

Public venture capital in Latvia^{1 2}

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Abstract

The first generation of Latvian public venture capital programmes was launched in 2005 and so far five programmes have either been launched or are being planned. Given that the explicit focus from the side of the policy maker has been to supply the Latvian venture capital market with capital, the programmes could be seen as a partial success. However, the programmes have failed to address the demand side. This is of particular importance for the future development of the Latvian venture capital market since the evidence reported suggests there are not enough good projects to invest in, while at the same time Latvian entrepreneurs look for venture capital outside Latvia. The paper also pinpoints severe weaknesses in the design and implementation of the five public venture capital programmes.

JEL classification: G24, G28, L26

Keywords: Public venture capital, Latvia, entrepreneurship

1. Introduction

The Latvia Competitiveness Report (Cunška et al., 2012) identifies financial market development as one of the areas where Latvia lags behind comparable countries in Central and Eastern Europe. For a country at Latvia's stage of economic development, using the terminology of the World Economic Forum Global Competitiveness Report, moving from an efficiency driven economy to an innovation driven one (Schwab, 2013) well functioning capital markets are of crucial importance. Through its specific features venture capital can play a pivotal role in this process – in particular since it is in general associated with rapidly growing entrepreneurial start-ups that usually operate in high-tech industries. Furthermore, as discussed in Dessi and Yin (2012), empirical evidence suggests that development of a well-functioning and active market for venture capital is more or less a pre-condition for economic growth based on knowledge-intensive industries. Further evidence on the relationship between venture capital, innovation and growth of the knowledge-based sector can be found in Bessler et al. (2012). After surveying the literature on causality between venture capital and innovation they conclude that:

¹ This is a revised version of the SSE Riga B.Sc. thesis *Does Money Meet the Ideas? Evaluation of Public Venture Capital in Latvia* by Kristis Avots and Rihards Strenga. The thesis was supervised by Arnis Sauka and Andris K. Bērziņš. All three authors are affiliated with the Stockholm School of Economics in Riga. Corresponding author: Anders Paalzow, anders.paalzow@sseriga.edu.

² The authors have benefited from comments by Alf Vanags.

- Venture capital investments stimulate patenting activity three times more than corporate R&D spending: though patenting activity in a particular company tends to decrease after venture capital investment.
- Increased early-stage venture capital supply stimulates new business creation in knowledge-intensive industries and hence economic growth.
- Venture capital-backed firms create more innovative products than non-venture capital-backed firms and are also more profitable.

With these observations as a point of departure this paper will analyze development of the Latvian venture capital market with particular emphasis on public venture capital programmes and their impact. In doing so the rest of the paper is organized as follows. For readers not familiar with the concept of venture capital, the next section provides a brief introduction focusing on the features distinguishing venture capital from other sources of funding. This is followed by a discussion of the not entirely uncontroversial role of public venture capital. The Latvian capital market is briefly discussed in the fourth section, whereas the fifth section, the main part of the paper, provides an analysis of the role and impact of public venture capital in Latvia. The final section provides conclusions.

2. The venture capital market: basic concepts

For an entrepreneur wishing to launch or further develop their idea or business, essentially five different sources of financing are available:

- self-financing (including personal savings, family and friends);
- debt financing (bank loans);
- equity financing (venture capital, private equity);
- government or public funding through various programmes targeting start-ups and SMEs; and
- stock market flotation.

Out of the five, self-financing, if available, might be suitable for the initial phase of a business. However, for technology-based start-ups self-financing most likely cannot finance development of a product ready for the market since the amount of funding needed to develop a technology-based product is estimated on average to be ten to twenty times greater than the initial R&D expenditure (Bank of England, 2001).

While self-financing is a possible source of funding for an early stage start-up, stock market flotation requires that the company has already developed to a fairly large scale. Government programmes are in general targeted towards certain types of businesses and even so are not always available. Hence, what remains for the entrepreneur who has left the initial phase behind are essentially financing through bank loans or through equity. Debt financing, e.g. through bank loans, usually requires collateral. For start-ups, in particular in technology-based fields, this might be difficult or even impossible to provide. Furthermore, the bank or lender also requires information about the borrower and about the business as such. In the case of new technologies, the bank or other lender might have difficulty in assessing the potential of the technology or business model as such.

Generically two types of uncertainties are facing the lender: general business risks and risks only known to the entrepreneur (asymmetric information). From the point of view of a potential lender or investor, information asymmetries can be illustrated by questions such as (see Yung, 2012): Why is the entrepreneur willing to dilute their ownership stake, and why now? Why is the entrepreneur approaching me and not someone else? Who has been approached before me and turned them down? Is the entrepreneur lying about important parts of the business plan?

Because of difficulties in assessing the general business risks associated with an innovative start-up and because of information asymmetries, debt financing might not be an option for a technology-based start-up – either because it is not available at all or if it is available it is too expensive due to the risks. Equity financing/venture capital, on the other hand, can address these issues explicitly through:

- screening of potential projects;
- investment in stages.

This approach makes equity financing/venture capital particularly well suited for technology-based start-ups (and in many cases also the only source of funding available to them).

The screening process requires substantial skills and industry knowledge. As emphasized in Yung (2012) the screening process is about information acquisition and evaluation. The importance of these evaluations is seen in the very small proportion of proposals that eventually get funding. Empirical evidence, see Lerner (2009), suggests that in general the screening processes undertaken by venture capitalists are by far more efficient than those undertaken by other potential funders of technology-based start-ups such as government programmes or corporate research and development laboratories. The importance of human capital in terms of screening and evaluation is discussed in Walche and Zacharakis (2012) who find that both general (e.g. education) and specific (e.g. previous venture capital experience) human capital of venture capital fund managers affect the success of fundraising.

After the first two steps (raising funds and screening) in what Gompers and Lerner (2001) label the venture capital cycle, follows the third step: investment. Even with a thorough screening process, business risk and information asymmetries remain. Venture capitalists therefore stage their investments – i.e. rather than making one big investment the venture capitalist makes a sequence of investments. This staging of investment is discussed in Gompers (1995) who points out that staging capital injections provides the venture capitalist with an opportunity to collect information and hence monitor the progress of the company, as well as an opportunity to abandon the company.

The different investment stages of the venture capital cycle are presented in Table 1. As discussed in Kraussl and Krause (2012) a typical venture capital cycle from raising funds and screening to exit takes approximately ten years.

From Table 1 it follows that venture capital investments are those aimed at *seed*, *start-up* and *later stage venture* stages; while *growth* and *buyout* investments are categorized as private equity. Nonetheless, often both venture capital and private equity investments are related with

the venture capital market in a broader sense. In the forthcoming discussion, we will therefore use this approach and refer to it as ‘venture capital’ as it is hard to distinguish between separate venture capital and private equity markets.

Table 1: EVCA classification of investment stages (European Venture Capital Association, 2012)

	Investment stage	Aim of investment
Venture capital	Seed	Financing provided to research, assess and develop an initial concept before a business has reached the start-up phase.
	Start-up	Financing provided to companies for product development and initial marketing. Companies may be in the process of being set up or may have been in business for a short time, but not sold their product commercially.
	Later-stage venture	Financing provided for the expansion of an operating company, which may or may not be breaking even or trading profitably. Later-stage venture tends to finance companies already backed by VCs.
Private Equity	Growth	A type of private equity investment – most often a minority investment but not necessarily – in relatively mature companies that are looking for capital to expand or restructure operations, enter new markets.
	Rescue/turnaround	Financing made available to an existing business which has experienced trading difficulties, with a view to re-establishing prosperity.
	Replacement capital	Purchase of a minority stake of existing shares in a company from another private equity firm or from another shareholder or shareholders.
	Buyout	Financing provided to acquire a company. It may use a significant amount of borrowed money to meet the cost of acquisition.

However, prior to investment funds have to be raised. In many cases venture capitalists syndicate their investments, i.e. one venture capitalist originates the deal and invites other venture capitalists to invest. In addition to bringing more competence into the screening and decision making processes, syndication allows venture capital firms to diversify by giving them the opportunity to invest in more projects and hence to a large extent diversify away from firm-specific risk. Venture capital firms can therefore be seen, as Lerner and Gompers (2001) put it, as an “intermediary in capital and financial markets”.

