose of this is to enhance the regional range of equity capital available to microenterprises, small and medium-sized enterprises (SMEs). These investments are intended mainly to relate to early stages.[3] This is the first time structural fund money in Sweden is being used in a wider venture capital context. Twelve regional funds (fund projects) have been formed, in various combinations. The players Almi Invest, Innovationsbron, Norrlandsfonden and Sjätte AP-fonden are responsible for these funds. This initiative will total around SEK 2.5 billion (c. 275 million euro).[4] Half of this amount will come from private venture capital players, while the other half will come from funding from the European Regional Development Fund (ERDF) and regional public co-finance equally.

The initiative should complement the market and revolve. The former means that it must not force out (crowding out) existing private investments, while the latter means that the capital base must not be reduced in the long term. Investments are always made together with a private player and on the same terms as this.

The capital provision initiative must be followed up and evaluated in various ways; by the Swedish Agency for Economic and Regional Growth [Tillväxtverket] (procurement of Ramböll, an private evaluator doing “ongoing evaluation”) and by the Swedish Agency for Growth Policy Analysis (Growth Analysis)[5] as specified in the commission below.

1.1 The commission

The agency Growth Analysis’ evaluation commission with regard to Swedish investment of venture capital in the structural funds is formulated by the government in the Letters of Instruction to the authority in 2009, 2010 and 2011. The commission as a whole must be reported by means of three interim reports (2010, 2011, 2013) and a final report (2015). The commission states that the evaluation must be able to function as a basis for learning ahead of any future initiatives which are similar in nature. The emphasis is on experiences from international research and empirical data.

Hence the present interim report, *Competent capital?*, is the second in the series from Growth Analysis in respect of this commission. According to the formulation of the commission in the Letter of Instruction for 2011, the emphasis in the report is on in-depth case studies involving similar international capital provision initiatives:

> *“Growth Analysis will compile international empirical research focusing on examining the effects of similar initiatives. General conclusions that can be drawn from these studies will be emphasised. If the authority considers it relevant, international initiatives which are considered to be of particular interest in this regard from a Swedish policy perspective will be examined in greater depth in the form of one or more in-depth case studies.”*

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[3] While the project has been in progress, the “early concept” has been extended somewhat and the target group is now defined as SMEs in seed, startup or expansion phases.
[4] Exchange rate Swedish kronor (SEK) → euro as at November 2011 (throughout the report).
[5] In Swedish: Myndigheten för tillväxtpolitiska utvärderingar och analyser (Tillväxtanalys).

This report corresponds to the latter paragraph and includes three in-depth case studies. The final report on this commission must be presented to the Government Offices (Ministry of Enterprise, Energy and Communications) by 15 November 2011 at the latest.

1.2 Arrangement of the report

This report comprises four chapters. After this introductory chapter comes chapter 2, which provides a number of brief reflections to date on the Swedish regional venture capital funds. Chapter 3 is the central part of the report, containing three in-depth case studies on state initiatives for seed financing in Scotland, Finland and Norway. The case studies have been implemented by two Norwegian researchers: Roger Sørheim (NTNU – Department of Industrial Economics and Technology Management) and Einar Rasmussen (Bodø Graduate School of Business at University of Nordland). In the final chapter (4), Growth Analysis includes a policy discussion based on experiences from the three studies and from the Swedish venture capital initiative.

1.3 Background

1.3.1 The initiative

Growth context

The origin of the initiative can be ascribed to a combination of discussions on shortage of capital and the altered view of the EU Commission on business-oriented initiatives within the structural fund programmes.

Starting and expanding small and medium-sized enterprises (SMEs) form a vital part of economic growth. Most companies are dependent, in various ways, on some form of external capital during these phases. Any situation in which investment-ready companies offering major potential for growth are unable to find finance clearly poses an obstacle to growth. This kind of imbalance between the existing market range on offer and companies' demands is often discussed (in both Sweden and most other countries) in terms of a "capital gap".[6]

The job of the European Regional Development Fund (ERDF) is to underpin economic and social solidarity in the EU by evening out regional differences. Direct investment support to companies, financing instruments and infrastructure investments in a broad sense are just some of the items being financed.

In the late 1990s, the financing initiatives altered towards companies within the ERDF. The number of direct project contributions fell in most EU countries. Instead, there was an increase in initiatives where structural funding was used for venture capital funds or similar. In Sweden, however, business-oriented financing initiatives will mainly be effected in the form of direct project contributions. This was also noted by the EU Commission. A report from 2002 noted that Sweden was one of the remaining four countries that still used only direct contributions in its structural fund programmes. Ahead of the 2000-2006 programme period, the Commission encouraged its member states to transfer funds in the structural fund programmes from direct contributions to various financing forms such as loan, guarantee and venture capital. The arguments included minor

[6] For a problematising discussion on this, see – for example – Growth Analysis (2010), "The State and Risk Capital" [Tillväxtanalys, "Staten och riskkapitalet"], sections 3.6.1; 4.1 and 4.2.

distortion of competition and – through “revolving funds” – creating a backflow of capital and guarantee space.

Sweden is acting

With this as a background, the government and Riksdag (Swedish Parliament) made decisions in 2004 and 2005 which permitted similar initiatives to take place in Sweden as well[7]. A pilot initiative involving three regional venture capital funds then began in 2005 with clear influence from the Scottish Co-investment Fund (SCF). The active investment period for the three funds ran between 2005 and 2008. During this period, a total of SEK 112 million (c. 12 million euro) was invested in 62 portfolio companies. The management and realisation of investments may continue until 31 December 2015.[8]

Criteria and requirements for further initiatives were examined further. Between 2007 and 2008, EIF[9] and Sweco Eurofutures AB[10] presented two separate studies of the Swedish capital provision situation. The conclusion of the earlier report was that the range of external financing has certain shortcomings – which are clearest during companies’ early development phases. EIF also pointed out that Sweden seems to have a complex structure, with lots of small and partly overlapping company-promoting players. The later report identified a gap between the seed phase and the next stage, where the commercial capital comes into play in earnest. A need for supplementary public equity capital in the order of SEK 1–2 million (c. 110,000–220,000 euro) up to SEK 10–20 million (c. 1.1–2.2 million euro) emerges in this financing gap. A number of regional differences emerge as well, such as difficulties with getting bank loans inland and in smaller places due to the low resale value of properties and buildings. The need for loan guarantees or supplementary loans with limited securities is also pointed out for these areas.

Thus to summarise, the conclusion of the Sweco Eurofutures report coincides with the EIF’s analysis of certain shortcomings in the external range of finance on offer. A need had been identified. The implementation method and organisation remained to be resolved.

Fund structure

Options for forming one or more national JEREMIE holding funds were trialled initially.[11] Despite major efforts, legal difficulties (structural fund provisions and procurement rules) means that this alternative had to be rejected. Instead, a regionally based model was selected using venture capital funds in the country’s eight structural fund regions (NUTS

[7] The Capital Provision Ordinance (1996:1188) requires the Riksdag and the government to grant their approval before state funds or other assets are used by authorities as equity capital in companies. See, for example, prop. 2004/05:1, Business and Industry Committee report, 2004/05:NU02; rskr. 2004/05*96.

[8] The three projects were Regioninvest Gotland AB, AB Vestra Partnerinvest (which later changed its name to Partnerinvest i Mellansverige AB) and Saminvest Mitt AB. For an evaluation of the pilot initiative, see: Ramböll (2011), “Utvärdering: Pilotsatsning på regionala investeringsfonder”. For more information on SCF, see chapter 3 of this report.

[9] EIF (2007), *JEREMIE, Interim report for Sweden. SME Financing Gap Assessment.*

[10] SWECO EuroFutures (2008), “Strukturfonder för kompletterande kapitalförsörjning i Sverige”.

[11] JEREMIE is an acronym for Joint European Resources for Micro to Medium Enterprises. This is a joint initiative between the EU Commission and the European Investment Fund. Its purpose is to promote the use of technical financing instruments to increase access for small and medium-sized enterprises to finance through structural fund measures. See: http://ec.europa.eu/regional_policy/thefunds/instruments/jeremie_sv.cfm#1

2)[12]. At the end of 2008, the structural fund partnerships for the respective regions, together with the managing authority, announced an invitation to financing players to apply for ERDF funding for partial financing of the capital base in new venture capital funds. These applications resulted in twelve funds. The following, in various combinations, are responsible for the twelve funds: Almi Invest, Almi Företagspartner Mitt AB, Norrlandsfonden, Sjätte AP-fonden and Innovationsbron. By programme area, the situation is as follows:

- *Övre Norrland [Upper northern Sweden]*: Partnerinvest i Norr AB
- *Mellersta Norrland [Central northern Sweden]:* Saminvest Mitt AB; Mittkapital Jämtland and Västernorrland AB
- *Norra Mellansverige [Northern central Sweden]*: Almi Invest Norra Mellansverige AB; Almi Invest Västsverige AB (Värmland)[13]
- *Östra Mellansverige [Eastern central Sweden]*: Almi Invest Östra Mellansverige AB
- *Stockholm*: Almi Invest Stockholm AB
- *Västsverige [Western Sweden]*: Almi Invest Västsverige AB (Västra Götaland/Halland)[13]
- *Sydsverige [Southern Sweden]*: Southern Swedish Entrepreneurship Fund I; Southern Swedish Entrepreneurship Fund II[14]; Southern Swedish Entrepreneurship Fund III[14]
- *Småland och Öarna [Småland and the Islands]*: Almi Invest Småland och Öarna AB

Capital, method and objective

The capital base of the twelve funds varies between SEK 36 million (c. 4 million euro) and SEK 200 million (c. 22 million euro). This totals SEK 1.4 billion (c. 154 million euro). The capital has two sources: half comes from ERDF, while the other half comes from regional financiers (regional associations, county administration boards, regional Almi Corporate Partners, etc.). At least as much again in anticipated private, commercial co-finance is to be added to this.

These measures should complement the market and revolve. The former means that it must not force out (crowding out) existing private investments, while the latter means that the capital base must not be reduced in the long term. Investments are always made together with a private, independent player[15] and on the same terms (*pari passu*) as this. The private

[12] Every region has prepared its own structural fund programme for regional competitiveness and employment, financed by ERDF and Swedish public funds. Every region has a structural fund partnership, the prime task of which is to assign priorities to applications for project funding.
[13] Almi Invest regards the Western Sweden (Värmland + the counties of Västra Götaland and Halland) as **one** fund. From a finance perspective (programme area link), it has been divided into **two**: Western Sweden Värmland and Western Sweden Västra Götaland and Halland respectively.
[14] Entrepreneurship Funds II and III are converted into a company with the same objective, purpose and process; i.e. these can be deemed to be one fund in practice.
[15] With no earlier link to the portfolio company. Normally a venture capital company, business angel or other company wishing to invest equity capital.

player must as a minimum invest the same amount as the regional, public venture capital fund.

The target group is microenterprises, small and medium-sized enterprises (SMEs), and the investments should relate mainly to early stages[16]. The investment range is normally between SEK 1 million (c. 110,000 euro) and SEK 10 million (c. 1.1 million euro).

The purpose of the initiative, i.e. the actual commission for the funds, is not entirely clear. The overall purpose is to improve the capital provision to SMEs at early stages and to help encourage growth in the portfolio companies. To this must be added target formulations relating to revolving capital, improved regional capital provision structure, competence development by various financing players, improved cooperations between financing players, horizontal requirements (environment, equality and integration), etc. A relatively detailed target discussion has been held during the first year of the initiative with a view to clarifying the expectations and restrictions that the fund projects will encounter as part of this initiative.[17]

The project period for the initiative will extend from 1 January 2009 and 31 December 2014. The most recently available figures (September 2011) indicate that 127 investments have been made thus far. In total, SEK 957 million (c. 105 million euro) has been invested, including both public and private capital. Of the available ERDF financing, around one third or SEK 178 million (c. 20 million euro) has been utilised.[18]

1.3.2 Earlier report from Growth Analysis

The first report of Growth Analysis on the Swedish initiative with regional public venture capital funds, *Staten och riskkapitalet*, was submitted to the government on 15 March 2010.[19] The report presented a method description, an international research summary and a concluding policy discussion. Below is a brief summary of these three elements.

Method discussion

The method discussion showed, in general terms, how Growth Analysis intended to proceed in order to execute the commission as a whole. After a theoretical review, it became evident that – among other things – the commission will generate queries requiring two types of evaluation approach: an implementation evaluation and an ex post evaluation. The international experiences from research and evaluation to be acquired, compiled and viewed in relation to the Swedish capital provision action belong to the former category. The analysis based on the process experiences of the initiative can also be added to the same evaluation category. An ex post evaluation must also be carried out in the form of an effect evaluation following the end of the action (in 2015 at the earliest) which will

[16] While the project has been in progress, the "early concept" has been extended somewhat and the target group is now defined as SMEs in seed, startup or expansion phases.

[17] See, for example, Growth Analysis (2010), "The state and risk capital" [Tillväxtanalys, "Staten och riskkapitalet"; Ramböll (2010), "Start av regionala riskkapitalfonder – uppdrag och lärdomar" and Ramböll, (2011), "Halvtidsutvärdering av regionala riskkapitalfonder – implementering och lärdomar".

[18] Figures from the Swedish Agency for Economic and Regional Growth (2011), ""Kvartalsuppföljning, Q3 2011 i 'Fondprojekten'".

[19] Growth Analysis (2010), "The State and Risk Capital" [Tillväxtanalys, "Staten och riskkapitalet"].

examine any causal links between capital provision initiatives and the performance of portfolio companies.

Research summary

Fourteen different state VC programmes in eight countries which have been evaluated in different ways were reviewed on the basis of the international research summary of the report. This review was summarised in a number of general observations:

- The market failure hypothesis receives limited support in the research. Rather, players acting rationally on small or undeveloped markets are involved.
- Public initiatives must complement the private sector and not compete or force it out. It is clear that this is easier said than done. State VC programmes often end up trapped between the requirement for additionality on the one hand and the requirement for acting on equal terms with the private market on the other, which involves a risk of competing with it.
- The context in which a VC programme has to operate is often a crucial explanatory factor as to why a programme succeeds or fails.
- Many public VC programmes have ambitions in terms of regional policy. It is hoped that venture capital will create growth in a region which has no growth. This is often problematic. Venture capital is attracted to growth regions, it does not create them.
- Incentive structures which stimulate co-investments from private players are crucial for the potential success of any VC programme.

Early policy discussion

In the early policy reflection, it was concluded that the initiative includes both opportunities and challenges. There must be realistic expectations in respect of venture capital. While being an incredibly powerful financing instrument with a documented ability to create growth, there is also a need for nuancing. Venture capital is a form of finance for a limited number of companies with very high potential for growth. A small number of successful investments can provide exceptional returns on exit, but most investments fail at the early stages or provide very modest returns. Venture capital is not the solution for the majority of companies in need of finance. Venture capital along cannot turn the tide of economic development in regions with weak trade.

Starting points for the initiative, such as *financing gap*, *market failure* and *shortage of supply*, were discussed and problematised in the report. Irrespective of whether there is market failure or market rationality, a financing gap can be regarded as a *problem* for the national economy insofar as newly started companies with potential for growth are disadvantaged.

The *"viscosity" of the capital provision market* "(on a sliding scale between "thin" and "thick") was discussed rather than a pure supply problem. A "thin" market has relatively few players, which means problems (time and costs) with them finding one another and entering into agreements. The opposite is true in a "thick" market, where there are lots of players interacting frequently. Investors are of sufficient size and have enough management skills to be able to implement the investments required and also to be able to support the portfolio companies. In a market of this kind, there is also a sufficient number

of high-quality advisors and a functioning, liquid exit market. The more elements of the "thin" market in a country or region, the more obvious it is that effective policy measures have to include more than just an increased supply of venture capital.

One conclusion that can be drawn from this is that it is important to view the initiative in context. A policy initiative can function *with varying degrees of success depending on regional criteria*. One policy alternative to a uniform initiative involves adapting the tools to suit the regional criteria. Initiatives on the demand side and capital provision instruments other than venture capital could then be discussed.

The private players' return targets meet a number of political targets and restrictions in the initiative. One of the major challenges is also the actual *balance between political and commercial targets*.

Clear rules are always significant. Growth Analysis established that a clearer, more distinct target structure would definitely have made things easier for the funds, clarified what expectations there are of them and reduced the need for complex decision-making. It is very important for the target structure to be discussed and clarified as far as possible in future. Such discussions have also been conducted at the meetings held to date with the funds, the Swedish Agency for Economic and Regional Growth and Ramböll, which Growth Analysis perceived to be positive and productive.

Finally, the opportunities for learning were deemed to be good. Good cooperation had begun between the authorities and with the funds.

2 Swedish regional venture capital funds – a few reflections at half time

The Swedish initiative on regional venture capital funds has now reached the halfway mark. Although Swedish process experiences are not the focal point of this report, a few brief reflections will be provided below. Ramböll's half-time evaluation is recommended for a more detailed description of the initiative.[20]

To start with, there is reason to pause for a moment at certain general criteria. The Swedish financial system is essentially bank-based, i.e. the banks are of major importance to capital provision and risk management, unlike e.g. the United Kingdom and the USA, where the securities markets have a bigger part to play.[21]

Like other markets, the capital provision markets does not consist solely of supply. Here, there is also a heterogenic demand, a wide range of "products" and matching requirements. Venture capital is *one* of many financing instruments available. Hence any initiative that increases the *supply* of *venture capital* must also be evaluated on precisely this basis and not as a universal solution to a capital provision problem in a wide sense.

2.1 Structure

The initiative involving Swedish regional venture capital funds formally began in 2009. There were no criteria for full operation at that time. Not all personnel recruitment was complete, potential co-investors and portfolio companies were not informed of the initiative to the required extent, regional co-financing was not entirely in place and there was uncertainty about what rules and structures were actually applicable. For four of the funds, the first investment was delayed until year two (2010). For one of the funds, this was delayed until as late as the October of that year. Thus the majority of the funds were behind their investment plans after the first year.

The work has increasingly taken shape thanks to the funds' own work and with constructive support from the Swedish Agency for Economic and Regional Growth [Tillväxtverket] and evaluators. Cooperation between the funds has been encouraged, and various documents – both problematising and clarifying in nature – have been produced. In all, the rules have become clearer, structures have been developed and the investment rate has increased.

2.2 Structures and commissions

Without touching in more detail upon the process which gradually concluded in the decision on a Swedish venture capital initiative, it can be stated that there were initially many documents which formulated objectives, conditions, reporting requirements, etc. for the enterprise in various ways. All in all, this led to interpretation problems uncertainty and prioritisation discussions. Besides complex startup conditions for the regional funds and

[20] Ramböll (2011), "Halvtidsutvärdering av regionala riskkapitalfonder".

[21] Sweden, Germany, Japan, Austria and France are examples of bank-oriented markets. See e.g. Jeng LA & Wells PC (2000), "The determinants of venture funding: Evidence across countries"; Black BS & Gilson RJ (1998), "Venture capital and the structure of capital markets: Banks versus stock markets".

the administration authority, communication on the specific market offer was of course also affected.

Discussions, meetings and a "clarifying document" from the Swedish Agency for Economic and Regional Growth which gradually developed in November 2010 have allowed most of the questions to be answered.[22]

Examples of important questions raised were:

- What does "complementing the market" mean?
- How should the return requirement (revolving capital) be interpreted?
- What is meant by investing with independent private commercial players on market terms?
- What requirements and expectations are linked to horizontal criteria?
- What requirements are laid down in respect of geographical presence in the separate programme area for the portfolio companies?
- How will the overall actions of the funds be assessed?

