THE PROBLEM OF CAPITAL ATTRACTION INTO VENTURE CAPITAL FUNDS OF LATVIA

Anatolijs Prohorovs
PhD student, RISEBA; Managing partner, Proks Capital
e-mail: anatolijs.prohorovs@gmail.com

Abstract

The paper deals with the problems of capital attraction into venture capital funds of Latvia. In the post-crisis period, investor concern towards risks worsened. The attitude of banks to venture projects became more cautious as well. Therefore, it has become increasingly important to identify causes and factors that hinder the attraction of venture capital into venture capital funds and, consequently, potential portfolio companies. A questionnaire survey of venture capitalists was conducted in Latvia in the frames of this research. The paper analyses the causes that, according to the venture capitalists, negatively affected the attraction of venture capital into venture capital funds; the factors that did not negatively affect the attraction of investors were also examined. In addition to the questionnaire survey, the logical and constructive methods and comparative analysis were employed in the research. As a result, basic factors that obstruct the attraction of investors into venture capital funds were identified. Among the key problems of capital attraction into the venture industry of Latvia are: insufficient activity of Latvian institutional investors, insufficient investor confidence in venture capitalists, their performance and experience, and the negative investor referring towards investments after the crisis.

Keywords: venture capital, attraction of venture capital, venture capital funds, pension funds, Latvia

1. INTRODUCTION

The problem of attraction of venture capital was one of the key challenges for venture capitalists (Kremmidas, 2012). This problem became especially acute in the post-crisis period as investors made more conservative decisions. As a result, general partners (hereinafter GPs) had difficulties to raise capital, which caused a decrease in the size of funds (Tykvová et al., 2012; Prohorovs, 2013). According to the global consulting company Bain&Company, GPs also needed more time to close their scaled-down funds. At the peak of the PE boom in 2007, the average fund closed within a year of its launch. By 2010, funds were taking nine months longer to close, on average; fully 80 percent needed more than a year. The average time to raise a fund climbed to 21 months in 2010 (Bain&Company, 2011). According to the European Venture Capital Association (hereinafter the EVCA), some GPs in CEE countries failed to attract any capital at all in the first half of 2011 (EVCA, Enterprise Capital Report 2011). In the result, VC became less available to the potential portfolio companies. The situation worsened owing to the fact that banks also adopted more conservative policies in the post-crisis period. VC investments are often the only opportunity for the development of young innovative enterprises (Laizans and Lace, 2009). According to M. De Rin, if exploiting the experiences of European countries for emerging venture capital markets, VC has to be viewed in a broader sense than just the supply of funds to venture companies (Da Rin, 2005). For instance, Gompers and Lerner argue that corporate and public venture capital is important for the development of innovations (Gompers and Lerner, 2004). In their research, Dessí and Yin also prove a relationship between venture capital and innovation (Dessí and Yin, 2010). Jakusonoka and Prohorovs (2012) argue that venture capital is an instrument for financing innovations relevant to prospective scientific and applied projects of the sixth technological cycle and other priorities of the National Development Plan associated with a knowledge-based economy.

Investors in European VC&PE funds are mainly institutional investors. Over the period 2000 – 2005, in total, their proportion of investment was 85%, while the proportion of individuals was

6.3% (European Commission Internal Market and Services DG, 2007). In the period 2007 -2011 in Central and Eastern Europe (hereinafter CEE), the proportion of private investors by year changed as follows: 4.9%, 9.3%, 9.8%, 3.7%, and 5.2%, respectively (EVCA CEE statistics 2011). A study of sources of capital gains made by 135 venture capital funds in Europe in 2012 shows that the proportion of private investors increased by 14.9% a year (EVCA, Peper_Analytics, Yearbook, 2012). The proportion of private investors in 102 funds and 89 venture capital firms in 2012 accounted for 8.1% (EVCA, 2012 Pan-European Private Equity and Venture Capital Activity). A percentage distribution of investments in venture capital funds and private equity funds raised by type of investor in Europe in 2012 is presented in Table 1.