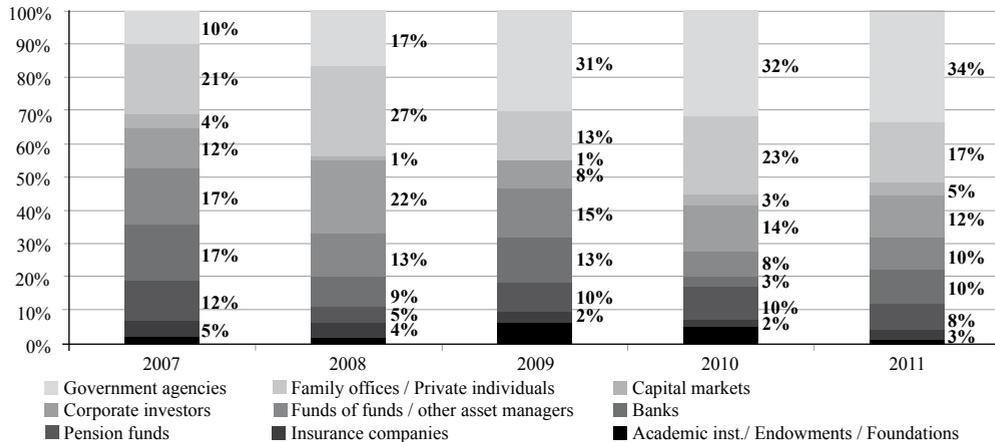
Being intermediaries in between capital and financial markets, venture capital funds themselves are subjects of fundraising. A particular venture capital company can have several closed-end funds with pre-determined investment and exit periods. Both institutional investors and private individuals invest in venture funds using venture capital as an asset class to add a high-risk high expected premium component to their portfolios. However, institutional investors: pension funds, financial institutions, governmental agencies, endowment funds and the like are dominant in the venture capital market.

Sources of funding for venture capital funds naturally vary with respect to the preferences of potential investors and with development of the venture capital market as such. In small and underdeveloped venture capital markets governmental and supranational institutions tend to be the anchoring investors.

At the same time for pension funds the ability to invest in high-risk asset classes is determined by the legal framework of a particular country. In Europe the main funding sources are government agencies, private individuals and corporate investors (2/3 of total investment

in 2011, see Figure 1). Furthermore, governmental institutions have significantly increased their commitments to investment in venture capital funds since the beginning of the current financial crisis.

Figure 1: Incremental amount raised by types of investor, adapted from European Venture



Source: Capital Association (2012)

Complementary to capital investments, the venture capital investment process also includes participation in the operations of the company invested in. As discussed in Sørensen (2007), the ability to bring in managerial advice or other types of non-financial investment (smart money) is becoming increasingly important as it increases the probability of a successful investment. There are, naturally, also venture capital investments where the venture capitalist does not bring any non-financial investment to the company (dumb money).

Table 2: VC/PE fund classification by stage focus, adapted from European Venture Capital Association (2012)

	Types of fund	Main focus
VC funds	Early-stage fund	A venture capital fund focused on investing in companies in the early stages of their lives
	Later-stage fund	A venture capital fund focused on investing in later-stage companies in need of expansion capital
	Balanced fund	A venture capital fund focused on both early-stage and development, with no particular concentration on either
PE funds	Growth fund	Funds whose strategy is to invest in or acquire relatively mature companies that are looking for capital to expand or restructure operations
	Buyout fund	A fund whose strategy is to acquire other businesses
	Mezzanine fund	A fund that provides (generally subordinated) debt to facilitate the financing of buyouts, frequently alongside a right to some of the equity upside
	Generalist fund	A fund with either a stated focus of investing in all stages of private equity investment, or with a broad area of investment activity

If the size of the market allows it, venture capital funds tend to specialize in particular stages of investment and/or industries – see Table 2. Different stages correspond to certain risk levels and involvement required from venture capital fund managers, while the industry spe-

cific knowledge of fund managers helps in screening and evaluating the viability and scalability of projects. In the case of Latvia, interviews with market participants suggest that the Latvian venture capital market is too small to allow for specialization with respect to stage and/or industry.

Venture capitalists harvest their results when exiting their investments. An exit is characterized by a change in the ownership structure of a portfolio company allowing the venture capital fund to liquidate its stake and realise a gain if the investment has been successful. A number of ways exist to exit an investment – according to the European Venture Capital Association, typical exit strategies are:

- Trade sale or Merger and Acquisition: the most frequent exit strategy; the venture capital fund sells its equity stake to an industrial or corporate investor.
- Management team repurchase or management buyout (MBO): founders or managers buy back equity stakes from venture capital funds, usually using financial leverage; this exit strategy is common in underdeveloped and small markets with shortage of other exit strategies.
- Sale to another financial investor (secondary market deal): this exit is common for early stage funds which then sell their equity stakes to an investor with a longer investment horizon (PE, family funds).
- Initial public offering (IPO): exit by flotation of the company on a public stock exchange; this exit is most preferred by investors as it usually generates the highest returns, but IPO opportunities are limited in regions with underdeveloped stock markets. IPO is a costly process and companies have to have a certain capitalization level to qualify, thus it is possible for mature companies. IPO is considered to be the most profitable exit strategy (Schwienbacher, 2009).
- Write-off: if a venture capital fund cannot exit by the end of the fund liquidation period or the invested company loses its value, the venture capital fund will write off the investment as a loss.

3. Public venture capital

The evidence from the discussion above, e.g. in Figure 1 suggests that public venture capital plays an important role in Europe. As discussed in Cumming and MacIntosh (2006) numerous countries have established national stimulus programmes for venture capital.

Governments can use multiple instruments to stimulate overall venture capital market activity and particular segments, including:

- direct funding via special governmental agencies which act as fund managers;
- direct co-funding: co-investment with private investors to share risk;
- indirect funding: investment in privately managed funds;
- tax incentives: tax shields for investment in VC and capital gains tax reliefs;
- regulation for institutional investors: pension funds, insurance companies and banks are subject to regulation that sets limits on exposure to high risk asset classes;

- demand side stimulus via entrepreneurship promotion, training programmes for entrepreneurs/start-ups making the ‘investor ready’;
- measures aiming to ensure that the overall economic environment is conducive to entrepreneurship and economic activity.

Hence, the role of government is much larger than just investing directly in companies or funds.

Reflecting the observation (discussed in Lerner, 2009) that entrepreneurship is a business with external economies of scale (or cluster effects) e.g. since entrepreneurs and venture capitalists benefit from the presence of their peers³, there might be a role for government, in particular in less developed markets, to act as a catalyst by actively engaging in the venture capital market and thereby creating positive externalities or spillovers. Empirically, as shown in Leleux and Surlemont (2003) greater public participation in the venture capital market seems to be negatively correlated with the size of the venture capital market, i.e. large public investment in small markets. Nevertheless, the rationale for public intervention in the venture capital market is essentially based on two assumptions:

- insufficient private venture capital funding supply for new firms;
- the ability of public bodies to identify investments with high social returns.

In particular the latter rationale and the underlying assumption of the government’s or public sector’s ability to ‘pick winners’ have been criticized. Lerner (2002, 2009) identifies several problems or “performance-undermining factors” associated with public venture capital including: a weaker screening and evaluation process; less probability of success, creation of an uneven playing field between companies with and without public venture capital; worse management since public venture capitalists are less likely to bring in managerial advice or take part in the operations of the start-up (i.e. not smart money but dumb money); creation of a system that punishes success or action contributing to success such as flexibility, fewer incentives to listen to feedback from customers and less ability to act rapidly. Furthermore, as discussed in Cumming and MacIntosh (2006) public venture capital funds might crowd out classic private venture capital funds. For Canada, the authors empirically show that an increase in public venture capital actually led to a reduction in overall venture capital supply.