Every question noted requires a separate discussion and a broad understanding of both the legal situation and the reality of investors.

2.3 Investments

2.3.1 Volume

The most recently available figures (September 2011) indicate that 127 investments have been made thus far. In total, SEK 957 million (c. 105 million euro) has been invested, including both public and private capital. Of the available ERDF financing, around one third or SEK 178 million (c. 20 million euro) has been utilised.[23]

According to current provisions, the ERDF funding not invested in portfolio companies at least once before 31 December 2014 must be repaid to the EU Commission. As mentioned previously in section 2.1, the majority of the funds were behind their investment plans after the first year. In 2011, therefore, a lot of attention has been paid to the funds' rate of investment. This is understandable from an "administration" perspective, but it is not as obvious from an economic (cost benefit) perspective. Requirements in respect of development potential, additionality, early stages, etc. are dateless in nature. A lower volume of market-complementing investments which "meet" the capital provision gap to the fullest are, with the later approach, better than larger investment volumes with displacement effects (*crowding out*), investments in later phases or with lower development potential, etc.

[22] Swedish Agency for Economic and Regional Growth (2010), "Förutsättningar för fondprojektens genomförande".
[23] Figures from the Swedish Agency for Economic and Regional Growth (2011), ""Kvartalsuppföljning, Q3 2011 i 'Fondprojekten'".

Interviews from the "ongoing evaluation" with funds, private co-financiers, regional financiers, etc. have indicated that there are also individual voices specifically citing potential problems with volume focus and their effect on investment selection.[24]

2.3.2 Return and additionality

Return requirements and expectations have often been discussed over the first year of the initiative.[25] One central element of the initiative is the "revolving" approach. Returns on investments must flow back so that the capital base remains intact over time. What this means in practice is harder to say. Should the capital revolve in terms of its nominal or actual value? Should the level of return cover the administration costs (*management fee*)? Are there any further ambitions? There are clearly different perceptions here, between the public sector and private capital, and between the funds themselves. In the half-time evaluation implemented recently (in September 2011), the "ongoing evaluation" have asked a number of the private co-investors about their return expectations. The answers are interesting even though representativity is not entirely guaranteed. On average, there are expectations of an annual return of around 20 per cent.[26]

This expectation must be compared with the expectations of the funds. The "cornerstones" of the initiative are formulated in the half-time evaluation. The return requirement there is considerably more toned down:

> *"...the funds must strive to maintain their capital base. However, there are no formal requirements for the venture capital funds to generate returns."*[27]

Growth Analysis has previously (in 2010) asked the funds for their interpretation of the return requirements and level of ambition. At that time, the majority stated that there was no formally established level, but during discussions levels from 2 to 6.2 per cent were mentioned. The background to the levels being specified in most cases is based on coverage for the *management fee* (3 per cent) and/or average inflation (2 per cent). However, one of the funds deviated from this and specified that they had decided on an explicit return target of 6.2 per cent. However, this level could vary each year, depending on the interest rate, GDP growth, etc.

To summarise, therefore, it can be stated that the return expectations vary widely between the funds and the private co-investors. It is likely that the funds' lower expectations, at least partially, reflect the broad target structure to which they must relate and which includes considerably more than the return level.

The market-complementing approach and the fact that investments must take place at early stages are another very important element of the initiative. While this is an important reason for the state to be involved, it also means a challenge for the funds to deal with. Investments must always take place together with a "*...private commercial player [...] with amounts which are at least as large, and on equal terms.*"[28] As indicated above, there are obvious differences in the return expectation between the funds and the private co-

[24] See e.g. Ramböll (2011), "Halvtidsutvärdering av regionala riskkapitalfonder", section 6.2.2, and Ramböll, (2010), "Start av regionala riskkapitalfonder – uppdrag och lärdomar", section 6.1.
[25] See also the discussion on this in Growth Analysis, (2010), "The state and risk capital", [Tillväxtanalys, "Staten och riskkapitalet"] sections 2.4.2 and 4.3.
[26] Ramböll (2011), "Halvtidsutvärdering av regionala riskkapitalfonder", page 95.
[27] Ramböll (2011), "Halvtidsutvärdering av regionala riskkapitalfonder", page 22.
[28] Special fund project terms, article 5.

investors. The latter's high return requirements meet funds with a market-complementing commission.

Additionality (added value) here has to be interpreted as meaning the extent to which the investments made would not have taken place without the public initiative.[29] As touched upon in the first report of Growth Analysis, this is a difficult question to answer in terms of methodology.[30] Interviews are often used where portfolio companies or co-investors themselves have to assess this. Thus great demands are placed on being able to assess a counterfactual state (what would have actually happened if the measures had not been put in place?), and on being entirely honest with answers.[31]

In the half-time evaluation, Ramböll reports in a questionnaire questions on additionality to a number of private co-financiers. Besides the above methodological aspects, it is difficult to fully assess the representativity of the questionnaire. At the time of the interview, The total number of private co-financiers could not be established specifically and two funds were not included at all.[32] Bearing this in mind, the results are shown in Table 2-1. Respondents were asked to decide what would have happened to their co-finance had it not taken place from the venture capital fund.

Table 2-1: Private co-financiers' assessment of what would have happened to the investment without public co-finance. N = 31

Alternative	Percentage
We/I would probably have invested the entire amount (including what has now been co-financed by the fund)	3 %
We/I would probably have invested about the same amount that we/I have invested now (excluding what has now been co-financed by the fund)	42 %
We/I would probably have made an investment, but a smaller amount	10 %
We/I would probably not have made any investment at all	45 %

There are different ways of interpreting these results. On the one hand, just over half of the respondents state that they would have invested either all or part of the amount even without the initiative. For more than four out of ten investors, the fund has not involved any additionality as they say that they would have invested just as much anyway (i.e. what

[29] Another way of expressing this in an evaluation context is to use the term "dead weight losses" (the effects would have been achieved anyway without the initiative in question).
[30] See the discussions in Growth Analysis (2010), "The state and risk capital" [Tillväxtanalys, "Staten och riskkapitalet"], section 3.6.2.
[31] However, there are other methods as well. Access to a matched control group of – for example – companies that have not been involved in an initiative provides opportunities for more objective estimates.
[32] At the time of the questionnaire (Q1 2011), the funds reported 91 completed investments. There were 87 portfolio companies at that time. The total number of co-investors is unknown as the companies do not need to report these figures every quarter. The funds received the contact details of 50 co-investors. Of these, 31 responded either entirely or partly. The opinions of these 31 investors are reported in the questionnaire.

is known as dead weight loss). On the other hand, the funds overall have acted as a lever (albeit with varying degrees of exchange) for 97 per cent of investors. Almost half also state that they would not have invested at all without the participation of the fund.

A cautious interpretation of the questionnaire may be that the initiative to date appears to have constituted leverage for private investments that have thereby shifted up. Additionality appears to exist for a bare majority of the investors. Potential displacement effects (by private investors) cannot be assessed, but nor can they be ruled out entirely.

Growth Analysis believes that it is important that these surveys are carried out regularly and with *underlying data which is as good* as possible.

So how, then, do the funds follow their focus on investments in terms of *early phase* and *company size*?[33] Of a total of 104 investments made up to and including June 2011, 24 per cent belonged to startup, 34 per cent to early phase, 35 per cent to early expansion and 8 per cent to mature phase. Investments had been made in a total of 98 portfolio companies up to the same point. Of these, 77 per cent were microenterprises, 17 per cent were small enterprises and just 6 per cent were medium-sized enterprises. No investments had been made in large enterprises.[34]

This result is considered to fall well within the criteria for the initiative, together with details from a number of funds concerning greater demand than anticipated with regard to small enterprises and early phase. However, in context one fund deviates by no less than 79 per cent of the investments in mature phase enterprises. An investment structure which should be followed up.

2.4 Geography

The arrangement of regional venture capital funds tied to a specific programme area (NUTS 2 level) makes the geographical dimension important. Sweden is not homogeneous. Trade structure, the number of potential portfolio companies, access to private co-finance, experience and knowledge about the venture capital instrument together form a context in which the funds can work. Therefore, the criteria for each individual fund are by no means identical. To this must also be added a more or less express expectation from regional co-financiers of greater social responsibility than traditional venture capitalists.

As confirmed in chapter 3, the regional presence is important. Investors want to invest in their local area and have portfolio companies within “reach”. The reasons are intuitively easy to explain – it is easier to find cases and easier to take care of and monitor them. The significance of geographical proximity seems to be ever clearer in early phases. One interesting observation is that one of the funds has opted to work “remotely” and not have a permanent regional presence. To an extent, the opinion is that this is compensated by regional partners. It will be interesting to see whether the solution affects the investment structure.

[33] Phases according to EVCA. *Startup*: 1 year or less, no turnover; *Early phase*: 1-2 years, small turnover, negative cash flow; *Early expansion*: 2 years <, turnover cash positive or close; *Mature*: trad. operation with stable demand and calculable return.
Size classes. *Micro:* 0-9 employees; *Small*: 10-49 employees; *Medium-sized*: 50-249 employees; *Large*: 249 < employees.

[34] Figures from Ramböll (2011), “Halvtidsutvärdering av regionala riskkapitalfonder”, page 84.

We already know from the arrangement that the respective funds' investments automatically take place in their own programme areas. But where does the private co-finance come from? Is it regional too, or is external capital being attracted as well? One of the objectives of the initiative is to develop the venture capital market. This can take place in a number of ways in respect of both supply and demand. From a narrower, geographical, investor perspective, there are mainly two options which appear reasonable for increasing the *number* of investors: (*i*) new financiers can be attracted for the region; (*ii*) potential, but passive, intra-regional investors can be activated. As regards the *volume* capital, existing investors both outside and within the region can also be encouraged to extend their activity.

Table 2-2 below describes the residences of the private co-investors.[35]

Table 2-2: Residences of private co-financiers (investments in 2010)

Fund project	**Geographical residence, private co-financiers, inv. 2010 (%)**				
	Within the region	*Outside the region*	*Outside SE, within EU*	*Outside EU*	*Total*
Partnerinvest i Norr AB[a]	6 (50 %)	6 (50 %)			12
Saminvest	14 (82 %)	2 (12 %)	1 (6 %)		17
Mittcapital	n/a	n/a	n/a	n/a	n/a
Northern central Sweden	1 (33 %)	2 (67 %)			3
Western Sweden, Värmland	3 (60 %)	2 (40 %)			5
Eastern central Sweden[a]	15 (56 %)	12 (44 %)			27
Stockholm[a]	11 (55 %)	5 (25 %)	2 (10 %)	2 (10 %)	20
Western Sweden	7 (32 %)	15 (68 %)			22
Småland & the islands[a]	8 (73 %)	3 (27 %)			11
Southern Swedish Entrepreneurship Fund I	8 (62 %)	3 (23 %)	1 (8 %)	1 (8 %)	13
Southern Swedish Entrepreneurship Funds II-III[a]	27 (84 %)	4 (13 %)	1 (3 %)		32
Total	*100 (62 %)*	*54 (33 %)*	*5 (3 %)*	*3 (2 %)*	*162 (100 %)*

Note: [a] However, there are certain quality shortcomings in the data at present. Investing private individuals have been reported in these funds in a manner which does not permit assessment of the number and/or geographical residence.

Source: Swedish Agency for Economic and Regional Growth, Annual report to 2010

The data is limited to date, with details from just one year. Several investments need to be implemented before any more reliable conclusions can be drawn. That said, a number of

[35] In cooperation with the Swedish Agency for Economic and Regional Growth. Growth Analysis has initiated the need, and the Swedish Agency for Economic and Regional Growth collects data annually.

very preliminary reflections are possible. As anticipated, private co-investors from their own region dominate. More than six out of ten belong to this category. The opposite can be observed for the group of foreign investors. Even if the ones residing both within and outside the EU are added together, these do not total more than 5 per cent.

A number of intra-regional differences can also be noted. For instance, Saminvest and Southern Swedish Entrepreneur Funds II-III have the largest number of financiers from their own region, while the opposite is true for Western Sweden and Northern central Sweden. Stockholm and Southern Swedish Entrepreneur Fund I have both succeeded in attracting foreign capital from both within and outside the EU.

But as stated, at present there are only a small number of observations available (concerning 2010). It will be interesting to monitor the capital flows over time and see which structure emerges.

2.5 Interacting players

The regional venture capital funds initiative is by no means taking place in a vacuum. These funds have to interact with a number of players in different ways and to different extents. These may be other funds, portfolio companies, private co-investors, regional co-financiers, an administration authority, ministry, other state authorities, promotion actors, the media, etc. Unfortunately, it is reasonable to assume that the target profile for the initiative in question is not identical for this heterogeneous collection. If meetings and information exchanges can help to align these target profiles, this should facilitate their interaction and hence also have a positive effect on the criteria for the initiative in the long run.

Experiences from the Såkorn 1 initiative in Norway indicate a number of deficiencies in terms of cooperation between the funds themselves and other players. Therefore, a number of changes were implemented by Innovation Norge in time for round two in order to increase information exchange and competence transfer. Swedish experiences from the earlier pilot initiative point in the same direction. Here, too, contact between the three funds has been sparse. Consequently, it is important for cooperation and experience exchange in the current initiative both to be encouraged and to actually take place. It can be noted that Almi Invest is by far the biggest player, giving them a good starting point to act as the initiative-taker in a general fund cooperation.

2.6 The future

One of the issues that will become increasingly important over time involves divestments, exits. Experiences from Norway (particularly Såkorn 1), Scotland and the Swedish pilot initiative indicate that this is not easy. This can be a concrete issue where experience transfer between the funds may play a significant role.

The starting point for the initiative is a conclusion by 31 August 2020. All ownership interests in portfolio companies have to have been divested by this date at the latest. In its “clarifying document”, the Swedish Agency for Economic and Regional Growth has pointed out two general routes to take; “conclusion without premature phaseout” (primary alternative) and “conclusion with premature phaseout”. How, in practice, can this be handled effectively? Should participating interests be sold completely irrespective of the prevailing market price and buying interest? If sale were not possible in all cases for various reasons and the funds then remain as part-owners after 31 August 2020, can these

be handled? There are basic guidelines here, but this remains to be transferred into practice.

Experiences from chapter 4 (and other research reports as well) generally indicate a shortage of systematic evaluations of state initiatives on the capital provision market. The Swedish initiative has the potential to contribute a wide range of experience. The strong regional characteristic of the Swedish initiative offers good opportunities to monitor how differences in criteria affect the results, for example. Of course, this requires regular collection of high quality data. It is therefore very important that the conditions for such data collection are secured.

The half-time report produced by Ramböll in its capacity as the procured evaluators doing ongoing-evaluation includes many relevant aspects. It is hoped that the stakeholders involved earnestly study the report and that the initiated cooperation will continue to be developed.

3 Can private investors make public capital smarter? Three hybrid seed programmes for growth companies in Finland, Norway and Scotland

3.1 Introduction

In November 2010, the Swedish Agency for Growth Policy Analysis (Growth Analysis) asked for a tender for a qualitative study of three hybrid seed programmes, as they are known, in three different countries. This study has been carried out by Roger Sørheim (NTNU – Department of Industrial Economics and Technology Management) and Einar Rasmussen (Bodø Graduate School of Business at University of Nordland).

Sørheim is a professor at the Department of Industrial Economics and Technology Management at the Norwegian University of Science and Technology (NTNU) and Bodø. Sørheim holds a Dr. grad. degree in economics and business administration from (NTNU), Department of Industrial Economics and Technology Management (2003). Since 1998, Sørheim has been carrying out research focusing on various aspects related to the financing of new knowledge-based companies. On the basis of this research, Sørheim has published a number of articles in international journals. As part of his research work, Sørheim has held project management responsibility for a number of major research projects focusing on various aspects related to the commercialisation of new technology.

Rasmussen has carried out research and project development related to entrepreneurship and business development since 2000. He holds a doctorate from Bodø Graduate School of Business (2006) relating to new establishments based on commercialisation of research results. Rasmussen has led a number of research projects and has broad experience of case-based studies of companies, entrepreneurship programmes and public funds. The results of these studies are published in leading international journals.

In Sweden, a co-investment fund initiative is ongoing between 2009 and 2014. This is taking place with finance from, among others, the ERDF. The purpose is to increase the supply of capital available to new and growing small and medium-sized enterprises. In connection with this, an evaluation will be carried out of similar initiatives in other comparable countries. One of the interim reports will be an in-depth study of at least three different programmes (outside Sweden).

The main purpose of this study has been to use case studies to map experiences with hybrid seed funding models in Finland, Norway and Scotland. When selecting countries and specific programmes to study, emphasis was placed on ensuring that the programmes operate in a context which is relevant from a Swedish policy perspective.

The study includes:

- A brief review of earlier research relating to: a) clarification of which companies are perceiving access to finance capital as a problem for implementation of growth, b) what earlier research stated about the role of the public sector in the development of seed instruments
- A description of the various programmes, but it has been every bit as important to illustrate how different types of player perceive the programme with regard to – among

other things – organisation, decision-making processes and incentives for private capital. We wanted to penetrate behind the "shiny" facade which is often imparted by policy conditions.

- Mapping of methods, results and challenges during evaluation of the programmes in the three countries selected.
- A concluding discussion which reflects how demanding success with this type of programme is. Finally, we will reflect on what implications may arise from the findings from this study with regard to the development of the Swedish seed fund initiative.

3.2 What companies need external finance?

The challenges faced by early phase projects in relation to access to capital are by no means a new problem. In the United Kingdom, it was pointed out back in the 1930s that small and medium-sized enterprises had problems with acquiring provision of venture capital. This is often referred to as the "capital gap" or "finance gap", and these are terms which are often used in connection with problems linked with financing of potential growth companies. Winborg (2000) shows that there is by no means a collective understanding of the term "capital gap". A number of leading researchers are of the opinion that using the word "gap" is not very appropriate as there will always be companies in need of more finance capital (there will always be a "subjective" gap) (Murray, 2007; Storey, 1994). The job of the various players in the finance capital market is to prioritise different projects; not all projects and companies should receive finance. There is not much to indicate that there is an "objective" general capital gap in the finance market (Murray, 2007; Winborg, 2000; Storey, 1994). However, there seems to be broad agreement that insofar as external finance is a problem, young companies wishing to grow as the ones experiencing problems with gaining access to external capital (both credit capital and capital) (see also the theory discussion on the capital gap in part 3.2.2).

External finance (capital or loans) are used in relation to four main areas:

- to handle liquidity challenges in connection with growth,
- to finance physical equipment, etc.,
- to finance product development, and
- to finance market introduction.

Furthermore, it is often interesting to assess the business mass on the basis of entrepreneurs' levels of ambition. Here (Table 3-1), companies can be roughly grouped as follows:

Table 3-1: Companies and level of ambition

Entrepreneurs' motivation and ambition	Types of companies
Desire to establish a supplementary income	Hobby companies
Desire to create a workplace of one's own	Livelihood companies
Technology or market-driven	Growth companies

If, for example, we take as our starting point the approximately 40,000 companies established in Norway every year, more than 90 per cent are in the categories of livelihood or hobby companies (Borch et al., 2002; Sørheim, 2006). These companies need very little in the way of external finance (capital or loans). Growth companies are the ones which find acquiring the necessary finance (loan and capital finance) to be a challenge when it comes to realising their growth potential. However, the challenges which these growth companies face vary depending on the stage the company is at. If the development progress of companies is viewed, this can be described at different phases undergone by the founder and the company. There are several ways in which to describe the development of such companies. Table 3-2 below briefly describes five phases undergone by projects from the concept stage until the project has started to generate income which covers regular operating and development costs.

Table 3-2: Development stage and needs

Company development stage	**Characteristics and need for effort**
Concept and development phase	Characterised by intensive R&D effort, development of technology and knowledge – high degree of uncertainty and risk. Little access to loan capital. Need for capital finance.
Establishment phase	The technology is partly developed, a prototype exists and can be tested – The market side is slightly developed and the company has limited sales and earnings – Ongoing high uncertainty and not much opportunity for loan finance. Need for supply of capital.
Commercialisation phase	The technology and product are to be introduced to the market. Structuring of organisation in order to handle the market side and production, establishment of production facilities. Need for supply of capital, but during this phase will often be able to finance this by means of a combination of capital supply and some loan capital.
Early growth phase	Further structuring of organisation and systems for production, sales and distribution. Ongoing need for supply of capital. Can finance by means of a combination of capital supply and loan capital.
Consolidation	Growth levels off and the cashflow is positive. Need for supply of capital based on decreases.

3.2.1 Current private capital sources

Private investors

In this context, private investors (often known as “business angels”) refers to investors who invest directly in unlisted companies where they have no family relations. Private investors tend to use their financial resources within a relatively modest geographical area or within a specific industry. However, they tend to be involved over a number of phases, and with their local focus and competent capital contributions they can be a factor in persuading private banks to make contributions with regard to loans. These investors adopt a more long-term approach than the other capital providers, and they often have slightly more flexible views of the “exit problems”. Private investors follow up their investments over time, either by means of issues or by providing loans to the companies in which they have invested. In this way, they can in many cases cover the company’s need for credit capital over a period in which the banks have no opportunity to contribute (Sørheim, 2006).

Venture capital fund

Institutional venture capital is an important source of finance for new potential growth companies which is characterised by uncertainty with regard to both technology and economic results, but with considerable growth potential over a period of three to five years. Venture capital funds typically finance projects with a high degree of risk and with potential for rapid growth. Furthermore, many venture funds make a point of exercising active ownership, i.e. they want to contribute more than just money. They want to contribute competence resources which complements the resources possessed by the entrepreneur team in respect of – for example – market, strategy and financial control. The main objective is to contribute both capital and competence, known as competent capital, in order to create further growth. The funds get their returns by going in relatively early, contributing towards development of value in the company over a period of two to five

years, and then contributing to selling the company so that any profit can be realised. One of the special features of the venture capital industry is the major uncertainty in respect of returns on individual investments.

Investors in a venture fund are typically wealthy private individuals, insurance companies, pension funds and major corporations which opt to use an intermediary, venture capital funds, when capital is to be channelled to growth companies. A venture capital fund is normally established with a contractual life of around seven to 12 years. The fund is managed by a "management company", which receives an annual payment of 2-3 per cent of the management capital. Furthermore, this management will also receive a success bonus if the investments have a successful outcome, i.e. a value increase which can be realised on sale of the companies, for example. The organisation means that the "management" operates as a management company and establishes one or more funds in which external investors invest capital which the management company then invests in a portfolio company. For every fund set up, committed capital is invested over the first three to five years. After the investment phase, the objective is to help the portfolio companies to develop, achieve growth and, later, to find exit opportunities (Sørheim, 2006).

Private banks

As far as loans are concerned, the banks have traditionally represented a supply of funding for established trade and industry and have been strongly focused on security and profitability. Hence they have problems with contributing actively on the capital side of things in relation to early phase growth companies, which involve intangible assets first and foremost. This confirms the view of earlier studies, which have shown that the banks play a much more prominent role in the growth phase of the company (Reitan and Sørheim, 2001). At the same time, it is clear that the banks, with their network of branches, play a very central role with regard to a regional spread of capital supply. The banks which invest in working within the innovation field are interested in the fact that there are private players or professional owners on the ownership side in the companies. This is linked to the need to reduce uncertainty, but also to banks' limited opportunities to actively follow up such engagement (Sørheim, 2006).

3.2.2 Challenges in the capital market for early phase companies

Access to financial resources is one of many factors of significance to the generation and development of new companies. In a perfect capital market, all players – regardless of size – will face the same market risk-adjusted capital return requirement. Symmetrical information, the absence of market power, real economic disposals irrespective of finance, neutral tax, equal interest rates and good liquidity will be applicable. Breaching these conditions can lead to failure in the capital market. Studies from countries such as the United Kingdom, the USA, Norway and Sweden show that young companies with growth ambitions perceive access to external capital to be the most significant obstacle to growth and development (Landström, 2003; Winborg, 2000; Storey, 1996). Furthermore, there are a number of macroeconomic studies which show that there is a link between economic growth and well developed finance markets. However, a discussion has continued over a long period concerning whether economic growth is reflected in efficient capital markets or if efficient capital markets are a prerequisite for economic growth (Craig et al., 2008). There is no unequivocal answer to this, but a number of relatively fresh studies conclude that the development of efficient finance markets is a foundation for increasing the rate of growth in the economy (Rajan and Zingales, 1998; Guiso et al., 2004).

In the theoretical discussion relating to this issue of "finance gap", different studies have had different starting points. Often the starting point is that young growth companies have to pay a higher return rate, and possibly higher interest on loans, than larger, more established companies. Hence this is a situation in which the company receives a supply of finance, but on terms which are unreasonable as far as the company is concerned. Hence there is a perceived (subjective) finance gap (Storey, 1994). Viewed from the point of view of the finance sources, there may be rational reasons as to why these companies should pay more for the capital. There will be higher control and follow-up costs per investment in this type of company (Stoll and Whaley, 1983). These companies have no prior history (Binks, 1996), which contributes towards a high level of information asymmetry in the relationship between company and investor. This leads to such major uncertainty that this type of company has to expect to pay more for the capital.

Another starting point involves problems linked with acquiring long-term external finance for young and/or small companies. This is a situation in which the company has no supply of finance even if they are willing to meet requirements concerning a higher return rate or higher interest rate on loans. This means that financiers quite simply do not want this type of company in their portfolios. As regards debt finance, a number of studies show that finance institutions – for example – will set stricter requirements with regard to security when financing young growth companies. This means that companies with a high degree of specialisation in their assets which do not have any prior history ("track record") could experience major problems with acquiring finance for their projects from private finance sources (Binks, 1996). In their classic work, Stiglitz and Weiss (1981) describe a situation in which it is found that some borrowers receive loans while others do not, even if the ones who do not receive loans are willing to pay more for them or to provide the necessary security for the finance. According to Stiglitz and Weiss (1981), this then places us in a credit rationing situation. It is argued that an increase in the interest rate could mean an increase in selection problems due to the fact that a high interest rate would mean that the finance institution attracts customers with more risky projects, and that a high interest rate would give the companies an incentive to invest in higher-risk projects. In the case of this kind of credit rationing, it could be stated that the company experiences an "objective" capital gap, there is a market failure. De Meza and Webb (1990) have queried the validity of this reasoning. They argue that if the banks are incapable of assessing which projects are good and bad, this may mean financing "bad projects". This will then mean that asymmetric information in the relationship between financiers and companies could leave to overinvestment rather than credit rationing. This will also lead to "good" projects being asked to pay a higher interest rate to compensate for the losses in the bad projects. The main difference in the argument between Stiglitz and Weiss (1981) on the one hand and de Meza and Webb (1990) on the other is that different assumptions are taken as a basis. Stiglitz and Weiss (1981) work on the basis that the various projects have the same anticipated value but different risk levels. De Meza and Webb (1990) work on the basis that the projects have different anticipated values. Hence on the basis of the reasoning of de Meza and Webb (1990), the quality of the projects will be crucial as to whether there is any credit rationing in the market. On the basis of this, it may be stated that the cost or option of differentiating the various projects from one another is a problem which involves financing too many "bad" projects. Hence it is natural for many of the traditional finance sources to be more sceptical about investments in potential growth companies. This is as a result of the fact that there is a high degree of information asymmetry (because the information is difficult and costly to obtain, or that it is quite simply not available at all; this then provides a situation with genuine uncertainty).

Over the last few years, a number of researchers have centred their efforts on differentiating between risk and uncertainty (Murray, 2007; Alvarez, 2007). There has been a certain degree of confusion in both the entrepreneurship literature and the strategy literature concerning the concepts of risk and uncertainty. Many people use the terms as if they were synonyms, but a classic work by Frank Knight dated 1921 differentiates between risk and uncertainty. Knight's starting point is that in the event of risk, there is an awareness of potential results and the distribution of the likelihood of these. With decisions under uncertainty, neither the number of potential results nor the likelihood of how potential results are distributed is known. This is precisely the situation in which many startup companies find themselves. For example, there may be significant technological uncertainty associated with the projects. Moreover, these will often be new products in new markets, so at an early state it is actually very problematic to make qualified assessments of whether the project is good enough to meet requirements concerning business administration or socio-economic returns. Therefore, it is productive to discuss the role of the public sector on the basis of the reasoning that there is market-related and technological uncertainty which means that private players are reluctant to finance projects with growth potential.

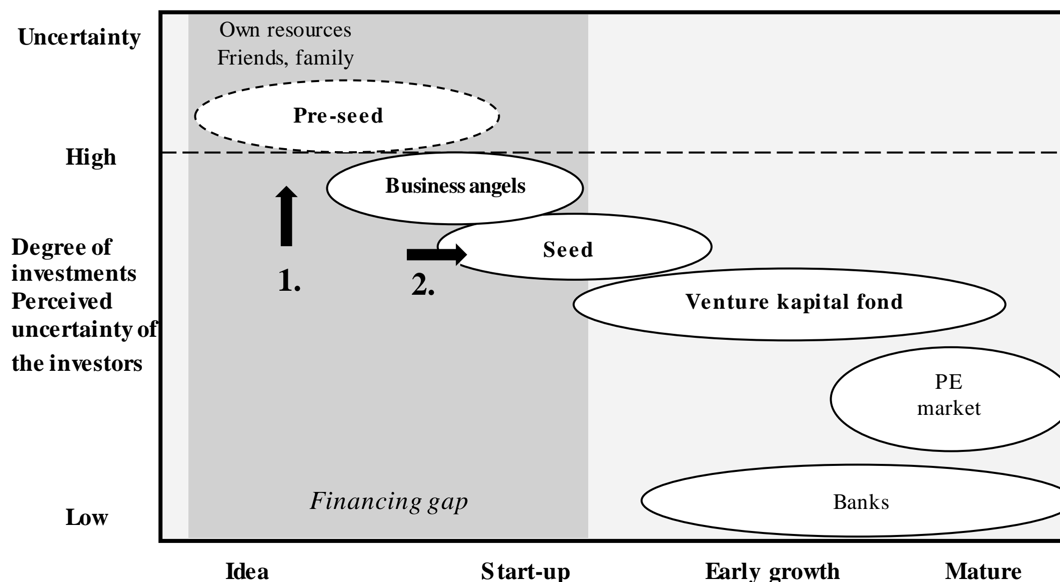
3.2.3 Public involvement

One response to the challenges outlined above is for public authorities to adopt an active role so that projects with possible potential have clarified uncertainty, and hence become "finance-ready" for various players in the private finance capital market. This means that we often see the following reasons for different types of public involvement in the capital market for potential growth companies (Murray, 2007):

- There is insufficient access to relevant finance.
- As a consequence of this, entrepreneurial opportunities which could contribute to socio-economic and business administration returns are "let go", and
- private players will not contribute, on an independent basis, to increasing the capital supply (that is to say, they avoid projects with a high degree of uncertainty).

In the literature, there is a relatively broad degree of unanimity that public authorities can adopt a role when it comes to stimulating growth of new trade and industry. The interesting discussion then involves what role public authorities should adopt. What type of companies should be focused on, and in what phases is it appropriate to get involved?

Figure 3-1: Model of development phases and capital sources for companies with growth potential



The model in Figure 3-1 illustrates *(1)* the fact that a high degree of uncertainty requires greater financial muscle in an early phase. These companies have to carry out development work in order to reach the "starting line", which is indicated by "startup" in the model. Then *(2)* due to inadequate documentation and information asymmetry, the established capital suppliers do not want to go in at such an early phase, so resulting in a capital gap. With this as a starting point, the role of the public sector will alter as uncertainty declines. It will then be natural for different public players to play a more central part in the earliest phases, but they will take on a more passive role as the projects become so mature that commercial players can take over. It is then crucial to have a uniform approach as regards what public funds are offered.

One example of a country in which this has been attempted is Scotland, where Scottish Enterprise has a uniform approach to commercialisation from research. Here, Scottish Enterprise has a central financial part to play at the earliest phases, where different forms of contribution are provided; or "soft loans", where the triggering of further funding is clearly milestone-controlled. When the projects approach an early growth phase, they take on more of a role of facilitator where loan and capital instruments are used to "gear" and partly reduce the risk concerning the private capital injected into the company (Rasmussen et al., 2006).

It is also interesting to see how systematic mapping of the finance capital market for early phase companies makes assessments of how public involvement is relevant. This then provides a better foundation for being able to systematically assess the introduction of new measures and possible adjustments of existing ones (Rasmussen et al., 2006). Furthermore, in a number of central studies it has been pointed out that the public authorities have not taken seriously enough the challenges faced by companies during an early growth phase (Murray, 2007; Sohl, 1999). That is to say, when they have managed to get through the introductory phase under their own steam, possibly also with public contributions and private investors, the fact that both banks and institutional venture capitalists would prefer to see a more solid foundation before going into the companies is a challenge. The challenges linked with capital supply in the early growth phase are often known as "the

second financial gap" (Mason, 2007). This has resulted in considerable emphasis being placed on the establishment of relatively small venture funds as a private-public cooperation. However, many of these initiatives have had an element of being set up on an *ad hoc* basis, with an unclear purpose, a weak capital base and no competence requirements for the people who are to run these funds (Murray, 2007). This is unfortunate when it is known that this is a phase in which companies have an almost limitless need of competent owners.

3.2.4 Is there a regional capital gap?

One important question which has received limited attention in purely research terms is whether there are any geographical differences in the supply of capital in early phases. As regards capital, there has been considerable emphasis on the challenges faced by new technology companies in particular when it comes to finance. In particular, there has been enormous emphasis on how public authorities can help to develop the seed element of the institutional venture capital market, while there has been a lot less emphasis on how greater activity among private investors can be encouraged (Mason, 2007). If we look at the significance of "*private investors*" (business angels) in a geographical context, we find in a study of a representative selection of private investors in Sweden that there is a relatively large number of these types of investors in central regions. Investors in central regions also invest larger sums than investors in more rural regions (Avdeitchikova and Landström, 2005). Furthermore, earlier studies show that a considerable proportion of investors will opt to invest in geographical proximity to their portfolio companies, and insofar as they do invest outside their local areas, they prefer to do this by means of co-investments with other investors (Mason, 2007; Sørheim, 2003). There are a number of reasons for this relatively strong geographical focus:

- They have their work and networks in their local areas, and this is where they gain access to interesting projects.
- They want to follow up their investments closely (by both supplying resources and being able to "monitor" what the entrepreneur team is actually doing).

This means that if private investors are able to choose, they will often choose to make investments in their local areas. In general, it may be stated that public authorities have not focused much on encouraging business angels to make more investments (Mason and Harrison, 2003).

As regards the *institutional venture capital market* and the geographical spread of investments, it can be seen in a number of countries in the western world that these concentrate to an enormous degree on a few growth regions. At the same time, it ought to be noted that in the United Kingdom, for example, investments have become slightly more evenly distributed in geographical terms in the 1990s compared with earlier periods (Mason and Harrison, 2003). Interestingly, several studies show that institutional investors became less willing to invest outside their local areas once the "dot com" bubble burst (Green, 2004). This indicates that in times of economic prosperity, there is a relatively large amount of competition for the good projects in central regions in which the venture funds are located, and attempts are made to seek out other good projects outside investors' local areas in order to find good potential portfolio companies. But at the same time, it must be borne in mind that even if the investments are made outside of investors' local areas, they are still made in other growth regions, ideally as co-investments with others. However, these types of investment are largely concentrated in geographical proximity to

the place where the venture funds are actually located. This trend is also stronger for funds which focus on early phase technology investments (Zook, 2005; Martin et al., 2005). Viewed in the light of the introductory discussion above relating to uncertainty, it is natural for the funds investing at an early phase to actually invest in the areas in which they are located, among other things because:

- Access to good investment opportunities is acquired by contacts and earlier relationships.
- This makes it easier to follow up and monitor the investment.

Furthermore, studies from the USA show that companies starting up in regions where there is not much access to venture capital do in many cases relocate to areas in which there is greater access to venture capital (Zook, 2005). This supports the macroeconomic studies which showed that efficient finance capital markets provide a basis for economic growth. A strong element of venture capital provides a good foundation for developing the few selected companies that have extreme growth potential and may become regional or national beacons. As a response to venture capital funds mainly being located in a few growth centres, public authorities have in many instances set up different forms of regional venture capital fund in order to compensate for this. This type of response to the challenges has been greatly criticised from several quarters, among other things (Murray, 2007; Mason and Harrison, 2003) in relation to:

- The funds are too small in relation to the cost structure they have to bear.
- The funds have unclear purposes.
- The fund managers have no relevant experience and are short on expertise.

Furthermore, Mason and Harrison (2003) point out that it can be every bit as important to focus on making the most innovative companies in a region "investment-ready" so that they are actually capable of communicating their potential to potential investors and lenders. Mason and Harrison (2003) are also critical of the fact there has been so little effort to try to encourage private investors ("business angels") and develop this element of the venture capital market in order to compensate for a lack of venture capital funds. Furthermore, Murray (2007) points out that if this kind of initiative is successful regionally, it should take place in cooperation with private players, where the purpose is clear and the private players are in the driving seat.

As far as loans and contribution programmes intended to stimulate growth of new trade and industry are concerned, most countries in the western world over the last 25 to 30 years have seen clear growth of different forms of support programme. The main purpose of most of these is to contribute to job creation, and many have also focused on supporting growth of new and innovative trade and industry (Murray, 2007). Reviewing the effects of various contribution programmes in the United Kingdom for the 1980 to 1999 period, Curran (2000) points out the many challenges involved in gauging the results of these. This relates to both the challenges involved in gauging additionality, comparing with corresponding companies, self-selection for special programmes, etc. Furthermore, Curran (2000) points out the challenges related to evaluations of the programmes not being critical enough due to a lack of "arm's length distance" between the evaluator and the evaluated (the evaluator wants to be "positioned" for the next evaluation).

Therefore there are few programmes with a long enough history to allow the long-term effects of this to be assessed. One example of a well documented programme in the USA is the "Small Business Administration (SBA) guaranteed lending program". This programme has been active since 1953, and in 2004 it included a portfolio of 240 000 loans (Craigh et al., 2008). The programme operates as a private – public cooperation with commercial banks and with organisations that will assist small and medium-sized enterprises. The guarantee amount varies from 50 to 85 per cent of the total loan. In a study in which the link between SBA guaranteed lending and economic growth was examined, it appears that in the various regions there is a positive link between this type of lending and economic growth (Craigh et al., 2007). Furthermore, another study (Craigh et al., 2008) looks at the effect of the programme in weak trade areas (measured in relation to average income). The conclusion here is very interesting in that there is a clear tendency for the programme to be more important for employment in weak trade areas than in other areas. Hence the conclusion in these studies is that public guaranteed loan programmes have a greater positive effect in relation to employment and economic growth if they are focused on weak trade regions.