To mitigate the ‘risks’ with public venture capital, Lerner (2002) suggests a number of conditions for the design of an efficient public venture capital fund: (i) the public body has to build relationships to understand the industry (ii) public venture capital funds should focus on uncovered technologies and provision of late-stage capital at times when venture capitalists experience difficulty in raising funds (iii) public venture capital fund managers should be allowed a fair degree of flexibility (e.g. in terms of investment time horizon) to avoid undervalued exits (iv) evaluations should include assessments of managerial experience, product-market strategy and desire to attract private capital.

³ Lerner (2009) provides several examples of external economies of scale. It is for example easier to find a company if several other start-ups are nearby or if there is a start-up community then lawyers, investors etc. are more likely to be knowledgeable about e.g. the venturing process and financing of start-ups.

Several studies emphasize the importance of the overall institutional structure and hence the government's role in terms of developing an institutional structure that supports venture capital and technology-based start-ups. Hood (2000) noted that broadly governments have two means of supporting VC supply to boost economic growth: a supportive fiscal and regulatory framework and direct investment to fill various gaps in both the short and medium term.

Da Rin et al. (2006) assess the effectiveness of different policy measures for the creation of active venture capital markets and identify a number of measures that do not focus on public sector provision of venture capital as such. Among the measures are: opening of stock markets targeting entrepreneurial companies and thereby creating a lucrative exit channel; reduction in corporate capital gains tax; and reductions in overall barriers to entrepreneurship.

Finally, in terms of evaluating the effectiveness of public venture capital, needless to say a number of different methods and measures are available. Table 3, drawing on Hood (2000), presents the most common measures.

Table 3: Evaluation of PVC instruments, measurement table adapted from Hood (2000)

Macro measures	Micro measures
Classic economic impact methodology: job creation, displacement etc.	Investment performance (IRR)
Cost/benefit analysis	Public/private leverage as result of public venture capital activity
Impact on the venture capital sector	Specific exemplar cases
Private sector funds under management	Peer group recognition – investment awards etc.
Effectiveness of public venture capital within economic stimulus strategies	
Investment disposals	

To summarize the discussion so far, existing theoretical and empirical evidence on public stimulus of venture capital markets is mixed. This suggests that direct public investment has benefits as well as drawbacks. However, it can, under certain circumstances, be an appropriate tool to support developing venture capital markets. A successful public venture capital programme has to be carefully designed to reduce the distortions or misallocations it might create. In addition, the government has an important role to play in terms of developing an institutional framework that supports innovation and entrepreneurship as well as private venture capital as such.

4. The Latvian venture capital market

Because of its small size the Latvian venture capital market is more or less invisible in the global arena. Nevertheless, it is part of the regional Central and Eastern European (CEE) market, which comprises a fairly homogenous part of the European venture capital market. Hence, insights from the overall CEE market might provide useful insights into the functioning of the Latvian market. In general the CEE venture capital market is less developed than its Western European and North American counterparts. Karsai (2009) identifies a number of obstacles that have limited CEE market development:

- lack of qualified management teams in companies invested in;
- lack of early-stage financing, possibly due to high transaction costs, limited number of suitable projects, low number of informal or angel investors, and few government-run seed programmes;
- limited availability of credit facilities to leverage investments;
- low share of funds raised from local investors and hence a high share of institutional investors and international funds.

In one of the few studies of the Latvian venture capital market, Prohorovs and Jakusonoka (2012) identified a number of factors restricting development of the Latvian venture capital market including: the small size of venture capital funds as such; overall lack of governance and coordination; very few companies suitable for venture capital investment; lack of skills and experience to be involved in start-ups (i.e. lack of smart money); weak links between universities and businesses.

In terms of rankings of the attractiveness of national venture capital and risk capital markets (see Groh and Lichtenstein, 2007), Latvia was ranked as number 17 out of 27 EU countries behind Hungary, Slovenia, Lithuania and Poland. According to the Global Venture Capital and Private Equity Country Attractiveness Index (see Groh et al. 2012), Latvia is ranked in 59th place (compared to 57th in 2008). In comparison with 2008, Latvia is in particular doing worse in terms of depth of capital markets, whereas it is doing better in terms of deal opportunities.

Finally, as for the size of the Latvian venture capital market, two fairly recent, although pre-crisis, studies try to assess its size. Laizans and Lace (2009a, 2009b) come up with an estimate that in 2008 invested venture capital in Latvia amounted to 63 million EUR or 0.27% of GDP, which was above the average CEE ratio of 0.21%. Vanags et al. (2010), using a different methodology, came up with an estimate of 68.2 million EUR for 2008. The supply of venture capital is discussed in section 5.3-5.4 below.

5. Public venture capital in Latvia

This section provides an overview and analysis of the Latvian public venture capital market and its development from the first generation programme to the present. The analysis is based on both quantitative and qualitative data, where the latter to a large extent were obtained from interviews with market participants, policy makers and other stakeholders.⁴

After a brief background, an analysis follows of what might be termed the five generations of Latvian public venture capital programmes. Indicators of economic, financial and investment target performance are analysed. The section presents an overview of the supply of public

⁴ In total 17 semi-structured interviews were undertaken involving all currently active venture capital/private equity funds, funds that primarily invest in Latvia, representatives of the Latvian Guarantee Agency, board members of the Latvian Venture Capital Association, representatives of the Association of Commercial Banks in Latvia, entrepreneurs with experience of local venture capital, and start-up support professionals. Written interviews were undertaken with the Ministry of Finance and the Ministry of Economics. The authors also communicated with a number of experts on specific topics. In addition, information was gathered through participation in a number of venture capital conferences/events in Latvia and Estonia. A full description of the methodology is available in Avots and Strenga (2013).

venture capital as well as of institutional and private funding. The section also reports on the views of entrepreneurs on public venture capital in Latvia.

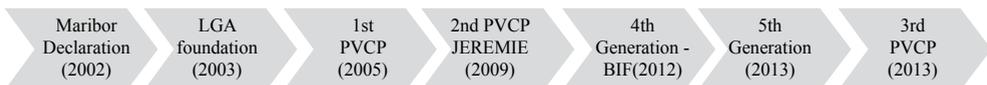
5.1 Public venture capital in Latvia: a background

Prior to Latvian accession to the European Union in 2004, only one venture capital fund (BaltCap) was based and operating in Latvia. A lack of financial resources in the venture capital sector and its importance for economic growth and development had already been recognized in the National Development Plan 2004-2006. The first step towards a Latvian public venture capital programme was taken in 2002 when Latvia joined the European Charter for Small Enterprises by signing the Maribor Declaration.

Following EU accession Latvia became eligible for EU structural funds. In the planning documents for structural funds, accessibility to funding for SMEs was one of the priorities. The initial objective of the Latvian public venture capital programme was therefore to create an inflow of funding into newly founded venture capital funds under conditions favourable for fund managers and co-investors (through unequal risk-sharing). The underlying assumption was that public funding would encourage co-investment by private institutional investors and thereby support SMEs and hence economic growth.

To develop the public venture capital framework the Latvian Guarantee Agency started its work in 2003 and in the years following it developed and implemented a number of support and development programmes targeting Latvian SMEs. A large share of financial resources devoted have been allocated to the Latvian venture capital sector. So far three public venture capital programmes have been launched. The first three generations have been mainly financed by EU structural funds and the Latvian state budget. The fourth generation programme is a fund of funds established by the three Baltic states and the European Investment Fund. The fifth and, in the current EU funding planning period, the last programme will be solely financed by the Latvian Guarantee Agency. Figure 2 provides a chronology of the development of Latvian public venture capital programmes.

Figure 2: Main milestones of public venture capital programmes in Latvia.



From the Latvian policymakers' perspective, development of public venture capital programmes had the following aims:

- I to develop the venture capital market and stimulate creation of venture capital funds in Latvia;
- II to enhance entry opportunities for new venture capital teams and give them access to public funding on favourable terms in order to build track records that are more or less required by private investors;
- III increased funding opportunities for SMEs in the early, growth and expansion stages; and
- IV to create a self-sustainable Latvian venture capital market in the long run.

Compared with the discussion in section 3, the aims fairly well match the rationales for public venture capital used in the literature. However, missing in the Latvian context are measures aimed at stimulating demand and measures aimed at fostering an overall environment conducive to entrepreneurship and venture capital.

However, a clear setting and time horizon as to when the listed goals should be reached were (and remain) absent. Nor have any performance indicators been set for benchmarking results achieved – rather, adjustments were made based on operative performance of particular generation funds. As of 2013, which has seen the launch of the third generation programme, one manager suggested that it would take another two to three generations of public venture capital programmes to make the Latvian venture capital industry sustainable in the long run.

5.2 Structure and financing of public venture capital programmes

This subsection analyses the five planned and existing public venture capital programmes in Latvia. The analysis includes: (i) a description of the characteristics of each programme; (ii) overall programme structure and timeline; (iii) characteristics of the funds selected as managers; (iv) venture capital fund financial structure; and (v) key findings.

5.2.1 The first generation programme

The Latvian Guarantee Agency (LGA) announced the first generation public venture capital programme procurement process in autumn 2005. This programme was solely organized by LGA. Funding came from EU structural funds (11.25 million EUR) and from the Latvian Government (3.75 million EUR).

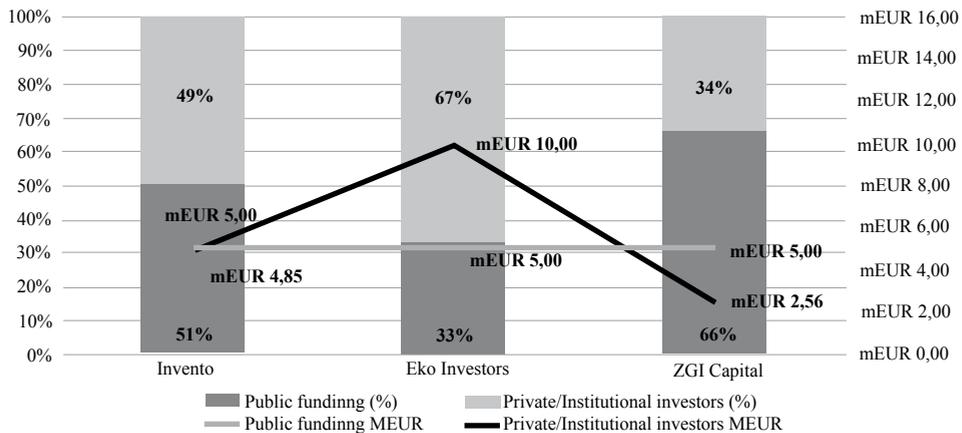
Being the first programme, this can be seen as a try-out to develop the Latvian venture capital market. However, because of the requirements of Latvian public procurement law the tender design was non-standard and deviated substantially from international best practice in this area. In particular, the fact that the winners had to be chosen based on the lowest price offer shifted the focus away from business plans and the experience of managers (using the terminology presented in section 2, this meant a shift from smart money to dumb money) to the lowest management fee and the possibility to attract as much capital as possible.

The key characteristics of the first generation programme are presented in Table 4.

The winners of the tender were: Eko Investors, ZGI Capital, and Tech Ventures. Eko Investors submitted the most aggressive business plan combined with the lowest management fee and the most capital attracted from private investors. ZGI Capital had a higher management fee than Eko Investors and just met the minimum requirement of 34% of the capital generated from investors. ZGI's advantage was their reputation and experience in financial advisory and asset management. Tech Ventures had a low management fee and a business plan with a main focus on smaller business start-ups. Figure 2 summarizes the three funds' planned financial structure.

Table 4: Characteristics of the first generation public venture capital programme

Characteristics of 1 st LGA Generation PVCP	
Name of programme	Entrepreneurship and Innovation
Year	2005
Evaluators	LGA and other experts
Procurement process legislation	Procurement Law
PVCP funding	EU Structural funds 11.25m EUR; Government of Latvia 3.75m EUR
Funding structure	Minimum of 34% capital from private investors
Maximum amount of capital supported per fund	5m EUR
Scope of investments	SMEs in Latvia
Planned number of investments	55
Limitations	<250 employees <50m EUR in turnover No subsidiaries
Financial limitations of investment in a company	1 st investment <280k EUR Follow-up round up to 650k EUR in a year Total investment cannot exceed 930k EUR
Maximal acquirable stake in an investment	49%
Restricted investment industries	Steel industry Synthetic fibre industry Vehicle manufacturing Shipbuilding and maintenance Transportation industry Agriculture and fishing sectors Wholesale and retail industries Financial brokerage Real estate sector Gambling and lotteries
Investment period	21.02.2006 – 31.05.2008
Lifetime of fund	7 years, can be prolonged to 10 years
Success fee structure	IRR 6% return per year If losses – private investors are paid capital back first
PVCP winners	TechVentures Fondu Vadības Kompānija, EKO Investors, Zaļās Gaismas Investīcijas (Currently ZGI Capital)

Figure 2: First generation venture capital funding structure.

Source: Authors' analysis.

The strategy of each fund is presented in Table 5.

Table 5: Characteristics of first generation public venture capital programme funds.

Characteristics	TechVentures Vadības Kompānija	EKO Investors	ZGI Capital
Founded	2005	2000	2005
Share capital	EUR 2800	EUR 7100	EUR 2800
Share holders	Investment firm TechVentures	Viesturs Tamužs	Mārtiņš Rikšis, Ģirts Rungainis, Jānis Lielcepure, Juris Eizenāls
Committed private funds	4.85m EUR	10m EUR	2.56m EUR
Target industries	Construction materials IT and telecommunication services Industrial catering	Packing production and disposal Waste management and disposal	Metalworking IT Food processing
Criteria for investment	Management team Potential exit in 5-7 years Market growth and perspectives	Eco product production and manufacturing Competence	SMEs with high growth potential Experienced management team Existing track record
Planned # of investments	25	15	15
Minimal value of investment	25 – 50k EUR	140k EUR	50k EUR
Financial goal	10-15%		IRR 25%
Wealthy individuals / institutional investors	100% / 0%	75% / 25%	30% / 70%
Past successful investment projects	“Brocēnu Keramikā” Ltd. (production of ceramic tiles)	“Eko Reverss” (recycling and waste management), “Pet Baltija” recycling), “Eko Rīga” (waste management and disposal)	JSC “Lauma” (textile industry), JSC “Putnu Fabrika Ķekava” (food processing), JSC “Ķīmiskā rūpnīca Spodrība” (domestic appliances)

From Table 5 it appears that the plan was to make around 55 investments worth 32.4 million EUR. Eko Investors and ZGI Capital both managed to fulfil the plan in terms of capital in-

vestment but not in terms of number of projects (15 and 12, respectively). Tech Ventures managed to invest in only three companies as their private investors experienced severe losses in the financial crisis.

Table 6: First generation public venture capital fund performance as of 30.05.2012

VC fund	Fund title	Total value paid in (TVPI) ¹	Highest single exit multiple; industry	Number of successful investments/ total investments
ZGI	ZGI -1	0.5	5.6 (ITC infrastructure)	2/12
TechVentures	Invento	0.4	1.1 (Transport & logistics)	1/3
Eko Investors	2 nd Eko fund	Estimated 1.7 ²	3.3 (Printing)	2/13 [5/16] ³

¹ Total value paid in is measure as the ratio of the sum of cumulative repayments to investors to total paid-in capital.

² The estimate does not include four investments and includes two which were not funded from the particular fund.

³ Four companies were merged into one after the investment and this is evaluated as successful.

Source: Personal interviews and LGA Tender “Venture Capital Fund Management Services” Evaluation Commission (2013)

The financial performance of the three funds is not publicly available. However, all three funds have taken part in the tender procedure for the third generation programme and as part of the tender the contestants have had to submit information on e.g. previous experience. This information combined with interviews forms the basis for Table 6 illustrating the financial performance of the three funds.