3.3 Method

This study includes case studies of three hybrid seed programmes in three different countries. The study includes the VIGO programme in Finland, the seed programme in Norway and the co-investment fund in Scotland. The choice of countries and programmes has been made in order to find interesting models from a Swedish policy perspective. All three countries are relatively small, like Sweden, with open economies with high education levels and a well developed research infrastructure. Studying which programmes are used in Finland was natural, given the fact that Finland, like Sweden, is one of the world's best when it comes to focusing on research and development (measured as investment as a percentage of GDP). In both countries, there is a clear expectation of this resulting to a fairly large degree in more competitive trade and industry (including with regard to establishment of new technology-based companies). The Scottish Co-investment Fund was a natural choice as it is emphasised in a number of contexts as a successful state involvement in the venture capital market. Furthermore, the new Swedish programme also appears to be inspired by the Scottish programme. Norway was selected as it has a relatively long history of hybrid seed models. Furthermore, the Swedish funds have also been set so that clear parallels with the Norwegian programme are evident. The fact that existing evaluations and descriptions of the relevant programmes were available was also a central point.

The structure of the methodical setup was largely specified in detail in the tender announcement from Growth Analysis, which indicated that the study would be based on document studies and interviews with relevant players. This announcement specified in detail a number of elements to be included in the study. The first step involved searching the literature using electronic sources and by means of direct contact with well informed players in each country. This provided us with access to a number of documents such as evaluations and programme descriptions which, either wholly or partly, dealt with the various programmes and the situation concerning early phase finance for growth companies. As a result of this work, it also became clear that major changes had taken place in the structure of this type of funding in Finland, so the emphasis here was changed to focus on the VIGO programme that was set up in 2009.

To extend and update this information, we have visited each country and carried out face-to-face interviews with a number of different players. Between March and May 2011, we carried out face-to-face interviews with a total of 23 people, as shown in Table 3-3. In these interviews, major emphasis was placed on finding out how various players actually feel that the programme is working. Therefore, we emphasised the importance of interviewing public authorities, private players directly involved in the programme and independent experts with an in-depth knowledge of both the programme and its context in the country in question.

Table 3-3

Player	Finland	Norway	Scotland
Public authorities and programme operators	2	3	3
Private players involved in the programme	3	3	3
Independent experts	1	3	2
Total number of interviews	*6*	*9*	*8*

All in all, these interviews have provided a far better understanding of the history behind each individual programme and how the different programmes in each country are linked together than is apparent from official documents and reports. Interviews with both public and private players have provided a more balanced view of strengths and weaknesses in the different programmes. The three programmes covered by the study are characterised by the fact that they are adapted to the context in which they operate and that they largely interact with other programmes such as tax incentives and contribution programmes. Organising good interaction between public and private players is demanding. The interviews in this study have therefore been crucial as a basis for the discussion and the conclusions later on in this report. However, in our view acquiring a good overview via a limited study is a demanding task, as expressed by one player in Scotland:

> *"It is a risk that evaluators get it wrong if they do not have a genuine understanding of how it works. [...] There is not a lot of academic expertise or consultants that can do good work in this area."*

Given the fact that the investigators had a deep prior insight into the type of problems considered by the study, despite the shortage of time and resources they have managed to create a credible overview of how the programmes work. Furthermore, the structure of the interviews has meant that strengths and weaknesses in the programmes are illustrated in a satisfactory manner. At the same time, we want to emphasise the fact this is of course not an evaluation of the individual programmes.

In the original enquiry, major emphasis was placed on studying evaluation practice and the effects of the programmes explored. However, our study has shown that evaluation practice in general is not particularly sophisticated; this means that this point has received slightly less attention in the study. Furthermore, assessing the effects of this type of programme is very demanding and ideally, a period of around 10 – 15 years is needed until the full effects can be seen. This means that the results we see from programmes that have been operating for a relatively short time have to be interpreted with a certain degree of caution.

3.4 Case descriptions

3.4.1 Finland – VIGO programme

Background

Finland is one of the world's best when it comes to investing in research and development (R&D), investing around 4 per cent of its gross domestic product. This means that in Finland, in both the public and the private sectors, there is unique and very strong focus on R&D projects. Likewise, questions are being asked concerning the fact that far too high a percentage of these funds are used in incremental, company-oriented innovation projects, and that not enough is being invested in research into groundbreaking technology which may result in greater commercialisation potential and development of new and existing industries. Furthermore, over the past decade there has been more emphasis on how this broad research investment can be transformed to new growth companies. In this, there is a clear anticipation that the investment in research and development will contribute to growth of more companies with potential for healthy growth (Luukkonen, 2010).

Therefore, there have been experiments in Finland involving different programmes intended to stimulate commercialisation. It can be seen, among other things, that Tekes (the Finnish Funding Agency for Technology and Innovation) has extended its activities from primarily supporting R&D to also developing instruments designed to support the commercialisation of high technology companies. Examples of such programmes are include different types of monetary contributions to potential growth ventures and programmes for stimulating the creation of new ventures. In 2008, the "young innovative entrepreneurs" (YIE) programme was set up as a supply of funding to potential new research-based growth companies. Through this programme, young companies can receive up to EUR 1 million in monetary contributions and loans (monetary contributions constituting around 75 per cent).

Furthermore, the Finnish authorities have used a number of different types of funding to experiment with models for seed finance in order to contribute to the development of new high technology companies. Until 2003, responsibility for this rested with Finlands Industrifinansiering AB. The state-owned company Finnvera has gradually taken over this role as a seed player. In 2005, Finnvera established Seed Fund Vera Ltd., which has EUR 96 million in management capital (extended by means of capital from ERDF in 2011). The objective of this fund is to be "evergreen". So far, the fund has made a total of 161 investments (19 investments in 2010). The fund has a total of 25 exits, but only a handful of profits. The fund makes initial investments of up to EUR 500 000. The fund is also the secretariat for a nationwide Business Angels Network, InvestorExtra, which was established in 2008. The secretariat function aims to make arrangements for investor meetings about once a month, where entrepreneurs can present their projects to investors in the network.

Even if attempts have been made by introduction of state seed instruments to contribute to positive development, there is no doubt that research-based startup companies feel that the Finnish capital market is demanding. There has also been a development towards traditional VC funds making investments in the seed phase to a lesser and lesser extent.

On this basis, there were a number of public and private players that wanted to see stronger coordination of existing funding. Coordination was required, while at the same time it was apparent that these potential growth companies needed competence as well as capital. With

inspiration from the Israeli "business incubator" model Yozma, the Finnish Ministry of Trade and Industry launched the VIGO programme in 2009.

VIGO programme

The aim of the VIGO programme is to stimulate growth of new technology-based growth companies. The intention of this programme is to provide a fast track to finance. At the same time, the programme is intended to supply companies with competence. This will be achieved by incentivising business developers with international experience. One of the private players involved in the structure of the programme reasoned as follows with regard to the establishment of VIGO:

> *"The most scarce resource in the ecosystem, typically, is the experienced entrepreneurs or the serial entrepreneurs. So how if we tried to give enough upside to some of those."*

The programme began by choosing six environments consisting of serial entrepreneurs, investors and business developers with international experience. The rationale behind the establishment of these was that the competence, experience and network inherent in these could contribute to the realisation and of more, better ideas offering potential for growth. The main concept is that when a certified VIGO accelerator opts to get involved in a project using its own time and money, this should trigger support from the Tekes YIE programme and investment from Seed Fund Vera. The experienced business developers should then contribute to faster, better development of the company so that this can be positioned in an international market (including in relation to access to further finance from international investors). The individual VIGOs focus on specific industries. This means that there are no geographical ties, but the spread in industries contributes towards a geographical spread. The choice of environments given VIGO status was made following a tender procedure, where 43 environments applied for VIGO status.

There is a "steering committee" consisting of representatives from VC environments, ministries, Tekes and Vera Venture which holds joint responsibility for development of the programme. The fact that the programme has been developed in cooperation between private and public players is viewed as important; and the steering committee has had a central part to play, as pointed out by one of the members:

> *"[The steering committee] sort of creates a forum where the private side and the public side can start working together. Otherwise it gets too formal. [...] If the governmental people start putting the brakes on, the business people don't want to participate any more. We managed to actually keep a good momentum going."*

This means that the VIGO programme operates alongside of the traditional structures in Finland. One of the players central to the startup phase describes this as follows:

> *"It was the steering committee that was sort of in the driver's seat, even though the programme was run by the Ministry and Tekes was sponsoring. [...] We got it up and running very quickly."*

As the VIGO programme does not contribute finance, the resource initiative for running the programme has been insignificant. During the startup phase, the programme had a part-time organiser with a background in trade and industry. The VIGO programme has also developed a measurement system in order to monitor development, each VIGO having to report its status twice a year; among other things by providing information on how much finance the startup companies have acquired. The measurement system is regarded as important so as to be able to show results in respect of the public players.

The individual VIGOs have slightly different business models, but typically the partners in the individual VIGOs invest their own money and time in the portfolio companies and then have holdings of around 20 per cent. The following objective was specified by a VIGO that we interviewed:

> *"We basically think that we are operating [in a company] for only two years maximum. During those two years we should be able to hire seasoned management, get a market validation outside Finland [...] and get it ready for the series A. [...] Typically we get a ownership of 10-20 per cent of the company [...] we typically go in very early; [often] we have founded or co-founded the company together with the entrepreneurs."*

The main incentive for partners in a VIGO is the return on the investments made. On further agreement, they can also have parts of their "salaries" covered by the monetary contributions received by the companies via a "management fee", but no VIGO receives public finance. Even though no form of finance is linked to VIGO status, it is viewed as attractive by the private players, as explained by a representative of the private sector:

> *"This programme gives much more visibility, it brings them deal flow. [...] because of the high visibility of the programme [...] they can actually now tap into a much bigger pool of deals."*

This means that the partners in the individual VIGOs use their networks to identify interesting investment opportunities, and the increased visibility helps to increase access to potential projects. As stated, the individual VIGOs will receive initial finance for their projects from the Tekes YIE programme (monetary contributions and loans) and from the public seed fund, Seed Fund Vera. It is anticipated that Tekes will provide around two-thirds of the initial finance. Each VIGO, with its three to four partners, will bear responsibility for a maximum of 10 portfolio companies. It is anticipated that the public finance in ten portfolio companies will amount to around EUR 45 million over a period of three years (distributed over monetary contributions, loans and capital). VIGO is hence a selective programme where each portfolio company receives significant resources in terms of both finance and competence. By way of example, we received the following description of the business from a representative of a VIGO:

> *"We have four partners right now, and the way we operate is that one partner can only participate in two companies at one time. Our effort to a portfolio company is typically half [of a position] or more, so it is a very substantial investment. [...] I am the CEO in one portfolio company and the chairman in two."*

So far, the companies linked with this VIGO accelerator have received more than EUR 40 million in finance, of which more than half has come from private players.

Experiences to date

> *"This is a scheme that almost works".* Partner, VIGO accelerator.

The statement above illustrates the fact that the first two years of VIGO accelerators has been far from problem-free. The intention of the programme is to use the VIGOs for "fast tracking" to public finance. However, from the standpoint of the accelerators, the decision-making processes are too slow and not predictable enough. At present, the VIGOs are first carrying out an assessment of the projects, then Tekes and Seed Vera Venture will carry out their own assessments of each individual project. The result will be a case management time of a minimum of two to three months and less predictability. The partners in the accelerators are of the opinion that the decision should essentially rest with them, that the

public players should get involved in the projects recommended by the individual VIGOs, as explained by a VIGO representative:

> *"If this is done correctly it needs to be so that, basically we take the responsibility [...] Otherwise this is not motivating. Why would I be here, doing what I am doing, and then I still have a 20 year old government official who say what I can do and what I can't do. [...] It needs to be predictable."*

Handing over the decision to private players is a radical divergence from how both Seed Vera Venture and Tekes normally operate. However, the decision-making process as it takes place at present appears not to be particularly effective as three players make their assessments independently of one another. The private players involved are sceptical of the fact that Tekes will take on a more central role in the programme, they are afraid that the programme will become more bureaucratic if it becomes one "of many" programmes managed by Tekes.

The public players, for their part, point out that this is taxpayers' money and that the quality of this type of decision must also be assured among the individual players. Furthermore, Tekes emphasised the fact that they also have a part to play when it comes to safeguarding the interests of the entrepreneur, that the entrepreneur is at risk of being trampled by the individual VIGOs.

The VIGOs have operated for a short time, but it can be seen that a number of them have been a triggering factor when it comes to attracting international VC finance. This indicates that the international network of partners in the accelerators is very useful when it comes to strengthening the legitimacy of potential growth companies in an international market.

The establishment of the VIGO programme has taken place outside the regular channels. The programme has been developed with firm support at minister level, but the actual operationalisation of the programme has shown that changing the "game rules" in such a fundamental manner in a short time poses a challenge.

The way forward

The VIGO programme has initially been set up for a period of 3 + 3 years. This means that the programme has to be evaluated after three years. At this time, the programme as a whole must be evaluated and the individual VIGOs must be evaluated. An evaluation after a time as short as three years is demanding, and we can only expect to see tendencies in the development. Evaluation of the individual VIGOs is somewhat simpler in that it can be seen whether individual VIGOs have been capable of attracting interesting cases and whether the partners have been capable of facilitating private finance for these. Furthermore, evaluating the actual interaction and the decision-making processes of the various players will also be a central point. There is already communication between players in order to make the decision-making processes more effective (there is a desire to avoid three players making their own completely independent assessments of every case).

Furthermore, experiments are taking place with the creation of "micro" seed funds linked with the individual VIGOs throughout 2011. The funds will then be created in cooperation with Seed Vera Venture and have a framework of EUR 5 million. The number of VIGOs will be extended throughout 2011; in this context a wider industry spread is required (of the six existing VIGOs, three focus on ICT).

All players involved express a strong interest in further development of the concept, and are viewing this initial period as a pilot period in which trials will be carried out and mistakes will be made, and attempts will be made to adapt the programme to the Finnish context.

3.4.2 Scotland – Scottish Co-Investment Fund

Background

The Scottish Co-Investment Fund (SCF) was established in 2003 to improve access to venture capital finance for small and medium-sized enterprises with growth potential in Scotland. The fund had starting capital of GBP 48 million, of which around half was funding from the European Regional Development Fund. The aim of the SCF was to increase capacity and competence among private investors so as to increase access to early phase capital for small and medium-sized enterprises with high growth potential in Scotland. Essentially, the SCF operates via a base of approved investment partners from the private sector, such as business angels, syndicates of business angels, venture capitalists and banks, as explained by a representative of the SCF:

> *"The core in the model is that we are not picking winners, we are picking partners that are likely to do continuous investment, have a good track record."*

An amount is earmarked for each partner on the basis of an assumed investment capacity which applications can be made to use in connection with investments which meet set criteria from Scottish Enterprise. When the partner makes an investment, the SCF will co-invest on equal terms an amount of between GBP 100 000 and GBP 1 million in capital investments of up to GBP 2 million. What differentiates the SCF from most public investment funds is that the public sector invests capital on equal terms with private investors and follows the investment decisions of the private players, as described by an SCF representative:

> *"Partners come to us, we do due diligence on those partners, we give them a contract which says that over the next xx years you have access to an amount of capital, and it is your discretion to negotiate deals on that basis."*

The SCF started off with 15 more or less active partners and 12 investments in 2003, and since then it has developed to a level with, typically, 55-60 investments a year and 28 partners. Most of the partners are business angel syndicates.

The launch of a new fund in 2003 should be viewed in the light of the fact that access to venture capital was considerably reduced in the wake of the bursting of what was known as the dotcom bubble. This was why in 2002, Scottish Enterprise and the Scottish Executive implemented a review of public funding for capital finance of growth companies. According to key individuals in this process, there was not much belief in existing models, such as public venture capital funds or private managers of such funds. Instead, there was a desire to find models that could stimulate the capital market without suppressing private players. Therefore, SCF's objective was to encourage private players by showing that investing in small and technology-based companies and increasing the number of managers and investors in the capital market could be profitable; as explained by a key player:

> *"Our objective was to increase the capacity and the capability of the Scottish market by bringing new investors into the market and to invest more regularly in the market."*

The challenge involved identifying which players operated in the market for investments in early phase technology companies and how investment activities involving these could be increased. As far as the authorities were concerned, there were active efforts to find a model that could help to develop the market, as explained by someone who was involved in this process:

> *"When we looked at the market; who are the early stage risk investors? We discovered that informal business angels were important. They would dominate by number of deals. There was no point in making a fund or a fund in fund. We needed more players in the market, but these people don't have a fund you could invest in."*

Business angels are individuals who make investments, but at this time there were also a few business angel syndicates in Scotland operating according to a model where a number of investors made co-investments. The creation of the SCF is inspired by this model in that the public sector – in this case Scottish Enterprise – supplies capital by co-investing with private players in individual companies on the same terms as the private players. The rationale behind this model was to help to ensure that the companies operating in this market were able to implement additional numbers of larger investments as the public sector was supplying supplementary capital. Thus the model assumed that the volume of capital was too small, but that there were players willing to make early phase investments; as specified by one player:

> *"This particular co-investment model could not have been launched without the pre-existence of some mature angel groups capable and competent to be partners."*

Two important criteria for the establishment, structure and later success of the SCF were that there were considerable tax incentives and an infrastructure that could attract private investors. The Enterprise Investment Scheme (EIS) gives investors tax deductions when they invest new capital in smaller companies. Under certain conditions, investors can receive a refund of 20 per cent of the amount invested; and amount that was increased to 30 per cent in 2011. It is also possible to avoid being taxed on the profit, or to write off the loss in order to pay reduced income tax when the shareholding is sold[36]. In all, this provides favourable conditions for investments in this type of company, as explained by a representative of business angels:

> *"We can do very well because of the tax breaks. [...] If that is a complete loss [...] your loss is 35 per cent of your own money. But if it is a win, there is no tax at all. If you are in an angel group and get a portfolio effect, it has a very significant effect on IRR (Internal Rate of Return)."*

This is attractive for private investors, as described by someone who knows them well:

> *"A lot of our investors do it to get that relief, or do more of it just to get that relief. They call it EIS investing. 'let's do some EIS investing'."*

As the EIS tax deduction is only valid for investments in individual companies, not in funds, it was necessary to create a programme which permitted direct investments if private players were interested, as explained by a representative of business angels:

> *"Our guys will not put their money in a fund, because they will lose the tax breaks."*

[36] For detailed information on this programme, see: http://www.hmrc.gov.uk/eis/

Another means of developing the investment market was the establishment of the Local Investment Networking Company (LINC) in 1993 for development of business angel groupings according to an American model. LINC was established by investors but receives some support from Scottish Enterprise and the EU. When the SCF was created, there were already six active business angel syndicates representing a considerable proportion of early phase capital finance for technology companies in Scotland. The SCF was therefore structured so that it was possible to co-invest with both business angel syndicates and conventional funds. Later, it has become apparent that the business angel syndicates have adopted a central role in the Scottish investment market and have been responsible for most of the investments co-financed by the SCF. The first two business angel syndicates, Braveheart and Archangels, have been responsible for a considerable proportion of all investments to the SCF, with 19 per cent and 16 per cent respectively, until 2007 (Hayton et al., 2008).