When analysing Table 6, one should keep in mind that the majority of investments were made when the Latvian economy peaked. The interviews undertaken reveal that the various stakeholders perceive the first generation of public venture capital programmes as not financially successful and that the poor performance so far is attributable to:

- impact of the financial crisis as funds were invested with boom time valuations and faced significant loss of value when the crisis hit;
- unsuitable tender procedure under State Procurement Law focusing on the lowest management fee bid (hence, funds operated below market rates for management fees);
- inappropriate public venture capital vehicle design with a short investment period that limited follow-up (rescue) funding opportunities and no-lock in for private investors (allowed private investors to withdraw in the midst of the investment period for TechVentures);
- lack of experience and overconfidence among fund managers, weak demand from companies and general shortage of knowledge among stakeholders on venture capital instruments;
- aggressive lending policies by banks which squeezed out venture capital funds from prospective deals;
- moral hazard and agency problems resulting in venture capital fund investments in companies with common ownership.

When comparing the Latvian first generation funds with European aggregated Seed/Start-up stage venture capital fund performance for the corresponding period one of the funds would belong to the second quartile while the other two belong in the lowest quartile. The first generation’s investment period is closed. However, the exit period has not yet been reached.

Hence, the reported performance might still change, even though the funds had exited from most of their investments by the first quarter of 2013.

5.2.2 The second generation programme

Based on experience from the tender for the first generation programme, the European Investment Fund (EIF) was contracted to organize the tender process. Although EIF was chosen for its reputation as an international organization with relevant experience of creating and implementing various financial instruments – in retrospect it seems that the experience of EIF was rather overrated. The agreement signed in 2008 anticipated that the Latvian Government should have an option to take over investment fund implementation.

EIF made a tender under the Joint European Resources for Micro to Medium Enterprises (JEREMIE) programme. The JEREMIE programme was launched in 2005 by the EC Directorate General for Regional Policy with the aim of improving SME access to financial resources. More than 70% of second generation fund capital is financed through JEREMIE. Table 7 presents characteristics of the second generation public venture capital programme.

Table 7: Characteristics of the second public venture capital programme

Name of programme	Joint European Resources for Micro to Medium Enterprises
Year	2010
Evaluators	European Investment Fund and LGA
Procurement process legislation	Procedure by EIF
PVCP funding	EU Structural funds 21m EUR ; Government of Latvia 7m EUR
Funding structure	Minimum of 33% capital from private investors, except for Imprimatur seed fund (0%)
Maximum amount of capital supported per fund	21m EUR
Scope of investments	SMEs in Latvia
Planned number of investments	55-65
Limitations	Enterprises must be registered in Latvia
Financial limitations of investment in a company	BaltCap: 0.1 – 3.0m EUR Imprimatur 0.025 – 0.4 m EUR
Maximal acquirable stake in an investment	No limits
Restricted investment industries	Depends on the business plan submitted by fund managers
Investment period	2008Q1 – 2014Q1
Lifetime of fund	7 years
Success fee structure	IRR 6% return per year If losses – all investors bear them equally
PVCP winners	BaltCap, Imprimatur Seed fund, Imprimatur Start-up fund

Table 7 shows that two fund managers were chosen: BaltCap and Imprimatur Capital. BaltCap launched a SME fund, while Imprimatur Capital launched one seed-fund and one start-up fund.

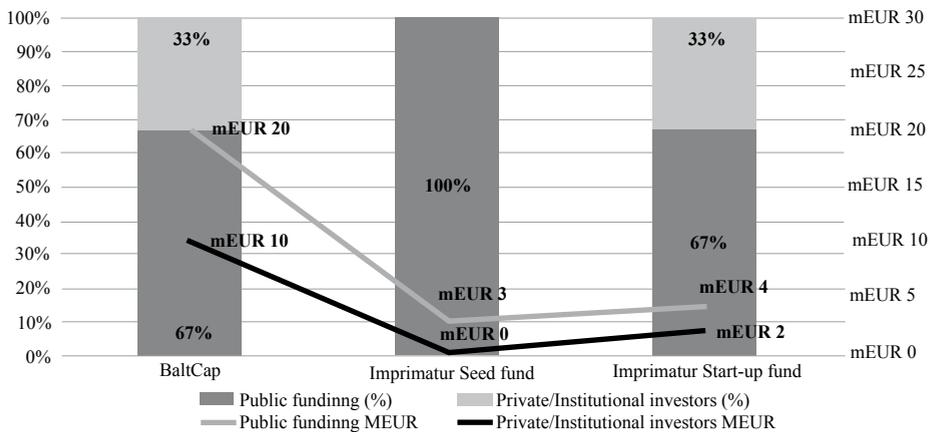
Some notable differences exist compared with the first generation programme:

- the two funds managed by Imprimatur have a clear specialization in technology and IT companies with high value added in their products and services;
- the Imprimatur seed-fund is financed solely by the JEREMIE fund;
- management fees are considerably higher for second generation funds; in addition, the fee structure was also more complex and hence less transparent.

In terms of private funding raised, BaltCap managed to raise 9 million EUR, while Imprimatur raised 2 million EUR. Figure 3 presents the initially planned financial structure.

The reality, however, stands in sharp contrast to the plans illustrated in Figure 3. With roughly one year left to invest, a mere 8.95 million EUR of the total capital of 30.29 million EUR has been invested. Furthermore, Imprimatur Capital has not managed to attract the private capital foreseen in the initial business plan. Table 8 presents the characteristics of the second generation programme.

Figure 3: Second generation public venture capital programme funding structure.



Source: Authors' analysis.

In terms of investment target performance, it has to be noted that the second generation funds are still open for investment. Reported investment targets as of December 31 2012 are presented in Table 9.

Table 8: Characteristics of the second generation public venture capital programme (JEREMIE) funds.

Characteristics	BaltCap Latvia SME Fund	Imprimatur Capital Seed Fund	Imprimatur Capital Technology Venture Fund
Founded	January 2010	July 2010	July 2010
Share capital	Owned by BaltCap	Owned by Imprimatur Capital Baltics	Owned by Imprimatur Capital Baltics
Share holders	Partners and other investors	Partners and other investors	Partners and other investors
Committed private funds	9m EUR	0 EUR	2m EUR
Target industries	Manufacturing Services Energy Information technologies	IT Telecommunications Clean energy Life science	IT Telecommunications Clean energy Life science
Criteria for investment	Management team Business plan IRR at least 25% Track record of existing operations	Innovative product or service New or underdeveloped technologies International growth potential	Best performers from Seed fund that have proven progress according to business plan
Planned # of investments	15-20	20	10
Minimal value of investment	0.1m EUR	0.025m EUR	0.1m EUR
Financial goal	25%	n/a	IRR 15-20%
Private investors	Parex Asset Management, Hipo Fondi, LKB Krajfondi, Pirmais Slēgtais Pensiju Fonds and local private investors (min. 200k EUR)	100% by JEREMIE	JEREMIE, DnB Nord, LKB Krajfondi and local and foreign private investors
Past successful investment projects	38 investments, 23 exits, 130m EUR in previous four funds	New fund	New fund

Source: Authors' analysis.

Table 9 shows that both the BaltCap VC fund and Imprimatur Seed fund have almost fulfilled their respective targets, while Imprimatur Start-up is far behind target. The poor performance of the Start-up fund could be a function of the Start-up fund's design with the aim of providing a 'financial follow-up' for companies financed through the Seed fund. Because of a fairly narrow specialization and corresponding low demand from quality projects, the Seed fund has difficulty in sourcing deals in Latvia.

Table 9: Invested funds as a percentage of the total.

	Invested funds at 31.12.2012	Investment target fulfilment at 31.12.2012
Baltcap VC fund	37%	91.2%
Imprimatur Seed VC fund	44%	90.4%
Imprimatur Start-up fund	21%	54.5%
PVC funds total	35%	85.8%

Source: Ministry of Finance (2013).

As a consequence the fund is sourcing deals from research centre spin-offs in 16 other countries provided they are willing to incorporate a company in Latvia and willing to relocate some activities to Latvia. This scheme has been accepted by Latvian policymakers based on the assumption that foreign intellectual property (IP) relocation to Latvia will benefit the country. However, taking the nature of these high-tech start-ups into account and their potential need for later stage funding (which is quite limited in Latvia), it seems likely to assume that these companies will not remain in Latvia, but relocate further.

5.2.3 The third generation programme

Table 10: Characteristics of the third generation public venture capital programme.