A typical structure of a Business Angel syndicate in Scotland is a grouping of private investors, comprising an inner and an outer circle of members. The inner core group consists of six to ten active and experienced investors who receive, select and structure the investment cases. These always invest in all cases. In addition, there is an outer grouping of members involving 20-70 investors who are less active, but who make an independent decision in each case on whether they want to get involved. One of the business angel representatives explained the process as follows:

> *"The core group they screen the deals, they decide the structure and they say: we are investing in this with our own money, who else wants in? They have to allow the outer group to subscribe for as much as they want. There is no controlling mind as there might be in a VC fund which says we will only do half. They allow the guys to subscribe for as much as they want, because really it is an opinion poll on their judgement. Then they go to the co-investment fund for the gap, which is why the leverage has been much better than one to one."*

The day-to-day running of a business angel syndicate is carried out by what is known as a gatekeeper. This is either one of the investors who is a member of the syndicate who has taken on the role as leader and administrator, or a person who has been appointed to do this (Paul and Whittam, 2009). Smaller and newly started syndicates are often led by a member, while the larger syndicates have appointed a part-time or full-time leader.

LINC has been involved in a total of 26 business angel syndicates, of which seven have been discontinued. According to LINC, over the past six years there has been a considerable change in the structure of the business angel market from before, when it comprised 400 individuals and two syndicates, to its current structure of just 100 individuals and many more syndicates: 19. According to a number of the players we interviewed, the development involving more syndicates and an increased degree of co-investments between business angels has meant that they are in a position to supply more capital to each individual company and to follow the companies through a number of investment rounds. One of the players we interviewed stated the following:

"It is possible for angels as a group, and with co-investment, to do four or five rounds to take a business to a 30 million exit. So it is a different population from the very small number that go superstars as a VC. [...] Angels can make good returns on ordinary exits, VC can't. I think they have different purposes. We can do very well because of the tax breaks."

Among other things, this has meant that business angel finance in Scotland not only contributes at an initial phase before Venture Capital gets involved, but in many cases it provides a parallel finance route until procurement or listing on the stock exchange, as explained by two different business angel representatives:

"There are certain times we can't avoid it, but we now work on the principle that we wouldn't invest in anything that we think might need VC capital."

"It is not sequential here, it is parallel. It is angels or VCs. [...] at the angel conference in San Diego last year, they have electronic voting, and they did a poll,[...] 68 per cent said they would never do a deal where they expected to need VC."

As the SCF transfers the investment decision to private partners without making its own assessment of the investment cases, selection and quality assurance of partners is important. A representative of a business angel syndicate described the process as follows:

"It's quite rigorous, but also relatively subjective, qualitative, because typically [the partner] will not have a huge track record [SCF] can measure, but [the partner] have to be seen doing deals with their own money and to be doing them capably."

The way in which the SCF is organised makes it relatively dynamic when it comes to being able to include new players, unlike more traditional fund models. For example, the SCF acquired seven new partners in the 2009/2010 financial year.

The actual investment process is relatively simple and unbureaucratic, as explained by a representative of SCF:

"The process is quite simple. If they find a deal, they tell us on one page. Within two weeks or less we say yes, and the next thing we see is the legal documentation which we scrutinize to make sure we get the right terms, and if we agree, our money goes to the company at the same time as the investors' money. The money never touches the partner; it goes directly to the company."

Even though the SCF model may seem relatively uncomplicated, the investment decision is largely based on trust, while at the same time the decision on investment does not rest with the business angel syndicate itself. Syndicates with which the SCF has agreements do not make any investments; individual syndicate members do this. A representative of a business angel described the model as follows:

"... these groups they are virtual. [Syndicate X] does not invest. [Syndicate X] Ltd pays the rent and pays the secretary and facilitates the process, but actually Scottish Enterprise co-invests with different permutations of private individuals in each case. But the core, that is the key: really trusting the core group that must lead with their own money. It is a difficult model to really capture because the entity [SCF] sign the co-investment agreement with is not investing. I keep saying that we really should not analyse this too much ..."

Evaluations

The SCF was evaluated in 2007-2008 by independent consultants who carried out relatively thorough analyses of the investment portfolio and interviewed a large number of investment partners and the companies with the SCF on the ownership side (Hayton et al., 2008). This evaluation was very positive, and felt that the SCF had met its objectives to a great extent. The evaluation concluded as follows (page 95):

> *"The Co-Investment Fund is attaining its objectives and is held in high regard by all parties: partners, investees, intermediaries, and non-partner investors. It is praised for its "bravery" in putting the private sector in the lead and the speed, simplicity and flexibility of its processes. To this we would add its performance and impact upon Scottish SMEs."*

The evaluation estimated that the SCF had contributed to between 449 and 664 new workplaces and that the effect on the turnover of the companies was between GBP 38 million and GBP 55 million. This was stronger growth than was seen in Scottish companies in general and did not suppress other business to any major degree as most of the companies were sold outside Scotland.

In 2006 and 2007, an evaluation was also carried out of Scottish venture and loan funds supported by the ERDF, which included the SCF (Scottish Government Social Research, 2008). This evaluation, too, concluded with the fact that the SCF had contributed to development of the finance market in different regions of Scotland (page 3):

> *"The availability of public sector match funding increased the deal capacity of syndicates. Coupled with other public assistance in the running of syndicates, the result has been a strong syndicate network, particularly in the East of Scotland, with newer developments in the West. And some of the investment partners of SCF were not previously involved in company finance in Scotland."*

The evaluation was also clear that the SCF had high degree of additionality both for the companies in which they were investing and for the investment partners (page 3):

> *"The reason for bringing deals to SCF is often a lack of financial capacity to meet the whole of the deal, or a desire to spread risks. Such reasons imply additionality – the deals would not be entered into fully if SCF was not there."*

The SCF focuses on developing the market and does not necessarily want to be gauged by the degree to which they contribute to the financing of individual companies, as explained by a key person in the structuring of SCF:

> *"One of the evaluations took a bottom up approach, went to the companies. The businesses are our beneficiaries, but what we are trying to do is to develop the market in Scotland to be more active and sophisticated. Instead of looking at the companies, you should look at how the market developed. [...] It is quite easy to get money to companies, it is just giving them grants, but if you do that, nothing will change. You need to do something more sophisticated to engage an active market. What we do is lubricate the process."*

Since the SCF monitors investment decisions made by private players, the geographical spread of the investments to the SCF is largely affected by the locations of the active partners. Initially, this means that a large number of the investments were made in eastern Scotland around Edinburgh, where active investment environments were already located; as indicated by an investor:

"The tradition of angels in Edinburgh is quite old. I mean hundreds of years old. [...] It fits in peoples' minds. Whereas in Glasgow there isn't that tradition and there are far fewer angel groups and consequentially fewer angel backed companies."

Scottish Enterprise has worked actively in cooperation with LINC to support the establishment of new business angel syndicates in several regions of Scotland. Instead of actively controlling the regional distribution of these investments, the SCF has been involved in building an infrastructure of business angel syndicates in several regions.

"We have not required investments in particular areas. We have put the emphasis in developing the infrastructure through an organization like LINC."

One of the people we interviewed at the SCF gave the following example of how a new business angel syndicate was developed:

"Someone came and said that they were interested in setting up a syndicate, and asked LINC to help them. LINC told them how to do this, and they put one of their own people to be the temporary gatekeeper, so they keep the process and did the first couple of deals. So they developed so that LINC could stand back and say that they thought they were sophisticated enough to operate on their own. LINC would continue to help, but when new groups develops and becomes direct partners with us, that allows LINC to help develop new ones. This is a feeder process."

Developing new business angel syndicates is a difficult process as they have to be built from the ground up and are dependent on private investors perceiving the benefit of being involved.

"... one of the things that can make an angel group viable as an operation, is the fact that the co-investment fund pays a 2.5% deal fee. That is really critical in making the groups self-propelling. Angels cannot and will not pay the full cost of a sophisticated group. When LINC tries to get new groups going, we direct a little European money to support them for a couple of years."

The development of new syndicates has meant that the investments are being made in several regions to an increasing degree, but that most investments are still being made in the biggest cities, even by syndicates which are based in smaller places. Most of the people we interviewed pointed out that a shortage of investment cases was the biggest challenge faced in relation to achieving a greater geographical spread of investments to the SCF; as specified in this quotation, for example:

"I don't know if geographic location of the angels is relevant in a small country like this. The difficulty is generating quality dealflow."

Results, effects and learning

The SCF appears to have contributed to more private capital in the market, as stated by a private investor:

"In terms of what [SCF] have done I think the total amount out the door are 30 or 40 million and that has leveraged another 100 million, more or less, of money which I suspect is a multiple of the amount of money that would have been invested if the [SCF] had not been there."

This is backed up by a representative from the public sector:

"For every pound we invest we get about 2.2 to 2.5 pounds private money. What we are doing is essentially making the market to be comfortable with investing in these businesses and over time hopefully our contribution is reduced because the market confidence in these sectors is increased."

It also appears that the SCF has contributed to bringing more players into the market. In any case, there has been considerable growth in the number of partners linked with the SCF and with the seed and venture funds using the same model.

"When we started in 2003 there were 15 partners, whereof 3 angel syndicates, now we are 20+ angel syndicates in Scotland and in all the three funds we have more than 75 partners, Scottish, national and international. The co-investment model actually helps incubate business angel syndicates."

This is backed up by a representative of business angels, who points out the significance of introducing new players:

"I believe that one of the really important factors is that you must have multiple delivery channels for getting capital into the early stage. If [SCF] simply have had a small number of co-investment partners [...] and given them bigger allocations, you would not get more deals, you get bigger deals. The existence of the co-investment fund has allowed many more groups to achieve critical mass, and so you are getting multiple delivery channels and many more companies funded. It does not get our guys to invest more money - it does allow them to support more companies."

The development of new players appears to have a positive part to play in the dynamics in the market, as explained by an SCF representative:

"The development of new angel syndicates as partners is an important point, especially in downturn market, because the existing players tend to focus on their existing portfolio and do not enter new deals, so you need to encourage new players to get new deals."

The model according to which the SCF was created had not been tested elsewhere and so it was dependent on the political willingness to try something new. The significance of key individuals at the Scottish authorities and in Scottish Enterprise having worked actively over many years to explain and defend the SCF model should not be underestimated.

Many of the players we interviewed emphasise the significance of the investment decision being made by players who are themselves investing in the projects and not by players who live by the investment process itself. This is to do with both with incentives and costs, as was pointed out by two of the players we interviewed:

"One of the definitions of market failure, which gives rise to the equity gap, is that the cost of the process is disproportional to the capital delivered. If you try to make money from that process the market failure reasserts itself."

"Unless you are motivated to make money out of the investments, to making money out of running the investments, then it is wrong. [...] angel groups should be driven by people doing the investing, and not the people doing the managing. I think that is a key, key, point. Because if you like to be driven by people doing the managing, you end up creating an investment managing business for creating their own profit, rather than making as much money as possible out of a company. Making as much money as

possible out of a company is the best thing for the economy, the government and the angels."

The development of the SCF also says something about the fact that models for public entry into the capital market must be adapted to the context in which they operate and that cooperation and experimentation are important. As explained by a representative of business angels, the SCF was not designed at a desk, but developed in cooperation among a number of players:

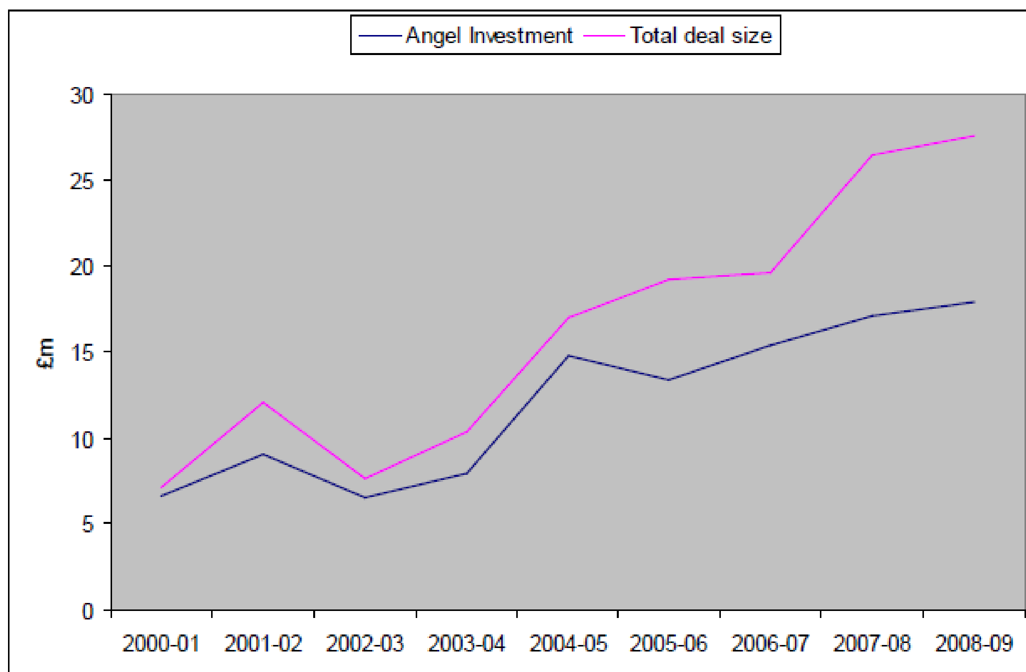
"You will meet many people who take credit for designing the co-investment fund, but, believe me, it was an accident. There were good will, and you know people were constructive, but don't think you can say this was pre-planned."

Business angel syndicates represent two-thirds of investments, although they constitute less than half of the partners in the SCF. Therefore, it can safely be said that such syndicates are very important to SCF, as expressed by a representative of investors whom we interviewed:

"Without the angel groups the SCF would just have been another non-performing initiative."

According to Mason and Harrison (2010), the Scottish business angel market differs considerably from the United Kingdom in general in that every investment is larger, there are more co-investments and more follow-up investments, and the companies are larger. The reason for this is assumed to be the fact that the market is organised to a fairly great degree into syndicates and the presence of the SCF. Furthermore, figures presented by Mason and Harrison (2010) indicate that investment activity among business angels in Scotland has increased considerably between 2001 and 2009, with annual investments up from 31 to 74 and the amount invested rising from GBP 6.7 million to GBP 17.9 million, as shown in Figure 3-2.

Figure 3-2: The Development of the business angel market in Scotland (upper, purple, line shows total deal size; lower, blue, line shows investments done by business angels)



Source: Mason and Harrison, 2010, page: 54.

An important element for bringing about good cooperation with private partners is a long-term strategy and predictability so that the partners can trust that the programme will be available when they need is, as a representative of the SCF asserts:

> *"The advantage of having partners [...] is that you can say to them, "you have access to 3 million or 5 million over a period". That gives them confidence to say that we can do more deals than we would have done."*

One of the reasons as to why the SCF has become recognised among private investors appears to be that the programme is perceived as stable, as indicated by the SCF:

> *"We have not made many structural changes to the model. Faith is an important part of this process."*

Although the SCF has succeeded to a great degree with building up a more efficient market for early phase investments, the situation is relatively vulnerable. One example which shows this is the reaction from business angels when it was unclear a couple of years ago whether the SCF would be continued, as explained by one player:

> *"And simply the possibility that the co-investment fund would not be there in 2014, [business angels] just stopped until the situation clarified. What they would have to do is only do the number of deals they could sustain in the future alone. [...] Even the concept that the SCF might not be there, they adjusted immediately. There was one quarter, three months, in which there were no deals."*

A long-term strategy may pose a challenge in connection with shifting political leadership, as explained by one public sector representative that we interviewed:

"From the public sector perspective you need faith. I've had 6 different enterprise ministers, to explain what we are doing it, why we are doing it, the long term benefits of doing it. Interesting enough, the politicians have not been a problem, they have all fully understood it, they have been fully supportive. The problem occurs when you have other civil servants who want your money for other things."

Although the SCF has good results to show in respect of investments, there is considerable uncertainty linked with the realisation of values from the investment portfolio. The SCF's objective is to be 'evergreen' in that the income from sales should cover the need for new investments. However, the financial crisis of the last few years has meant that the investment cycle has taken longer than planned, and there are presently just a few examples of investments that have been sold at a profit. According to LINC, investors face a major challenge when it comes to selling off their investments, but so far this has not cast a damper on the desire to invest, as can be seen from Table 3-4 and the following quotation:

"The groups that we have helped to get going since 2004 have not yet had an exit. We would have expected it in 2008, but everywhere has been just dead, so they have had 7 years with no exit. But the fact does not fit the logic, so 2010 was our biggest ever year. 104 investments, and more money than ever before."

Table 3-4: Activities in LINC, 2009 and 2010

LINC Scotland Annual Deal Figures	Jan – Dec 2009	Jan – Dec 2010
Total Investment by LINC Members	£12.42m	£12.46m
Other Private Investment	£6.95m	£11.40m
Sub–total Private Investment	*£19.37m*	*£23.86m*
Total Public Sector Finance	£9.66m	£8.80m
Total Value of Investment Raised	**£29.03m**	**£32.66m**
Total No. of Investments	75	104
Size of Average Private Sector Investment	£258,266	£229,423

Source: LINC Scotland

3.4.3 Norway - Norwegian seed programme

Background

The first pure private venture fund in Norway was established in the early 1980s. A number of funds were established during the boom years, but after the crash of 1987 a number of the funds experienced problems. When the portfolio companies developed poorly, it was difficult to start up new funds. There was solid growth in the industry in the 1990s, and a robust environment had developed before the dotcom bubble burst in 2001. This resulted in stronger competition for both capital and projects, and helped to bring about professionalisation and later internationalisation of the industry.

There has been very strong growth in the industry over the last few years. This is best illustrated by looking at the total capital managed by the Norwegian funds. In 2004, Norwegian funds had NOK 18 billion (c. 2.3 billion euro) under management, while in

2010 this had increased to around NOK 60 billion (c. 7.7 billion euro).[37] At the same time, it should be mentioned that the overwhelming majority of this growth over the last few years has come within the "buyout" segment and not within the classic venture or early phase/seed segment. Growth in the seed segment has come about primarily due to the state-initiated seed funds established in 1998 and 2006.

The public funds player Innovation Norway holds responsibility for follow-up and management for the seed programmes and reports to the Ministry of Trade and Industry. Innovation Norway's primary objective is: "…to promote profitable business development throughout the entire country, and to trigger trade-related opportunities in various districts and regions by contributing to innovation, internationalisation and profiling". The organisation has a number of funds for assisting both new and established commercial operations. The first seed fund was set up as a "cooperation project" between the Ministry of Trade and Industry (NHD), the Norwegian Trade and District Development Fund[38] (SND) and the Norwegian Investment Forum in 1997. SND later became part of Innovation Norway.

About the seed programme

Såkorn 1 – 1997/98

The seed programme meant that the state was involved in the financing of seed funds through the supply of subordinate loan capital, while the share capital would be provided by private investors. The purpose of the seed programme was to encourage private investments in early phase companies. The seed programme aimed to trigger private capital, the supply of competence to the companies invested in, and the investments were to be made at an early phase. The state commitment to the seed programme rested with the Ministry of Trade and Industry, and the SND was tasked with managing state ownership.