Name of programme	Investment fund for investments in guarantees, credit guarantees, venture capital and financial instruments,
Year	2012
Evaluators	LGA and experts from EIF, KPMG, Ministry of Economics, LVCA
Procurement process legislation	Procedure by EIF
PVCP funding	EU Structural funds 30m EUR; Government of Latvia 10m EUR
Funding structure	Minimum of 33% capital from private investors
Maximum amount of capital supported per fund	10m EUR plus 10m EUR for best performing fund
Scope of investments	SMEs in Latvia
Planned # of investments	35-45
Limitations	Enterprises must be registered in Latvia <250 employees <50m EUR turnover No subsidiaries
Financial limitations of investment in a company	Maximal investment allowed in one company 1.5m EUR
Maximal acquirable stake in an investment	49%
Restricted investment industries	Steel industry Synthetic fibre industry Vehicle manufacturing Shipbuilding and maintenance Transportation industry Agriculture and fishing sectors Wholesale and retail industries Financial brokerage Real estate sector Gambling and lotteries
Investment period	2013Q3 – 31.12.2015
Life time of fund	7 years, can be prolonged to 10 years
Success fee structure	IRR 6% return per year
PVCP winners	If losses – private investors are paid capital back first ZGI Capital, Capitalia, J.Skutelis, G.Milgrāvis, J.Liepiņš

Source: Authors' analysis.

The third generation public venture capital programme was entirely organized by the Latvian Guarantee Agency (LGA). The overall structure was a combination of the structures of the first and second generation programmes. In terms of restrictions, the third generation programme was considerably more restrictive than the second one – in other words a rever-

sion toward the fairly restrictive first generation programme. The overall financing structure is the same as for the two previous programmes. Table 10 presents the characteristics of the programme.

Although very delayed, the winners were announced in February 2013 (the funds were supposed to start investing in autumn 2012). The three winners were: ZGI Capital, Capitalia and an alliance of three private individuals (J.Skutelis, Ģ.Milgrāvis, J.Liepiņš). As compared with the two previous programmes the evaluation process preceding the decision on fund managers involved a large number of experts from the European Investment Fund, KPMG, the Ministry of Economics and the Latvian Venture Capital Association. Furthermore, the evaluation form employed involved a number of ambiguous criteria. As a consequence five participants in the tender have submitted objections to the Latvian Procurement Monitoring Bureau (PMB)⁵.

In mid-May 2013, PMB responded and instructed the Latvian Guarantee Agency not to proceed with the contracting process. The LGA was given two weeks to make corrections and submit suggestions for further steps. According to the Latvian News Agency (2013a, 2013b), the LGA stated that it will take into account the comments received and that it will re-evaluate the results and find the best solution for the Latvian venture capital industry. In the best case scenario the new funds will start operating in early autumn 2013, i.e. approximately one year behind the original schedule. Nevertheless, investments have to be made by the end of 2015. Hence, the period for targeting and investing is by any standards very short – which in turn substantially increases the probability of making poor investment decisions due e.g. to lack of time for due diligence.

Clearly, the third generation programme already looks as though it will be the least successful even though no investments have yet been made. Furthermore, the probability is very high that the whole programme will be closed down before any investments are made.

5.2.4 The fourth generation programme

In 2012 representatives of the three Baltic states agreed on founding the Baltic Innovation Fund. Estonia was represented by Kredex, Latvia by the Latvian Guarantee Agency, and Lithuania by Invega – each committing 20 million EUR to the new fund. In addition the European Investment Fund will invest 40 million EUR. Hence, the fund will have a signed capital of 100 million EUR to invest. The characteristics of the fourth generation programme are presented in Table 11.

The Baltic Investment Fund is a fund of funds that will invest in five funds and in each of them contribute 50% of the capital. Hence, in total (private and public) 200 million EUR should be invested in the coming 10 years. Needless to say, this will stimulate development of the Baltic venture capital market(s). Furthermore, Pan-Baltic cooperation sends a strong signal that the Baltics should be considered as one market with real and growing investment opportunities.

⁵ In Latvian this is the “Iepirkumu uzraudzības biržos” (IUB).

Table 11: Characteristics of the fourth generation public venture capital programme.

Name of programme	Baltic Innovation Fund
Year	Formal start January 1 st , 2013
Evaluators	EIF, and country representatives: LGA (LV); Kredex (EE), Invega (LT)
Procurement process legislation	EIF standards
PVCP funding	Each of the Baltic states 20m EUR and EIF 40m EUR.
Funding structure	Up to 49.9% BIF, 50% private investors
Maximum amount of capital supported per fund	25m EUR
Scope of investments	SMEs and Small MidCaps (under 500 employees) Private Equity (Lower mid-market) & Mezzanine Venture Capital Possibility of some co-investment deals (Baltics only)
Planned # of investments	25-35
Limitations	50% has to be invested in the Baltics Localized team
Financial limitations of investment in a company	1m – 15m EUR
Maximal acquirable stake in an investment	No limit
Restricted investment industries	No limits
Investment period	2012Q4 – 2016Q4
Lifetime of fund	10 + 2 lifespan
Success fee structure	n/a
PVCP winners	BMP Capital and 4 other funds (yet to be named)

Source: Authors' analysis.

Currently, one out of the five funds has been chosen by the European Investment Fund – BMP capital. It is known that the focus will be on mezzanine loan instruments.

5.2.5 The fifth generation programme

The fifth generation programme will be financed through the capital gains from the first public venture capital programme as well as by the proceeds from the Latvian Guarantee Agency's own portfolio. A conceptual agreement has been reached according to which the programme will give pre-seed investment in form of soft loans for start-ups registered in Latvia in fields of electronics, IT, composite material, medical technologies and other industries.

The fund will have 1.8 million EUR in capital with a maximum investment of 50,000 EUR. Hence up to 35 investments will be made over a two to three year period. The program will be managed by Imprimatur Capital under an extension of agreement for 2nd generation public venture capital mandate. With this fund, LGA attempts to close the early stage funding gap for high tech companies in Latvia. The pipeline of investments will be created in close cooperation with TechHub Riga, universities and business incubators throughout Latvia.

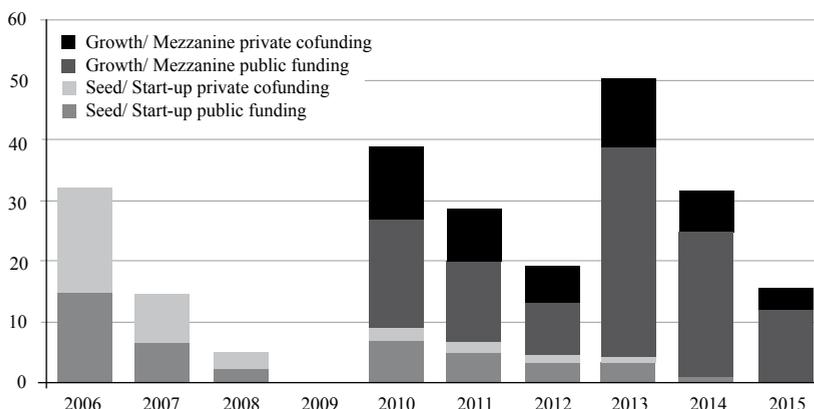
5.3 Aggregate public venture capital supply

To estimate the aggregate supply of public venture capital generated by the first three generations of programmes, all public venture capital funds were classified according to their staged investment strategies.⁶ According to plans for the twelve year period from 2006, in total a minimum of 161 million EUR will have been invested in the Latvian venture capital market and at least 256 companies will have received capital for their seed, start-up or expansion stages. In other words public venture capital is playing and will continue to play an important role when it comes to development of the Latvian venture capital market. In particular, it is unlikely that it would have been possible to raise 106 million EUR in private capital without public venture capital. Additional stimulus will be provided when the fourth generation Baltic Investment Fund launches its activities. Stakeholders, however, question investment readiness in the market and hence the ability to absorb available funding. Hence, government venture capital policies should include provision for training facilities.

Finally, we examine the inter-temporal distribution of venture capital during the period 2006-2015. The findings are presented in Figure 4 below.

From Figure 4 it follows that the supply of public venture capital is very unevenly spread over the period, with two years with no funding at all and with a very large share of the period's funding allocated to 2013. Lack of public venture capital 2007-2008 was a consequence of the planning periods for EU structural funds. Furthermore, it is seen that the scope of investment varies over time – with an emphasis on seed money for start-ups at the beginning and growth funding at the later stages. Since there is reason to believe that investment opportunities are fairly uniformly distributed across time, the distribution of funds illustrated in Figure 4 is far from optimal.

Figure 4: Annual gross public venture capital funding available for SMEs in Latvia



Source: Authors' calculations

*Including VC management fees; assuming 3rd generation funds are launched in 2013 and excluding Baltic Innovation Fund

⁶ As for the third generation, the strategies submitted by the original winners of the tender were considered when making the calculations.

5.4 Institutional and private funding for venture capital in Latvia

Public venture capital programmes in general require additional funding from other sources. In the Latvian context, the second largest type of investor is institutional investors, mainly pension funds. From the perspective of the international institutional investor (including foreign-owned banks in Latvia) the Latvian venture capital market is too small to be of interest. Furthermore, as for foreign-owned banks active in Latvia resources are pooled in large funds at the headquarters where they are later split into tranches and invested in a large fund of funds (which are unlikely to hold many Latvian investments).

The situation is somewhat different when it comes to pension funds. Currently only 0.18% of state-funded pension scheme assets have been invested in venture capital funds. According to the Financial and Capital Market Commission (2013), the current amount invested is worth 2.2 million EUR after falling 23% in one year. Underinvestment⁷ amounts to 60 million EUR, which means that state-funded pension schemes could play a very important role in the further development of the Latvian venture capital market.

Private pension funds have also invested a share of their capital in the venture capital market. Data from the Financial and Capital Markets Commission (2013) reveal that as of the end of 2012 private pension funds have invested 0.24%, which corresponds to 0.466 million EUR in venture capital funds, while unrealised potential is worth 7.6 million EUR.

Hence, in total the Latvian venture capital market was able to access more than 65 million EUR of capital from pension funds in Latvia. Moreover banks active in Latvia have expressed a willingness to increase their investments in venture capital funds. However, they have not received enough proposals. According to the Association of Commercial Banks in Latvia, the Association plans to submit a proposal to the Ministry of Finance that would open the way for an increase in the investment percentage allowed in venture capital funds from 5 to 10%, hence increasing the supply of institutional capital further.

Finally, as for private investors, very few persons could or are willing to invest several million euros for a longer period. However, many fairly wealthy private individuals might be willing to invest in the range of 70 000 to 250 000 EUR. So far, all venture capital funds have had private investors. There seems to be a widespread consensus that if private individuals knew more about venture capital investment opportunities and the associated instruments, they would have more confidence in investing in the Latvian venture capital market.

5.5 Entrepreneurs' perspective on public venture capital programmes

Discussion of public venture capital has so far focused on supply, while just briefly mentioning demand for venture capital. Among the venture capitalists interviewed there seems to be a generally held view that there is a shortage of good projects to invest in. To get an understanding of the potential mismatch between money and ideas, a number of interviews were undertaken with Latvian entrepreneurs.

⁷ Underinvestment is defined as the maximum amount allowed to have invested in venture capital funds less the actual investment.

The findings of interviews soliciting entrepreneurs' opinions are summarised as follows:

- Latvian venture capital fund managers lack the competence to understand the product or business idea. In general public venture capital funds in Latvia are perceived as bringing in dumb money, i.e. not bringing in any competence to the start-up (see discussion in section 2). Hence, interaction between the entrepreneur and the venture capitalist is essentially limited to monthly reporting of key performance indicators and hence very little non-financial investment in companies.
- Seed investment is based on convertible loans and split in tranches. Thus, full investment is made if key performance indicators are fulfilled. This focus on monthly or quarterly indicators is seen as disrupting the product development process.
- Since most tech start-ups choose to go for smart money and the competence it brings into the start-up, they search for international investors and incorporate outside Latvia.
- Later stage companies with stable cash flows tend to be reluctant to give away equity so that venture capital has to compete with debt funding.

Hence, the perceived shortage of projects from the venture capitalists' side could at least partly be explained by the observation that entrepreneurs turn away from local venture capital since local venture capitalists are perceived as unable to provide the entrepreneur with the required non-financial investments, i.e. smart money.

5.6 Economic impact

The discussion in the introductory section highlighted the positive impact by venture capital on economic activity. To get an estimate of the economic impact of venture capital in Latvia, the Latvian Venture Capital Association (Grisins, 2012) surveyed the performance of 30 invested-in companies (from BaltCap, Eko Investors and ZGI portfolios 2002-2010). In total they had raised 51 million EUR. The main findings were:

- 30 000 EUR of venture capital investments generates one new job in 3.5 years;
- 10 000 EUR of venture capital investment generates an increase in company turnover of 50 000 EUR;
- in 25 out of 30 cases the venture capital fund acquired an equity minority stake and in 5 a majority stake.

The findings are presented in Table 12.

Table 12: Indicators of economic impact of Latvian venture capital investment

Economic indicator	Before invest- ment	After invest- ment	Growth %
Number of employees	2593	4334	67%
Aggregateturnover, m EUR	127	377	196%
Turnover per employee, EUR	48 978	86 987	78%

Source: Grisins (2012).

Hence, the findings seem to lend at least some support to the hypothesis discussed in section 1, namely that venture capital stimulates economic growth.

6. Conclusions

Public venture capital policy has focused on developing the Latvian venture capital market through provision of funding – funding to be matched by private investors. In terms of the supply side, the policy has been partially successful since the first programme was launched in 2005 and public venture capital programmes have served as a catalyst for development of the Latvian venture capital market. Even so, a funding gap for pre-seed and early-stage funding still remains.

In addition to providing capital as such, public venture capital programmes have contributed to the learning processes in both the public and private venture capital sectors. Stakeholder interviews, however, reveal a continuing need for further development in which public venture capital could play an important role by launching new programmes following the five first ones.

However, public venture capital programmes implemented have exhibited multiple flaws in design and implementation as well as agency problems. These problems are somewhat surprising as there is considerable international best practice to draw upon. Related to this is what the literature calls regulatory capture. As discussed in Lerner (2009) there is a risk and abundant evidence that public and private sector entities organize to capture resources distributed through public venture capital programmes.

With focus on the supply side, very little attention in terms of public venture capital policy-making has been devoted to the demand side and the overall institutional structure. Throughout the analysis, lack of demand or investment-ready projects has been mentioned. Hence, future public venture capital programmes should therefore be broader in their scope and also address demand-side issues. One more or less obvious measure to be taken would be to allocate some public venture capital money to training entrepreneurs with the aim of making them investment-ready. As discussed in Mason and Kwok (2010) public venture capital supply for early stage ventures should be combined with training programmes to enhance investment readiness. Findings in Keuschnigg and Nielsen (2001) support this idea showing that from a cost-benefit perspective entrepreneurial training and informational support are more effective than subsidies for equipment investment and early-stage output subsidies.

Mason and Kwok (2010) highlight three crucial elements of investment readiness training: (i) informational seminars on the role of different types of financing and the specific functions of equity financing; (ii) tailored support to address investors' requirements for particular businesses; (iii) enhancement of presentation skills and introductions to potential investors. To ensure a link between new venture capital fund creation through public money and investment readiness, the authors suggest allocating 5% of total fund size for external training programmes. This was successfully done within the JEREMIE programme in North West England in order to stimulate deal flow. In the Latvian context, a need also seems to exist for educational activities aimed at potential private investors.

The research also revealed that demand for venture capital goes outside Latvia because of lack of local smart money, i.e. venture capitalists are not able to bring in non-financial investments, such as managerial competence and involvement in the daily operations of the

invested company. Being a pivotal component to entrepreneurial and hence venture capital success, lack of smart money might pose a threat to further development of the Latvian venture capital market.

Affecting supply as well as demand for venture capital is the overall institutional framework. The analysis has revealed problems in matching Latvian legislation on public procurement with international best practice in terms of public venture capital funding. Legislative changes should include e.g. changes in the legal framework facing state regulated institutional investors. Other institutional changes to be considered are tax incentives for private investors and measures that in general facilitate entrepreneurship.