The first fund set up was the nationwide START fund, with total management capital of NOK 320 million (c. 41 million euro). The state became involved here with a subordinate loan equivalent to NOK 160 million (c. 21 million euro). In addition, five smaller regional funds were established, see Table 3-5. A traditional fund model with management (General Partners) and private players (Limited Partners) was selected. The state supplied capital by means of subordinate loans. As a risk reduction element, a loss fund was established (a maximum of 50 per cent of the individual investment and a maximum of 25 per cent of the total amount of committed capital). The total capital committed was a little under NOK 800 million (c. 103 million euro). The funds will continue until 2013.

[37] Exchange rate Norwegian kronor (NOK) → euro as at November 2011 (throughout the report).
[38] SND changed its name to "Innovation Norway" in 2003.

Table 3-5: Overview, activities in the seed funds, round 1, April 2011

	Committed capital MNOK							
	Private	**IN**	**Total**			**IN details**		
	Capital	**Subord. Loans**	**Com. Capital**	**Portf. comp.**	**Exit**	**Interest rate**	**Cap. dist.**	**Status**
Såkorninvest Sør	53,075	53,074	106,149	15	17	Nibor +3	50/50	Full
Såkorninvest Nord	37,699	37,699	75,397	13	13	Nibor +3	50/50	Full
Såkorninvest Midt-Norge	63,013	63,013	126,026	23	31	Nibor +3	50/50	Full
START fund	160,000	160,000	320,000	7	16	Nibor +3	50/50	Full
Såkornsinvest Innlandet	30,000	30,000	60,000	-	18	Nibor +3	50/50	Bank-ruptcy
SåkorninVest I	44,236	44,236	88,472	11	10	Nibor +3	50/50	Full
Total	*383,023*	*388,022*	*776,044*	*69*	*105*			

Remark: NOK 1 million ≈ 129,000 euro (November 2011)

Source: Innovation Norway

Financial results

The economic results for these funds have been very poor. With the exception of Såkorninvest Sør, returns from the funds have been dreadful. Only a handful of almost 180 investments have given considerable profits. Furthermore, the economic situation is critical for a number of the funds, and the fund manager at Innovation Norway describes the situation as follows:

> *"One of the funds is already bankrupt, and a number of the others are struggling to meet their obligations."*

Learning

The representative from Innovation Norway mentions a number of elements when explaining why the results of the first programme were so weak. These may be summed up as follows:

- There was not enough risk reduction.
- Too little emphasis on the manager (lack of competence).
- Very little exit competence in the manager environments.
- Funds that are too small.
- The model involving subordinate loans has not been favourable.

These are elements which have also been given prominence in evaluations from 2003 and 2008. The representative of Innovation Norway emphasises in particular the fact that the model involving subordinate loans has not been very favourable for a number of reasons:

- The costs linked with management rest with private equity.
- The funds had high interest-bearing liabilities which accumulated over time. A high liability also means that private investors will lose interest towards the end of the life

of the fund. This is because as a loan creditor, the state must have its loans redeemed before investors get anything back. This means that the incentive for active management of the residual portfolio will be limited as far as private investors are concerned.

The new seed programme (Såkorn 2) – continued strength in belief

Nine new funds were established in round two of the seed funds, four of which are nationwide and five are district-specific. These funds were set up between 2006 and 2008. The district-specific funds are funds which can invest in small and medium-sized enterprises and so they are not limited to investments in startup companies. The programme will supply knowledge companies which have major growth potential and are located in weak trade areas with a combination of patient capital, competence and networks which will be a triggering factor for realisation of the potential for growth and profitability of the companies. This issue of geographical delimitation is emphasised greatly in the "rules for district-specific seed funds" dated 20 December 2010:

> *"The target group for the district-specific seed funds is made up of companies located in the weakest trade areas threatened with depopulation".*

There is every reason to ask questions initially concerning whether the objectives of these funds are realistic. Contributing to development of companies with considerable growth potential in areas threatened with depopulation is, to put it mildly, a demanding exercise.

Proposal to Parliament no. 1 (2004-2005) states that establishment of the new nationwide seed funds will:

> *"provide increased value creation and build up under the vision of Norway as one of the world's most innovative countries. If we are to maintain and further develop the current high level of welfare, we must focus our attention on the ideas, the products and the services that we will provide when the petroleum era wanes".*

In the "rules for nationwide seed capital programmes" dated 20 December 2010, it is apparent that the target group for the new seed funds is innovative startup projects, particularly projects originating from universities and colleges. Furthermore, it is clarified that these funds will make their investments in:

> *"...startup, seed or other early phases."*

The funds in Såkorn 2 manage a total of around NOK 2.5 billion (c. 322 million euro), see Table 3-6. The programme has been notified and approved by the ESA[39].

[39] ESA is an abbreviation for the EFTA Surveillance Authority, which is EFTA's monitoring body. Its primary task is to ensure that the rules and obligations laid down in the EEA agreement are implemented and complied with in the EEA EØS EFTA states: Norway, Iceland and Liechtenstein. In practice, this means that the ESA will monitor the situation to ensure that the EFTA countries implements the directives, etc. which are relevant in accordance with the agreement with the EU concerning European economic cooperation (the EEA agreement).

Table 3-6: Overview, activities in the seed funds (nationwide and district-specific), round 2, April 2011

Nationwide seed funds, 2006

	Committed capital MNOK									
	Private	IN	Total			Dealflow		IN details		
	Capital	*Subord. Loans*	*Com. Capital*	*Portf comp*	*Exit*	*2010*	*Total*	*Interest rate*	*Cap. advantage*	*#1 Invest*
ProVenture Seed	168,500	166,750	335,250	16	3	66	365	Nibor +2	50/50	Nov 06
Sarsia Seed	166,750	166,750	333,500	20	1	60	284	Nibor +2	50/50	Jan 07
SåkorninVest II	174,600	166,750	341,350	12	3	124	682	Nibor +2	50/50	Nov 06
Alliance Venture Polaris	172,600	166,750	339,350	12	1	121	782	Nibor +2	50/50	Feb 07
Total	*682,450*	*667,000*	*1,349,450*	*60*	*8*	*371*	*2,113*			

Remark: NOK 1 million ≈ 129,000 euro (November 2011)

Source: Innovation Norway

District-specific seed funds, 2006

	Committed capital MNOK									
	Private	IN	Total			Dealflow		IN details		
	Capital	*Subord. Loans*	*Com. Capital*	*Portf comp*	*Exit*	*2010*	*Total*	*Interest rate*	*Cap. advantage*	*#1 Invest*
KapNor Fond	80,400	175,000	255,400	21	2	28	234	Nibor +0.5	70/30	Oct 06
Fjord Invest SørVest	82,000	134,000	216,000	8	0	81	264	Nibor +0.5	50/50	Sept 07
Norrinnova Invest	96,600	175,000	271,600	15	3	23	88	Nibor +0.5	70/30	Sept 07
Midvest I	57,324	121,300	178,624	4	0	68	189	Nibor +0.5	70/30	Aug 08
Midvest II	37,426	37,400	74,826	4	1	-	-	Nibor +2	50/50	-
Domestic (under establ.)	57,300	57,300	114,600	0	0	0	0	Nibor +2	50/50	-
Total	*411,050*	*700,000*	*1,111,050*	*52*	*6*	*200*	*775*			

Remark: NOK 1 million ≈ 129,000 euro (November 2011)

Source: Innovation Norway

The establishment of the new funds attempted to take into account some of the weaknesses from the first seed fund round:

- Larger funds are established.
- Far more emphasis is placed on manager selection. Emphasis on competence and critical size of the management environments.

However, it is surprising that a model involving subordinate loans was chosen in round two as well, despite the weaknesses that were identified in this regard in round 1. The Innovation Norway funds department had this to say:

> *"...we were not consulted in connection with the final model selection for the new programme."*

At the same time, the rules have been changed such that private investors can also enter the fund with subordinate loans and so be creditors on a par with Innovation Norway. Although some improvements have been made, the programme faces many of the same challenges that characterised the first seed fund round. At the same time, it goes without saying that the improved interest rate conditions and slightly greater flexibility that the loss fund is intended to provide will be turned into reality. The rules also clarify the fact that the loss fund programme is intended to:

> *"...transfer some of the risks with seed investments from private investors to the state, and so to encourage an increase in private investments in seed funds and seed projects."*

When managers were selected during round two of the funds, we perceive a mixture between giving the task to new environments and giving existing management environments the opportunity to establish themselves on the seed side of things. However, no agreements with the original management environments from round 1 were transferred to round 2. Attempts were made on the part of Innovation Norway to facilitate growth of environments with competence and a willingness to invest at an early phase. This means that Innovation Norway has largely attempted to put in place management environments which already have management experience, particularly from an early phase. All the new funds are organised according to a venture capital model with "general" and "limited" partners. The new funds are of a size which can justify management involving four or five people. The management costs still have to be borne by the private capital.[40] This results in high management costs for the individual funds. The leading private players in the new funds in round two are made up of institutional players such as banks, savings banks, insurance companies and power companies. The power companies have made their presence felt in the regional funds in particular. Our mapping has also shown that many of these view these investments from a regional development perspective. Private capital in form of investment from business angels makes up just a small part of the total capital, but this type of player has been very much key to the process of mobilising the capital from institutional players.

The investment decisions in these funds are typically made when the manager (management) supports the identification, screening and evaluation of the relevant projects. On the basis of this, an agreement is negotiated which regulates the relationship between the investor and the portfolio company. The fund committee makes the final investment decision. Once the investment is made, the fund will be entitled to one to two committee places (often the chairman) and will normally follow up its investment by playing an active strategic role, very rarely an operational role. This means that the funds operate in very similar ways to traditional VC funds (but in earlier phases). They are also represented in this way in external communications (websites, presentations, etc.).

[40] The district-specific funds receive a template-related monetary contribution of around NOK 1 million (c. 129,000 euro) to cover some of the management costs.

The representative from the Innovation Norway fund department emphasises that the funds are operating far more professionally in round 2 than was the case in the first round. It is also evident that the funds have allocated more funds to follow-up investments than was the case in round 1. Furthermore, it is also obvious that co-investments with other venture players have been brought about to a greater extent. Under the auspices of Innovation Norway, arenas have been developed in which players meet up, and this facilitates competence transfer and cooperation. This has meant that the environments have much greater joint information exchange and competence transfer between themselves than was the case in round 1. Furthermore, the Innovation Norway representative emphasises the fact that the district-specific funds have managed to interact with regional development players such as banks, knowledge parks, etc. to a greater extent than in round 2. This means that the investments in the regional funds have a greater geographical spread, while at the same time they often have better support from regional players which are already stakeholders in the companies.

Effects and learning

If we look at what type of portfolio companies the district-specific and nationwide funds are investing in, a number of interesting features can be seen. The nationwide ones are located in the four biggest cities in Norway and have invested to an enormous extent in companies that operate in the specific cities in which the funds are located. Insofar as they invest outside their own region, this is often in the form of co-investments with other seed players. Furthermore, it is also clear that a large number of the investments have taken place in companies emerging from research environments.

Another interesting feature is the fact that the industry focus of the different funds can largely be linked to focus areas in which players in the various regions already have some form of “track record” relating to research and commercialisation. One example of such an investment made by Pro Venture Seed in Trondheim is the investment in Dynamic Rock Support (DRS), which took place in 2009. This company offers a new type of bolt for securing underground mines. This company is built up around the research of Professor Charlie Li at NTNU. In the commercialisation process, NTNU Technology Transfer has held primary responsibility until establishment of the company. The company attempted to put finance in place back in 2008, but without success. As far as the seed fund is concerned, the reasons for this were stated as including the fact that the establishment team had obvious shortcomings at this time, particularly with regard to business understanding. The company appointed a young new general manager who had already been involved in starting, developing and selling a research-based spin-off. This was a crucial factor in securing finance from Pro Venture Seed. In 2009, Pro Venture Seed and a fairly small regional corporate venture player then entered into the ownership side of the company.

There is no doubt that initially, the seed funds largely made early phase investments in line with the intentions of the programme. At the same time, a number of players on the periphery of universities and research institutes asked questions about whether these funds do actually operate as seed funds over time. The head of NTNU Technology Transfer expressed it as follows:

> *“these funds are traditional venture funds with a little ‘twist’ towards seed”.*

A professional business developer/serial entrepreneur had this to say:

> *"In many instances, it has been easier to enter into communication with purely venture players. These have proven to be more willing to take risks and have contributed far more competence".*

A number of the managers reject this in the strongest terms possible and point out that their portfolios consist of early phase companies, but at the same time they admit that they initially made far more early phase investments than was the case in 2010/11. This is also confirmed by statistics from the Norwegian Venture Capital Association, which indicate that while more than EUR 60 million was invested in the seed segment in 2008, this fell to EUR 2.6 million for the first six months of 2010. This can be explained by the fact that most funds in round 2 are now in the process of being fully invested. This may explain why players on the periphery of the universities assert that it is now almost impossible to involve these funds in new early phase projects. This illustrates one of the major weaknesses of the Norwegian seed model. The existing seed players must safeguard the interests of the private investors and have funds for follow-up investments. At the same time, it is unclear whether the programme will be furthered and what direction any such furthering will take. Hence it is entirely rational for the seed funds to make fewer new investments and far fewer investments in the earliest phases. There is a lack of predictability in the model, and there is a risk of having to "start over" every time.

Evaluation of the programmes

Såkorn 1 is the only programme in this study that has operated for long enough to allow any meaningful statement to be made on the economic results of the programme. This programme has been subject to evaluations in 2003 and 2008. In the evaluation from 2003, the primary conclusion was that the seed programme has operated according to its objective in that the programme has resulted in a supply of private capital and the companies have been supplied with the relevant competence. The same evaluation also emphasised the fact that the Såkorn Innlandet fund had seen the best success so far with regard to meeting the many objectives of the initiative. History then showed that this was the first fund to become bankrupt. This illustrates the fact that making evaluations of such initiatives is demanding, to put it mildly.

During the evaluation in 2008, it was possible to establish that Såkorn 1 would by no means be a success. This was clearly documented in the evaluation, but for the Innovation Norway fund department this did not come as a surprise:

> *"We were aware of most of the details that emerged in the evaluation in 2008."*

The rules for the programme state that they must be evaluated, but there are no guidelines on when and how this is to take place. There are no specific plans concerning further evaluation of the Norwegian seed programmes. Nor have any programmes been established involving "ongoing evaluation" or similar, and there are no plans to introduce any form of follow-up evaluation. However, it must be added that Innovation Norway is collecting a large amount of data from the seed funds and reporting to the Ministry of Trade and Industry twice a year. With assistance from an external partner, this could provide an opportunity for more extensive continuous follow-up evaluation of the programmes. Innovation Norway evaluates the programmes they run at irregular intervals.

The way forward

In its ownership report presented on 1 April 2011, the Ministry of Trade and Industry indicates that there was a desire to invest further in nationwide seed funds:

> *"The government wishes to establish new nationwide seed funds in order to encourage greater early phase investments, and hence the growth of new companies. Further investment capital will be supplied to Investinor."*

It is unclear which model will then be selected. The ownership report gave no signals concerning the extension of the district-specific programmes.

Our mapping has indicated that a significant challenge is still encountered in Norway in the phase in which public grants are no longer available and to the phase in which private players are ready to invest in the projects on commercial terms. Extension of the current model will not resolve this challenge. A form of extension will nevertheless help to support development of competent management environments focusing on research-based commercialisation opportunities. The question then will be whether the current model should undergo further development and build further on the environments established, or whether new types of programme should be established which allow the investments to be made to a greater extent in the phases in which classic venture perceives the risk to be too great. Furthermore, there are questions on whether programmes can be established which can motivate and incentivise serial entrepreneurs and professional business developers to a greater extent so that there can be more operational investor competence in the relatively few companies that actually have significant growth potential.

3.5 Discussion

This final chapter begins with a summary comparison of the three programmes explored in Finland, Norway and Scotland. Then we will illustrate the significance of a historical context and how this affects the objectives for and direction of the programme. In section 3.5.2, we will discuss the selection model for this type of programme. Furthermore, in section 3.5.3 we will sum up and discuss our findings relating to evaluations of this type of programme. The chapter ends in section 3.5.4 with a discussion of the implications from this study in the light of a Swedish context.

3.5.1 A summary comparison

The main purpose of this study has been to map experiences with hybrid seed funding models in Finland, Norway and Scotland. In the study, we have prepared a description of the individual programmes, but it has been every bit as important to illustrate how different types of players perceive the programme. Table 3-7 summarises our findings relating to: targets, organisation, decision-making processes for investment, incentives and geographical distribution.

Table 3-7: Summing-up, comparison of the policy measures

	Scottish Co-Investment Fund (SCF)	**Finland VIGO programme**	**Norway The Såkorn programme**
Objectives	To develop the early phase capital market so as to ensure finance for projects with growth potential.	To give the few selected companies with major growth potential the opportunity for fast international growth.	To support the establishment of innovative companies with major growth potential.
Organisation	Scottish Enterprise approves partners for the programme and places capital at their disposal. Finance from the EU via ERDF. Strong orientation towards development of robust business angel syndicates.	A new programme with its own committee. Coordinated by Tekes. A tender process is being used to recruit professional business developers which constitute virtual "accelerators" (a VIGO). Provides a "fast track" to existing programmes.	The state contributes subordinate loan capital with an associated loss fund. Managed by Innovation Norway. The individual funds are set up according to a traditional VC model.
Decision-making process	When an approved partner presents a project, the SCF will always co-invest within the scope of the programme. The SCF invests on the same terms as the private investors.	Each individual VIGO identifies promising business concepts. Then Tekes and Seed Vera Venture make their independent assessments of the project. Major emphasis must be placed on the assessments of the individual VIGOs.	The individual funds have private owners. The manager identifies, evaluates and negotiates with the relevant projects. The fund's committee (based on the private owners) makes the final decision on investment.
Incentives	There are no direct risk-reducing elements in the programme, but there are general individual tax incentives which help to	Provides a "fast track" to public monetary contributions and capital. The partners in the individual VIGOs are	Each fund has a loss fund in which up to 25 % of the invested capital can be depreciated (up to 50 % of realised loss in the

	Scottish Co-Investment Fund (SCF)	Finland VIGO programme	Norway The Såkorn programme
	make the programme favourable for private investors (both "front end" and "back end" incentives).	primarily incentivised through ownership in the startup companies. Proposals for general tax incentives have not received the necessary political approval.	individual investments).
Geography	No geographical guidelines. An overwhelming majority of the investments take place in close geographical proximity to Glasgow and Edinburgh.	The first round of VIGO accelerators has no geographical limit. In the next round, there will be a greater spread of industries that will provide a greater geographical spread.	The district-specific programmes have geographical restrictions and must invest in the area, which is threatened with depopulation. The nationwide funds primarily make investments in their local areas, but in principle they have no geographical restrictions.

Objectives and organisation - the significance of an historical context

All three of these programmes are attempting in various ways to involve private capital in order to increase emphasis on investments in companies with genuine growth potential. This also illustrates the following dilemma between the main objectives of the programmes.

– Firstly, attempts are being made to involve private players so as to ensure that investments are made in projects with significant growth potential in real terms.

– Secondly, the programmes' intentions are clearly to encourage investment in projects at a very early phase; that is to say, investments with a genuine degree of uncertainty (possibly involving research-based spin-offs from the university and institute sector). However, this intention is not always aligned with the risk profiles of private investors.

– Thirdly, there is quite clearly a desire to develop "thin" capital markets so as to increase the strength of these markets with the supply of additional capital and competence (particularly with regard to phase and industry, but also to regions to a degree).