To conclude, Latvian policymaking has essentially only employed one type of policy measure – providing and funding supply. The analysis, however, has revealed a need for a more comprehensive approach towards venture capital policymaking. This approach should include: pre-seed stage funding, investment readiness, changes in legislation and other institutional factors, plus a willingness to draw on international experience when designing and implementing public venture capital programmes.

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Small states and big banks – the case of Iceland

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Abstract

The Icelandic economy was hit hard by the global economic and financial crisis that started in the fall of 2008. During this crisis the three largest banks all collapsed and many other smaller banks and companies went bankrupt in the aftermath of the crisis with severe consequences for the economy and the people. Prior to the crisis, Iceland, a high income economy, had experienced strong growth rates and unprecedented expansion in overseas investment and activities, especially in the financial sector. This article focuses on action by top government officials during this expansion as well as during and after the collapse of the Icelandic banks. The findings of the study are that the government showed negligence and made mistakes by not taking credible action to manage risks following a rapid cross border expansion of the Icelandic banking system. This had severe consequences and resulted in the collapse of the Icelandic economy in October 2008. The discussion can have a wider relevance than that for Iceland only. This is especially true for small countries with a large banking sector, using their own currency, and with limited fiscal space to support their banks during a crisis.

Keywords: Economic and financial crisis, economic policy, international expansion of firms, risk management.

JEL Classification: F21, G32, H12

1. Introduction

The Icelandic economy was hit hard by the global economic and financial crisis that started in the fall of 2008. During this crisis the three largest banks (Glitnir, Kaupthing, and Landsbanki)² all collapsed and many other smaller banks and companies went bankrupt in the aftermath of the crisis with severe consequences for the economy and the people. Prior to the crisis, Iceland, a high income OECD economy, had experienced strong growth rates and unprecedented expansion in overseas investment and activities, especially in the financial sector. This article will focus on action by top government officials during this expansion as well as during and after the collapse of the Icelandic banks. Did the government of Iceland fuel the international expansion of the Icelandic banking sector that eventually resulted in collapse? How did it react to the banks' expansion and what action did it take, or not take, to protect the economy from collapse? How did it respond to international concerns about the banks' overseas expansion? Can its behavior be classified as negligence?

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² The three banks accounted for about 85% of Iceland's financial system.

The government officials focused on are the President of Iceland, who has traditionally been a symbolic and ceremonial figure in the government, as well as the role of key cabinet ministers including the Prime Minister, the Minister of Finance, and the Minister of Business Affairs. After this brief introduction the article will be organized as follows: (i) the expansion of the banking sector in Iceland, (ii) what did experts say about the health of the Icelandic banks before and after the collapse in October 2008 (were the banks solvent after all?), (iii) how did the government react to concerns and criticism about the banking system prior to the crisis, (iv) the Special Investigation Commission and its report to the parliament, (v) the President of (iv) Iceland and the expansion of the Icelandic banks, (vi) the role of the Central Bank of Iceland (CIB) and the Icelandic Financial Supervisor (FME), (vii) some thoughts on how the crisis could have been prevented, and finally (viii) conclusions.

This article is based on a review of theoretical literature, reports, public speeches, local and international media news, and secondary data. This is a case study on Iceland. Some of the lessons, however, can have a wider relevance than for Iceland only. This is especially true for small countries with a large banking sector, using their own currency, and with limited fiscal space to support their banks during a crisis.

2. The expansion of the banking sector in Iceland

Prior to the global economic and financial crisis that started in October 2008 the Icelandic banks had grown extraordinarily. According to the IMF the consolidated assets of the three main Icelandic banks increased from 100 percent of GDP in 2004 to 923 percent at end 2007, reflecting expansion overseas. By end-2007, almost 50 percent of the three banks' assets were held abroad (IMF, 2008, p. 11)

Access to global debt finance markets was a key driving force behind this growth. The big three banks also enjoyed high credit ratings inherited from Iceland's sovereign debt rating at the time. According to the Special Investigation Commission (SIC)³ the three banks issued around 14 billion EUR in foreign debt securities markets during 2005, a little over the GDP of Iceland that year. Most of the funding matured in only 3 to 5 years. Refinancing risk was thus imminent (SIC, 2010a).

In early 2006, during the so called mini crisis, international debt funding dried up temporarily. Once a liquidity crisis started in 2007, foreign deposits and short-term securitized funding became the main source of funding for the three banks. This short-term funding was sensitive to market conditions and thus risky (SIC, 2010a).

According to the SIC other countries with relatively large financial systems managed to avoid disastrous banking outcomes, since, unlike Iceland, those nations have long experience and proven ability to supervise large, international banks. Their accumulated reputation for careful prudential supervision therefore offsets their inability to provide fully reliable lender

³ The Special Investigation Commission (SIC) delivered its report to the Althingi (the Icelandic parliament) on April 12, 2010. The SIC was established by Act No. 142/2008 by the Althingi in December 2008, to investigate and analyze the processes leading to the collapse of the three main banks in Iceland. Members of the Commission were Supreme Court Judge Mr. Páll Hreinsson, the Parliamentary Ombudsman of Iceland Mr. Tryggvi Gunnarsson, and Mrs. Sigríður Benediktisdóttir Ph.D., lecturer and associate chair at Yale University, USA.

of last resort protection, at least to some extent. But in Iceland the Financial Supervisory Authority (FME)⁴ was in general understaffed and lacked experience, the Central Bank of Iceland's (CBI) foreign currency reserve was low, and the deposit insurance fund was underfunded (SIC, 2010a).

How could this happen in a high income developed country like Iceland? How could Iceland move from privatization of state owned banks to an exploding banking sector and then to collapse?

3. What did the experts say about the health of the Icelandic banks before and after the collapse?

A number of experts, local and foreign, commented on the viability of the Icelandic banking system as well as on the soundness of the government's macroeconomic policies both prior to the banks' collapse (including after the so called mini-crisis in 2006) as well as after the collapse in October 2008. It is especially interesting to recall remarks made prior to the collapse as they may have influenced government action or inaction. It is also interesting to review some comments made after the collapse to see what lessons may have been learned from this catastrophic event.

3.1 Before the collapse of the banks in October 2008

Danske Bank issued a critical report in 2006 highlighting some of the macroeconomic imbalances in Iceland. "Based on the macro data alone, we think the economy is heading for a recession in 2006-7. GDP could probably dip 5-10% in the next 2 years, and inflation is likely to spike above 10% as the ISK depreciates markedly" and "we see a substantial risk of a financial crisis developing as an integral part of an Icelandic recession in 2006-7." (Danske Bank, 2006). Iceland is a former colony of Denmark and large investments had recently been made there by Icelandic companies so that any negative comments from Copenhagen were likely to be received with some suspicion in Reykjavík. Talking about a possible financial crisis during a period that many people experienced as a boom was not likely to be taken too seriously in Iceland. Nevertheless Icelandic business interests and cabinet ministers responded with assistance from individuals in academia. An international PR campaign was launched to present a favorable view of the Icelandic banks and point to a strong government that balanced its fiscal budget and carried only small debts on its books. The Iceland Chamber of Commerce commissioned well known and respected Icelandic economists who joined forces with distinguished and internationally known foreign colleagues who together painted a favorable picture of Iceland's banking system and its economy. In 2006 Herbertsson and Mishkin issued a report entitled: "Financial stability in Iceland" (Herbertsson and Mishkin, 2006) and in 2007 Baldursson and Porters issued a report entitled: "The internationalization of Iceland's financial sector" (Baldursson and Porters, 2007). The title of the Herbertsson and Mishkin report is especially ironic given what happened in 2008 and in fact Mishkin was accused in the famous movie "Inside Job"⁵ of having changed the title of the paper on

⁴ The Financial Supervisory Authority in Iceland is a regulatory organisation charged with the task of supervising financial enterprises, referred to as regulated entities (see further <http://en.fme.is/about-the-fsa/>).

⁵ In the movie "Inside job" Mishkin is said to have received US\$124,000 for his contribution to the report <http://www.youtube.com/watch?v=5msV13oZI4U>.