Clearly, addressing all these primary goals in a single programme is very demanding. In the three programmes explored in this report, the goals are weighted differently; and as a consequence, the programmes have different characteristics.

In *Scotland*, there has been major emphasis on developing the capital market in an early phase, building further on an already established initiative concerning the development of formalised "business angels networks". A pure co-investment model appears here to have enjoyed a relatively large amount of success. This model has helped to create a larger, more dynamic capital market in an early phase. Hence it is easy to draw the conclusion that this is a model which should be relatively easy to transfer and adapt to the contexts of other countries. The manager of LINC Scotland is very clear on the fact that an approach of this nature is an error of judgment:

"We had 6 or 7 angel groups already, and that was enough to begin with. It is not readily a transferable model if you have no angels present or no groups already."

This is a very central point, the fact that the conditions were in place for establishing the programme were precisely because there had already been investment in building up business angel syndicates. Furthermore, there were already tax incentives in place for private investors in Scotland. All in all, this provided a good starting point for establishment of the Scottish model in 2003. This means at the same time that a pure co-investment programme will be an almost entirely unsuitable model in instances where there is no existing "infrastructure" which can make use of the programme. Another positive element of the Scottish programme is that it has encouraged players who actually invest their own funds. This is unlike a large number of other initiatives for stimulating what are known as business angels, where most of the stimulation has gone to "good helpers" who will be running different types of initiative. At the same time, it is also clear that the established co-investment model does not resolve the challenge when it comes to investments facing genuine uncertainty. Here, it can be seen that Scottish Enterprise has established programmes with "proof of concept grants" and a separate early phase co-investment model for investments up to GBP 100 000 (Rasmussen et al., 2006).

The inspiration from the Israeli Yozma programme is easy to trace in the establishment of the *VIGO programme in Finland*. Here, it is also entirely clear that the most important objective is to put in place a number of competent environments which can help to develop research-based early phase business ideas, often before the actual establishment of a company. This is based on acknowledgement of the fact that both capital and competence are required in order to develop projects in instances where there is much market-related and technological uncertainty. Here, risk reduction is provided primarily due to the fact that companies which qualify for the programme are placed on a "fast track", with access to monetary contributions from Tekes and capital from Seed Vera Venture. Another characteristic of the programme is the fact that the various VIGO accelerators focus on specific industries. Compared with the Scottish model, it is obvious that this initiative focuses on companies that are in a very early phase, almost in the incubation phase. This programme is for the "chosen few", the companies with significant growth potential, and is structured in such a manner that attempts are being made to simplify and streamline access to monetary contributions and capital by prequalifying a number of environments comprising serial entrepreneurs. As in the Scottish example, we can also see here that the programme is aimed at players who will genuinely invest their own time and money in genuine startup projects. This is in strong contrast to programmes which primarily contribute towards allowing different types of "good helper" to invoice the startup companies on an hourly basis. This must be viewed in the light of the fact that the programme has been structured in cooperation with leading venture players, on the basis of recognition of the fact that the Finnish VC industry actually makes this type of investment to a small degree. At the same time, our study shows that it takes time to adapt a programme of this type to existing instruments and a Finnish context even if support is good and the players involves have good intentions.

The Norwegian seed programme is probably the programme that has attempted to the greatest degree possible to cover all three main objectives as outlined above. The first round of seed funds (Såkorn 98) can be viewed as an experiment in which there was a desire to do something national and something regional. However, the initiative was slightly halfhearted and did not help much in bringing about enduring buildup of capital and competence in the regions that put such funds into place. It is natural to draw a parallel

with English seed funds established in the 1990s (Murray, 2007). These grappled with many of the same challenges in that there was too little competence in the fund (nor were there any resources for developing this), expensive management and general objectives heading off in many different directions, some of them conflicting. In the second round of seed funds, there was far clearer emphasis on competence. On the one hand, the managers had to have a competence base in place from day 1, and on the other there was emphasis on competence transfer between the funds. Another interesting development is that in round 2, there is clearer differentiation between regional funds and nationwide funds. The regional funds are funds which can invest in all small and medium-sized enterprises within their regions. This is an acknowledgement of the fact that venture capital is almost absent in all phases in a number of regions in Norway. These funds then take on a role which drifts towards being a regional capital-side development player. This also reflects the ownership structure of a number of the funds in that regional banks and power companies are dominant private owners. The nationwide funds, on the other hand, have been set up with the objective of supplying capital and competence to innovative early phase startup projects, generally emerging from research environments. These funds are located in the four biggest cities in Norway, and the investments have largely been made in close geographical proximity to the fund management. Although it is obvious that the portfolio companies for these funds overall are in a relatively early phase, many players (entrepreneurs, technology transfer offices (TTOs), research parks, etc.) assert that the funds do not make investments in projects in which there is genuine uncertainty. Furthermore, the funds themselves confirm that they have gradually made fewer investments in total and a smaller number of early phase investments. The funds make it clear that this is related to the fact that the funds will soon be fully invested and money must be available for follow-up investments in years to come. This is also a criticism levelled at the Norwegian programme; there is a lack of predictability and hence the funds are more cautious. The lack of predictability has also resulted in successful building of robust and enduring management environments to a far lesser extent that in Scotland, for example.

Incentives for the private capital

Of the three programmes, only the Norwegian programme has explicitly included a risk-reducing element in the form of a loss fund. This is initially a well intentioned compromise so that private capital will be given the incentive to invest its money in seed funds. The problem is that the model means that all management costs will be charged to the private capital. This may again mean that insufficiently effective management environments are built. In the Scottish SCF programme, there is no risk reduction directly associated with the programme. The programme means that investors may opt to invest in a number of cases, or possibly to become more involved in individual projects, by increasing the financial leverage. Furthermore, there are general individual tax incentives which have been a criterion for the structuring of business angel syndicates in Scotland. In the Finnish VIGO programme, the incentive lies in the fact that the approved accelerators receive a “fast track” to capital and grants. Furthermore, the partners in the individual VIGOs are primarily being given incentives by means of ownership in the companies in which they themselves invest time and money. In Finland, political sources have put forward proposals concerning the introduction of tax incentives for investors who make early phase investments, but so far this has not received the requisite approval.

Geographical consideration

As can be seen in Table 3-7, only the Norwegian model has funds with geographical restrictions. There is every reason to ask questions as to whether we are not placing too many restrictions on funds which are limited to investing competent capital in companies with major growth potential. Furthermore, it is interesting to see that the actual location of the individual nationwide funds is of crucial significance to how the investments are actually made (but then you also have to take into account the fact that these funds are placed in the biggest cities in Norway, where there is expected to be major access to projects which can be commercialised). Representatives managing the Scottish programme were entirely clear that this was not a programme which is interested in geography per se (besides ensuring that the investments are actually being made in Scotland). At the same time, it has been seen in Scotland that contributing to the development of business angel syndicates results in investors in more rural regions opting to organise themselves and actually enter this market (but so far these syndicates have made their investments in central regions). The geographical dimension is not central in Finland either; it is emphasised that VIGO is a programme for the chosen few that can meet very stringent expectations with regard to returns. At the same time, it can be seen that in the expansion of the VIGO programme, emphasis is being placed on covering a number of industries. This will help to bring about a greater geographical spread than has been seen to date.

Significance of long-term strategy and predictability

A central finding in this study is the fact that players, particularly on the investment side of things, are very interested in long-term strategy and predictability in the programmes. This was seen in Scotland, for example, in one case where uncertainty arose concerning whether the programme would be extended to the extent outlined previously. As a result, private players did not invest in new cases so as to be sure that they were capable of following up the investments they had already made. This is also apparent in Norway; the lack of a long-term strategy means that the existing management environments have no capacity to make new investments towards the end of the life of the fund. Work on putting the next fund in place is uncertain, and the investment strategy is far more cautious (in relation to both phase and the number of investments). In Finland, we can also see that both Tekes and Seed Vera Venture having to make their own assessments in each individual case is creating considerable frustration. This makes it far more demanding to achieve the pace and quality required by private players for the commercialisation process. Searching for partners and communication with potential investors (national or international) are therefore being placed on hold.

3.5.2 Sustainable seed initiative models?

The Norwegian model is a modification of the traditional venture capital model in which state risk reduction is being used to help turn the investments towards seed. One prerequisite for establishment of the Norwegian (and also the Swedish) initiative has been the setting up of funds that must have return requirements and make purely commercial investments. One central question is whether it is realistic to expect an initiative involving a traditional venture model to be the correct one. The venture capital model involves high management costs and means that every fund has to have a number of investments with very good returns in order to succeed commercially. Over the past decade, both Europe and the USA have experienced overall negative returns in almost all elements of classic venture. This means that we should be asking whether it is a realistic objective for an

initiative regarding the building up of relatively small funds, many of them with regional restrictions and management with little experience, to be able to supply satisfactory returns to their public and private owners.

The question is whether programmes are conceivable in which existing venture capital players are encouraged to take responsibility even at early phases. This is particularly true in regions and industries in which management environments in the field of classic venture are already in place. A model in which existing players receive a form of risk reduction for taking responsibility in an early phase could be more effective in the form of both the number of actual seed investments and management costs. An experiment with a transparent and predictable risk reduction element, in combination with a co-investment model along the same lines as the Scottish one, could be far more dynamic and stimulating than a model in which more or less competent environments with limited investor experience are given the opportunity at irregular intervals to establish new management environments from scratch. In Scotland, "*front end*" and "*back end*" tax incentives for individual private investors have been operating for a long time. These individual general tax incentives mean that by introducing an unbureaucratic co-investment model, a more dynamic capital market was created for early phase companies.

The Finnish model is also an attempt to coordinate different forms of support programme so that uncertainty is stepped down a level. This will make it interesting for serial entrepreneurs to utilise time and finance capital on developing new growth companies. Coordinating and reinforcing public instruments so that it is possible to emphasise potential growth companies is very interesting. One central question in this instance would then be: who is to select the companies to be allowed to access a "fast track"? In industries in which there is a critical mass of professional business developers and serial entrepreneurs, mobilisation and incentivisation of these is preferable. Furthermore, experimenting with models should be assessed so that established venture players are encouraged to cooperate with serial entrepreneurs and/or professional business developers. In instances in which these types of player are willing to invest their own time and, to a degree, their own money, this will be one of the better decision-making models for supporting development of new growth companies. But this will simply not be possible in all potential growth industries; a programme offering a fast track to capital and monetary contributions should nevertheless be conceivable.

At a first glance, the Norwegian model has the greatest risk reduction element due to the established loss funds, but if we look at the context as a whole the picture becomes less clear (it should also be remembered that Norwegian entrepreneurs have access to a number of contribution programmes that can reduce uncertainty in the individual projects). However, it is stated beyond a doubt that the programme of subordinate loans is not very favourable, awkward to administer and expensive to operate for the funds that do not have major success. The organisation of Såkorn 1 in Norway can be viewed as a template for how future programmes should not be organised. Even with the adjustments made in round 2, there is little to indicate that this organisation of the seed programme provides the effects actually required.

3.5.3 Challenges with evaluations of hybrid seed models

The most striking element of this study when we focus on evaluations is how unaware we have been of carrying out systematic evaluations of the programmes. Furthermore, it is also interesting that none of the programmes has been subject to a follow-up evaluation

initiated at the start of the programmes. Nor is there any preparation for implementation of systematic follow-up evaluations in future. In many ways, it seems as though a minimal solution has been selected with it comes to evaluations. The individual programmes are evaluated when results are needed which can be used in a political context in order to extend or alter the programmes. But at the same time, there is major potential here to undertaking follow-up evaluations in all three programmes explored as internal data on a number of parameters is collected twice a year. This means that an internal reporting structure is already in place which can, if necessary, be used for carrying out systematic follow-up evaluations.

Furthermore, this study shows that evaluations of this type of programme are demanding with regard to the time perspective as well. In this study, only the first seed round in Norway has proceeded far enough to allow an evaluation of the actual investments to be meaningful. As stated, this is illustrated clearly by the first evaluation carried out by the Norwegian programme in 2003, where the fund which complied most effectively with the objectives set up in advance went bankrupt a couple of years later. Furthermore, the first evaluation shows good additionality with regard to attracting other capital (monetary contributions, loans and capital). But there is reason to ask just how relevant this actually is when it turns out that only a handful of companies appear to be delivering solid returns.

3.5.4 Implications in the light of a Swedish context

In Sweden, a regional fund model was selected following a political process. There are some variations, but most of the funds are set up according to traditional venture capital model in which the state capital is matched with the private capital in the various regions. At the outset, this does not appear to be a good model. This model is roughly the same as the one that failed in Norway (and in England as well, for example).

At the same time, the individual funds are of a usable size which may provide an opportunity for building reasonably robust management environments. Furthermore, regionalisation provides some opportunities to adapt the funds to the geographical contexts in which they are actually operating. This can also be seen to a degree in that individual funds are set up almost as pure co-investment instruments. At the same time, it is obvious that the funds have very different criteria with regard to access to interesting investment projects. A fund in a sparsely populated area in northern Sweden will of course have completely different working conditions than a fund set up in a densely populated area in the south. A fund in a rural area could play a central part as a competence and capital player for companies at different phases and with different types of growth ambition. It perhaps ought to be accepted that a fund of this kind makes investments with broader focus in terms of both industry and phase than is the case in parts of southern Sweden, where there is a completely different "infrastructure" with regard to access to competence and capital. Here, it can be expected that a state-initiated seed fund would actually focus on making investments at a very early phase. Again, there is no question of a symmetrical investment model here, but risk reduction is sufficient for private capital to be allocated with genuine seed investments. Overall, this means that we should have different expectations and hence different primary objectives for different types of fund in different types of region in Sweden.

Furthermore, viewing the creation of the funds in the light of other support and contribution programmes should be assessed. One solution is to coordinate this activity and develop a form of systematised "fast track" for support programmes for companies with

significant growth potential. Such coordination will make investors perceive the uncertainty as slightly lower, and again this will contribute to the seed funds investing more in young, new companies with growth potential. Insofar as it is possible, cooperation should be initiated with groups of serial entrepreneurs and professional business developers who can work operationally in potential growth cases (but by all means avoid creating again a system that first and foremost gives consultants opportunities to invoice hours). As is known, emphasising a growth case requires both competence and capital; quite simply, it is not realistic to believe that the management environments have the capacity and competence to contribute sufficiently on an operational level in early phases.

4 Policy discussion

4.1 Countries

In the previous chapter experiences from similar initiatives in three other countries – Scotland, Finland and Norway – were presented in a fair amount of detail. These countries were selected with a view to finding interesting experiences from a Swedish policy perspective, and also on the basis of a contextual perspective. It is necessary to have a lot of respect for the latter. Learning must not be uncritical and include simplified "*copy-paste*" solutions. The context must be taken into account.

Having said this, it is possible to conclude that the countries exhibit certain similarities or particularly interesting experiences which justify their participation. In the same way as Sweden, both Norway and Finland can be described as countries within what is known as the "Nordic welfare model". This involves, among other things, certain similarities in respect of:

- Large public sector
- Stable parliamentary democracy
- Organised labour market
- Relatively small and open economies
- High education level, extended research infrastructure

Besides these system-related similarities, there are also major matches in respect of factors such as climate, distance, remoteness, etc. Although Scotland also demonstrates a large number of similarities to Sweden, it is not as "close" as our Nordic neighbours in terms of context. However, Scotland has an interesting history, with hybrid initiatives in the field of venture capital which justify its participation. Not least, this is applicable to the Scottish Co-Investment Fund (SCF), which has also provided direct inspiration for the earlier Swedish pilot initiative involving three regional funds between 2005 and 2008.[41] These influences are still present in the current initiative, most clearly within the Saminvest fund.

4.2 Discussion

The use of case studies involves, as do other methods, advantages as well as disadvantages. It is difficult to generalise on the basis of individual cases, and there may be limited opportunities to replicate surveys carried out. On the other hand, there are good opportunities for in-depth information. The method can be viewed as particularly suitable for surveys like this one, with the purpose of answering "whys" and "hows".[42]

With its in-depth case descriptions, chapter 3 provides a number of interesting policy experiences. A number of these will be described in brief below.[43] These experiences have

[41] See a brief description of the pilot initiative in section 1.3
[42] See e.g. Yin RK (2003), *Case Study Research: Design and Methods*
[43] Thus the purpose of the chapter is to discuss the experiences from the *report's case studies* from a Swedish policy perspective. In some cases, reference is made to other international literature linked with experiences from the case studies. For a collated international research summary of venture capital, see e.g. Landström H (ed.) (2007), *Handbook of research on venture capital*.

been grouped into five subareas: *evaluation*, *long-term strategy*, *context*, *design* and *geography*.

Evaluation

From an evaluation perspective, notable deficiencies can be confirmed in systematic evaluation theorems. Few evaluations have been done and they provide more of an impression of individual studies than parts of a cohesive, long-term evaluation systems. This can sometimes – but not always – be explained by the fact that some initiatives are still fairly fresh. However, there is nothing to prevent evaluation plans and design being *prepared* for young initiatives as well. Quite the opposite. The heavy Swedish "ongoing evaluation" initiative together with further evaluation commissions of Growth Analysis is positioned in context as nearly an ambitious exception.[44]

It is also worth noting the time lag (known as the J curve) in the field of finance. This delay means that *effect evaluations* may need to wait up to 10-15 years after the first investment so as to be able to fully capture their effect. A reality which does not always synchronise with the political system.

All in all, this has meant that it has not been possible to collate specific evaluation experiences to the extent anticipated. However, this is a separate experience in itself.

Long-term strategy

According to North, institutions can be compared with game rules or frameworks set up by humans in order to structure human interaction. These institutions have a slightly paradoxical function. While they should reduce uncertainty by offering stable game rules, to be effective they must also demonstrate flexibility and the ability to adapt to altered external conditions.[45]

This kind of ability to achieve simultaneous stability and flexibility with a view to attaining effectiveness can also be considered valid with regard to criteria in the field of capital provision. However, the view emerging in the study by Sørheim and Rasmussen mainly points to the significance of long-term game rules and predictability; and possibly also to a certain learning problem between experiences from Såkorn 1 and the design of Såkorn 2 in Norway.

Government initiatives at irregular intervals, uncertainty regarding extensions and potential changes to structures and terms risk influencing stakeholders' willingness to invest (in volume and phase) and make the building of competent environments more difficult. In both Scotland and Norway, examples are given of how the market reacts quickly and negatively to signals concerning changes or late notifications of ongoing initiatives. In Scotland, more or less all investments ceased over a period in which it was unclear as to whether the SCF concept would be extended. In Norway, there was a marked reduction in the tendency to make investments in early phases within the Såkorn 2 initiative when similar uncertainty arose concerning future continuation and conditions for the fund.

The Swedish half-time evaluation shows that it takes time to build up competence within the funds and that there is a certain degree of uncertainty from private co-financiers

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[44] Apart from what is said in chapter 3 about the initiatives studied, this view is also confirmed in other contexts. See e.g. Lerner J (2009), *Boulevard of Broken Dreams*; Growth Analysis (2010), "The State and Risk Capital" [Tillväxtanalys, "Staten och riskkapitalet"].

[45] North D C (1993), *Institutionerna, tillväxten och välståndet*.

concerning differences in timescale.[46] A number of the regional funds were late to start. The reasons were not unexpected: procedures needed to be developed, the rules were unclear, the initiatives themselves needed to be marketed to potential co-investors and portfolio companies, and strategic recruitments to the funds took longer than planned. Some of the private co-investors interviewed expressed a certain degree of concern about the "volume focus" of the funds. A certain amount of capital "must" be invested over a relatively short time, there is a risk of differing views of an appropriate time for exit, etc.

The state can be said to have two main trails to choose from in order to handle perceived financial restrictions; direct or indirect measures. The former refers to direct market engagement, e.g. by means of state venture capital funds. The latter refers to political decisions which alter the framework conditions for financing, e.g. rule changes or tax incentives.[47] Historically, Sweden has focused absolutely on direct policy measures, while Scotland – as demonstrated above – also has clear elements of indirect measures.

The market needs long-term strategy and predictability in order to work well.[48] It also takes time to build up competence, establish networks and put rational procedures in place. One lesson that can be learned from the above is to shift the initiatives from short, direct policy measures to more long-term, indirect and system-impacting venture capital strategies, such as incentive structures and regulatory changes.

However, the long-term challenge – as touched upon at the start – is to build up and maintain an institutional structure that is stable and long term on one hand, and stimulates learning and innovation on the other.

Context

In what environment is an approach "planted"? How have earlier initiatives been designed? The three case studies clearly indicate the significance of context.[49] Our opportunities to learn and transfer experiences from other countries is a necessity while also being a challenge. An overwhelming majority of the issues we face in Sweden are internationally applicable. This means that methods and solutions from other countries are highly relevant to us as well. The challenge is to take in these foreign experiences and at the same time take into account the context in which they have developed. In this case, initiatives in the capital provision field have to be interpreted on the basis of factors such as history, the nature of the financial market and differences in the business structure.

With this in mind, it can be confirmed that the Scottish experiences point to the existence of business angels and tax incentives as two crucial contextual factors for the Scottish Co-investment Fund's (SCF) successful implementation in Scotland. Business angel networks (BANs) represent two-thirds of the investments within the SCF. Business angels and business angel networks have a significant part to play, particularly at early phases.

[46] See Ramböll, (2011), "Halvtidsutvärdering av regionala riskkapitalfonder".
[47] See Growth Analysis (2010), "The state and risk capital" [Tillväxtanalys, "Staten och riskkapitalet", section 3.3.3.
[48] It is hardly meaningful to define an exact figure for long-term strategy. What can be said is that a timescale of this type is at least longer than a programme period within the structural funds.
[49] Another example of the importance of context is the successful Israeli Yozma model. Most researchers ought to be in agreement about the special, hard-to-copy conditions which helped to bring about its successes. See e.g. Avnimelech G (2009), "VC policy: Yozma program 15-year perspective".

Bearing in mind existing Swedish analyses concerning the "capital provision gap" at early phases and the state's market-complementing role, the experience is worth noting.[50]

BANs in Scotland have not emerged and developed entirely without state promotion initiatives. Local Investment Companies (LINCs) were formed back in 1993. LINCs have been involved in various ways in the supporting and formation of a total of 26 business angel syndicates.

In Finland, Seed Fund Vera is the secretariat for a national BAN – *SijoittajaExtra* (InvestorExtra). This network includes around 150 business angels. The service concept consists of a website and events involving corporate presentations.

In Norway, capital from BAs constituted just a small part of the total investments. However, it is noted that informal investors have nevertheless played an important part with regard to mobilising institutional capital. However, in general the BA segment can be regarded as being developed to only a relatively small extent in Norway. A number of commercial and non-commercial attempts have been made to form different BAN variants over the last ten years. However, none of these has been particularly successful. One of the reasons for this may be that the initiative has been anchored to actual investment environments to only a small extent.[51]

Besides having an existing – and growing – group of business angels in place, the Scottish experiences are also indicating that the system of tax incentives for individuals is very significant. The Enterprise Investment Scheme (EIS) design is providing an opportunity for tax breaks in a variety of forms, both "*front end*" and "*back end*".[52] The question of tax relief for investors in an early phase was also posed in Finland, but has not yet received sufficient political support. In Norway, the issue has, however, not been discussed to any mentionable extent.

Earlier methods – historical heritage – also influence how new initiatives are perceived and succeed in their implementation. In Finland, a VIGO structure is being trialled which is very different to earlier handling. The rapid decision process that is sought for is based on the VIGO accelerators' valuation being adequate and that public stakeholders automatically comply with their decisions. This is an entirely different way of working for Seed Vera Venture and TEKES than before. The results have also initially become a significantly more sluggish decision process than intended. Rather, these experiences indicate three parallel values, albeit with acceptance from all three parties.

The Scottish criteria are only partly in place in Sweden. In January 2011, the government in Sweden decided to commission the Government Committee on Business Taxation to review the taxation of companies.[53] The directive states, among other things, that the committee must submit proposals for tax incentives in order to increase access to venture capital (interim report by 31 January 2012 at the latest).[54] According to the directive, the work of the committee must focus mainly on limited companies. According to confidential

[50] See e.g. EIF (2007), *JEREMIE, Interim report for Sweden. SME Financing Gap Assessment;* SWECO EuroFutures (2008), "Strukturfonder för kompletterande kapitalförsörjning i Sverige. En sammanfattning av åtta behovsstudier inför ett JEREMIE-initiativ".
[51] One activity in this administrative county district may be "Seed Forum Norway" – a type of "investor readiness" programme. See *http://www.seedforum.org*
[52] For more details, see: *http://www.hmrc.gov.uk/eis/*
[53] Fi 2011:01
[54] Dir. 2011:1

details, their proposal for tax incentives will however relate to: "*… physical (possibly also legal) entities investing in companies*."[55] Hence in the future, we may see an incentive structure in the Swedish tax field with elements that are reminiscent of the Scottish system.[56]

The number of Swedish business angels is unclear.[57] Organisations such as Nutek, SVCA and Connect have had and have, respectively, promotion activities[58] in the field, but undoubtedly there is scope for promotion measures in terms of both scope and design.[59] *If* decisions are made on tax incentives with a view to stimulating access to venture capital, these may be regarded as altered (improved) conditions for business angels. A positive side effect would be a marked improvement in the statistical opportunities to chart the financial activity of business angels. But above all, the criteria for developing the informal venture capital market would be considerably more favourable.

How to choose to promote these players in this case is an issue where Sweden can probably learn a lot from other countries. This learning will demand more than simple copying.

Design

How a measure is designed does of course have a part to play. As always, a target discussion is also highly relevant. On a general level, it can be asked what the *actual goal* is of the government's actions? Or, to put it another way, what is the public undertaking? Is there a long-term ambition to develop the capital supply market's diversity, function and quality to the furthest extent possible so that the need for government market intervention and selective measures can be reduced? Or should the goal be viewed as more short term, focusing on the promotion of a smaller number of growth companies in specific initiatives? Although both aspects can naturally be said to be significant to a country, how they are prioritised and communicated plays a role. Considerations and behaviours among both funds and private co-financiers will be affected, depending on which of these general objectives is applicable.

In very simple terms, some differences can be identified in the overall objectives of the three cases studied. Finland is making a stake on few selected growth companies at a very early phase, with business development, rapid access to financing and international connections as main points. Norway has a traditional venture capital model where the government participates by contributing lending capital. The emphasis is on innovative growth companies, and a clear geographical dimension is added through regional funds. Scotland's SCF is a co-investment fund which acts as a passive investor and owner. The private co-investors are the ones who perform *due diligence* and make investment decisions. The SCF's objective is more to develop the market, to increase capacity and

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[55] E-mail contact with secretary general Anna Brink (09/09/2011)

[56] Venture capital deductions have actually been attempted (without success) previously in Sweden (1996), but they were abolished after just one year. The rules were perceived to be complex and in-depth. See prop. 1995/96:109, SFS 1995:1623 and, for an evaluation, Nutek (1998), "Riskkapitalavdraget – och andra incitament…"

[57] A figure of 5 000 is sometimes mentioned as an estimate. See also the discussion below in section 4.3 under "In-depth study".

[58] E.g. business angel days, networking, experience exchange, training, etc.

[59] For an evaluation of Nutek's early initiatives and support in this field, see: IM-Gruppen (2008), "Utvärdering av Nuteks insatser och stöd för utveckling av regionala affärsängelsnätverk…"

competence among private investors. "*The businesses are our beneficiaries, but what we are trying to do is to develop the market in Scotland to be more active and sophisticated.*"[60]

Competence is also a pervading key term, albeit with various interpretations. As indicated above, the SCF provides analysis and investment competence to the market with a view to creating a fast, simple and unbureaucratic model. In Norway, experiences from Såkorn 1 indicate shortcomings in management and exit competence. In the "follow-up" Såkorn 2, therefore, considerably greater emphasis has been placed on administration competence and also cooperation between the funds with a view to permitting competence transfer.[61] In Finland, there was a desire for more coordination and more competence linked to capital which formed the background for the VIGO initiative. There is emphasis here on high technology and research-based enterprises. Competence in the form of established venture players is linked with serial entrepreneurs and professional corporate developers. *Who* implements an initiative and the player's competence – and network – are therefore a factor deemed to be important.

All initiatives concern an "early phase". In Finland, there is a perception that traditional VC funds are investing in the seed phase to a diminishing extent. This is why the VIGO initiative also works at a very early phase, sometimes before the company is even established. Certainly, in Norway there is strong growth within the venture capital market, but mainly within later stages such as buy-out. Therefore, both Såkorn 1 and 2 focus on startup, seed or other early phase. The Scottish SCF also has the objective of increased access to capital at early phase. The Swedish initiative is also based on a perceived "capital provision gap" at early stages, which the funds should aim to counter. However, a slide in how early the early phase should be can be noted now that expansion is also included.[62]

The three countries have also chosen different incentive structures in order to stimulate participation from private players. In Norway, the state is providing a liability loan and risk relief by means of a loss fund. Hence part of the risk is transferred from private investors to the state. In Scotland, as previously noted, there are various forms of tax deduction for private investors. In Finland, time rather than money provide incentives for private players. The basic concept involves creating a fast shortcut to existing forms of finance. The Swedish system has none of the above, but the selected form of co-investment inherently involve a shared risk and private capital lever (up to doubling).

In commission descriptions, publications, conditions, target discussions, the Swedish initiative includes elements of almost all target formulations described above. Growth in companies, initiatives in both early and expansion phases and hopes for market development and competence building. All aspects distributed geographically over twelve regional funds. As indicated previously, several targets do not facilitate the work of the funds. In its first interim report, Growth Analysis has commented on unclear points in target formulations and target conflict risks.[63] In the first annual report from the "ongoing evaluation", the situation is formulated as "*a difficult to interpret view of the commission of*

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[60] See section 3.4.2

[61] A further competence aspect is the fact that the funds in Såkorn 2 are greater so that necessary management costs can be borne more readily.

[62] There are discrepancies between the funds. One of the funds is reporting, for example, as at Q2 2011 that 79 per cent of investments made were made in companies at a mature phase.

[63] Growth Analysis (2010), "The state and risk capital" [Tillväxtanalys, "Staten och riskkapitalet"], section 2.4.2.

the funds".[64] However, improvements and clarifications have taken place over time. Among other things, the Swedish Agency for Economic and Regional Growth has produced a clarifying document.[65]

Geography

Geographic delimitations or objectives have been included in various ways in the three countries. Finland has a system for a few selected companies with high return expectations. As things stand at present there are six VIGO networks; the focus of these is entirely industry-dependent and so they only have an indirect geographical dimension. There are no express geographical considerations in Scotland; the country is too small for this, it is maintained.[66] However, at the same time, it can be noted that the stimulus of BANs has meant that investors in rural areas became organised and entered the market. Norway has a clear geographic character in its initiative involving four national and five regional funds. The regional funds have been assigned criteria different to the national ones. For example, the target group has been extended to SMEs, irrespective of phase, along with a certain amount of partial state financing of the administration costs. The goals for these funds are challenging: to infuse capital, competence and networks to knowledge companies with considerable growth potential in the areas characterised by depopulation and a weak economy. In practice, these funds can reasonably be considered to be more regional development players than distinct seed financing funds and should perhaps also be judged based on this.[67]

Another geographical aspect is the fact that investors largely work locally. The government's budget proposal for 2012 is worded as follows in respect of venture capital in early stages:

> *In the earliest growth phases, the regional presence is of particularly major significance as an important success factor is to establish close cooperation with local and regional networks and players in order to identify new opportunities and entrepreneurs."*[68]

This formulation is supported by both earlier research and case studies in the report. Research into Swedish conditions shows, for example, that around 70 per cent of business angel investments are local (taking place within the labour market region where the investor lives/works).[69] Similar experiences emerge for Såkorn 2 in Norway as well. The

[64] Ramböll (2010), "Start av regionala riskkapitalfonder – uppdrag och lärdomar", page: 31
[65] Swedish Agency for Economic and Regional Growth (2010), "Förutsättningar för fondprojektens genomförande".
[66] Scotland has around a sixth of the area of Sweden and 55 per cent of its population.
[67] It should be noted that capital provision instruments other than venture capital are selectable alternative in "non-growth areas", e.g. loan guarantees. In Germany, there are – for example – a number of favourable loans via KfW Bankengruppe, where the conditions are dependent on region. For a study of the correlation between the volume of state-guaranteed loans in the USA (SBA Guaranteed lending program) and local employment, see e.g. Craig et al. (2008), "Credit market failure intervention: Do government sponsored small business credit programs enrich poorer areas?".
[68] Proposal 2011/12:1, Utgiftsområde 24 (Näringsliv), page: 57
[69] Avdeitchikova S (2008), *Close-ups from afar: the nature of the informal venture capital market in a spatial context.* The same experiences are seen internationally; see e.g. Mason C & Harrison R (1994), "The Informal Venture Capital Market in the UK; Riding et al. (1993), *Informal Investors in Canada: The Identification of Salient Characteristics.*

locations of the national funds largely controls where the investments are made. Of course, these locations are situated in areas where trade and industry is of such a structure that a good "*deal flow*" can be expected. But the fact remains that investors want to invest in their local area and have portfolio companies within "reach". The reasons are intuitively easy to explain – it is easier to find cases and easier to take care of and monitor them. The significance of geographical proximity seems to be ever clearer in early phases.

If the political objective is to improve the supply of venture capital in the entire country, these experiences are an interesting background. Two conceivable policy implications can be made. A first alternative is to assign venture capital funds strict geographical delimitations so as to ensure where investments are made. The second alternative is to work with national funds and supplement these with non-financial promotion initiatives in respect of players, known as *investor/investment readiness* programmes. Well implemented initiatives increase the likelihood of investment action, enhance competence and reduce the search costs for both groups. The likelihood thereby reasonably increases that active informal investors meet investment-ready companies in their local area.[70] To put it another way, the opportunity for national *deal flow* is preserved while at the same time "more" local areas are available. Growth Analysis deems the latter alternative to be considerably more attractive than the former.

4.3 The future

Experiences from the case studies, with certain elements from the Swedish process, are discussed in a policy context in section 4.2. To conclude, there may be reason to look back. Below is a proposal for an in-depth study, along with a number of thoughts about the future for the Swedish initiative.

In-depth study

The experiences from chapter 3 in this report indicate a number of relevant aspects in fields such as evaluation, long-term strategy, context, design and geography. Informal investors – business angels – appear to be particularly interesting in various ways. In Scotland, business angel networks represent two-thirds of the investments within the SCF. The geographical presence of financiers have an enormous part to play in where the investment itself is made. Examples of this can be found in the cases of both Norway and Scotland, as well as in the ongoing Swedish initiative. In Scotland, it is also maintained that more players will result in more finance channels and finance to more companies, while more money to few players tends to increase the size of investments, but also results in fewer investments.

Earlier this year, Growth Analysis illustrated the current statistical situation in Sweden in respect of capital provision for small and medium-sized enterprises.[71] The significance of informal investors overall seems to be great, albeit difficult to gauge. In its report, Growth Analysis designated the current knowledge situation for these investments as unsatisfactory: "*synnerligen allvarlig vit fläck*" [particularly serious 'white area on the map'].[72] In a scientific article dated 2007, Avdeitchikova (with the help of an extensive

[70] See also the discussion in Mason C & Harrison RT (1995), "Closing the Regional Equity Capital Gap: The Role of Informal Venture Capital".
[71] Growth Analysis (2011), "Capital procurement in small and medium sized enterprised" [Tillväxtanalys, "Kapitalförsörjningen i små och medelstora företag"].
[72] Ibid, page: 14

telephone survey) estimates the scope of investments by informal investors in Sweden. This assessment lands in a range of between EUR 385 million and EUR 450 million a year, i.e. greater than the entire formal venture capital market. Furthermore, emphasis is placed on the heterogeneity of the informal investors with regard to e.g. knowledge contributions and investment size and frequency. Avdeitchikova estimates the total number of informal investors in Sweden to amount to around 100 000.[73] The significance of these informal investors is further reinforced in an OECD report which states that between just 3 and 12 per cent of all informal investments made are visible.[74]

Together, these observations support an opportunity to progress in a more focused thematic study relating to experiences of promotion initiatives aimed at business angels (in this context, probably the most relevant group of informal investors, given investment sizes, investment activity and competence contribution). The purpose, then, would be to reinforce and extend the decision data ahead of considerations of potential future Swedish initiatives with a more long-term focus.[75]

More specifically, a study of this kind would use international mapping to answer questions such as:

- How has the public sector promoted function and development of BAs and BANs?
- What experiences are there from this?

The emphasis should be placed on the most interesting *international* experiences in terms of policy, both within and outside the EU. Experiences indicate the significance of context when policy measures are to be implemented. This is why it is important for the study to clearly observe this. In a similar way to this report, the ambition should be to give an in-depth, nuanced view of design, weaknesses, strengths and results linked with various initiatives, i.e. to penetrate descriptions which describe hopes and objectives in more superficial terms. Of course, countries should be selected in consultation with leading researchers in the field in order to ensure relevance and quality.

Process

The Swedish initiative on regional venture capital funds has now reached the halfway mark. The rules have been clarified, structures have been developed. This also means that it has been possible to make clearer what the funds have to offer the market.

In 2011, much of this attention has been focused on the funds' rate of investment with a view to avoiding repayments to the European Commission. All indications are that the funds have succeeded with this in volume, hopefully without compromises in quality or additionality.

The half-time report produced by Ramböll in its capacity as the procured evaluators doing "ongoing evaluation" includes many relevant aspects. It is hoped that the stakeholders involved will study the report and that the initiated cooperation will continue to be developed.

[73] Of these, business angels (in Avdeitchikova's categorisation) are estimated to amount to around 5 000. See Avdeitchikova S, (2008), "On the structure of the informal venture capital market in Sweden: developing investment roles".

[74] OECD (2011), *Financing High Growth Firms: The Role of Angel Investors.*

[75] A good starting point for a study of this kind may, for example, be: Ramböll (2009), "Initiativ och program för att utveckla den informella riskkapitalmarknaden i Europa".

A shortage of systematic evaluations is one thing which the case studies in this report have in common. The Swedish initiative offers criteria to allow contribution of a wide range of experience. The strong regional characteristic of the Swedish initiative offers good opportunities to monitor how differences in criteria affect the results, for example. This naturally requires high quality data. It is therefore very important that the conditions for such data collection are secured.

At the time of writing, the “debt crisis” and its follow-on effects are being discussed in more or less all contexts. It will be interesting to see how this crisis will affect the willingness to invest in young, innovative small and medium-sized enterprises in Sweden.

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