Table 1

Venture capital funds and private equity funds raised by type of investor (Europe) 2012
Incremental amount raised during the year - % of amount

No.	Types of investors	Venture capital funds (%)	Growth funds (%)	Buyout funds (%)	All private equity funds (%)
1.	Government agencies	39.7	31.3	2.3	10.1
2.	Corporate investors	12.3	2.0	1.0	3.1
3.	Fund of funds	9.3	1.9	16.9	14.2
4.	Private individuals	8.1	11.1	1.7	4.9
5.	Insurance companies	7.7	1.6	8.0	8.8
6.	Family offices	6.5	5.1	4.5	5.3
7.	Pension funds	5.3	37.3	27.4	22.1
8.	Banks	4.5	2.8	8.0	7.5
9.	Other asset managers	4.5	6.5	10.2	8.5
10.	Capital markets	1.5	0	1.7	1.5
11.	Endowments and foundations	0.7	0	1.8	1.5
12.	Sovereign wealth funds	0	0	14.9	11.7
13.	Academic institutions	0	0	1.0	0.7

Source: the author's calculations based on EVCA, 2012 Pan-European Private Equity and Venture Capital Activity

If one considers the geographical distribution of capital raised, in the CEE countries during the period from 2007 to 2010, the proportion of domestic capital raised by funds did not exceed 20%, in 2011, the proportion of domestic capital increased to 39% (EVCA, Central and Eastern Europe Statistics 2011). The author believes that the increase in the proportion of domestic capital in 2011 was mainly due to an increase in the supply of capital from the government. It is interesting to find out how the current situation with raising capital by venture capital funds in Latvia is assessed by general partners and other venture capital intermediaries in Latvia. It should be noted that no systematic information on the distribution of venture capital investors in Latvia, including the Latvian Venture Capital Association (hereinafter the LVCA) is available. For each fund, it is possibly sensitive information relating to trade secrets. Therefore, in their replies, the respondents could not be guided by centralized statistical information on this matter. Dijokas conducted a survey of venture capital industry experts in Latvia (17 interviewees, of which only three were venture capitalists), yet, it was in 2004, and the survey did not consider the factors influencing the attraction of capital by venture capital funds (Dijokas and Vanags, 2004). Therefore, comparing the results of earlier and present studies is not possible. Studies conducted in large developed economies with a long venture capital history will not be useful for small CEE countries. Kerstin Bernoth et al. conducted an interesting study that compared the drivers for PE investments in 14 countries in Western Europe and three CEE countries (the Czech Republic, Hungary, and Poland) and showed similarities and differences in the macro-economic drivers for these groups of countries (Bernothy et al., 2010). However, the Czech Republic, Hungary, and Poland are the largest CEE countries and, possibly, in smaller CEE countries, the drivers and factors of attractiveness of VC&PE are different.

In some cases, the research "THE PROBLEM OF CAPITAL ATTRACTION INTO VENTURE CAPITAL FUNDS" is more theoretical in nature and is not based on interviews or questionnaire surveys of venture industry professionals or institutional investors. In order to remedy this lack of information and to understand the causes and factors currently preventing from attracting additional financial resources into VC funds, this research was conducted based on the survey of VC industry experts in Latvia.

2. AIM, TASKS, AND NOVELTY OF THE RESEARCH

The overall aim of the present research is to identify the causes and factors affecting the attraction of capital into VC funds, based on a survey of GPs and other financial intermediaries operating in the VC industry in Latvia.

The specific aim is to identify the financial potential of pension funds as a source of supply of capital to VC funds in Latvia.

The research tasks were to identify professionals (GPs and other financial intermediaries) of the VC industry in Latvia as of the end of 2012, design a questionnaire allowing to obtain data reflecting the views of VC industry experts on the causes that hinder the attraction of capital by venture capital funds, to conduct the questionnaire survey, and to process and interpret the information obtained.

An additional task is to make an indicative preliminary review of the use of finances of pension funds by VC&PE funds in Latvia.

The novelty of this research is the collected and classified information about the factors that (in the opinion of GPs and other financial intermediaries operating in the VC industry) affect the attraction of investors into VC funds in Latvia. This research also resulted in an assessment of the potential of pension funds and private investors as a source of venture capital in Latvia. Besides, data on the enlarged structure of investors in venture capital funds in Latvia in 2007-2011 were collected and presented for the first time (Table 8).

3. METHODOLOGY

The methodology of the research is based on the findings of the survey of venture capitalists in Latvia, an analysis of scientific information sources, statistics of the EVCA, the Association of Commercial Banks of Latvia, and the Financial and Capital Market Commission. In addition, the following laws of the Republic of Latvia were used: the Law on State Funded Pensions, the Law on Private Pension Funds, the law "On the Property Status and Disclosure of Undeclared Income by Natural Persons", and a number of other legislative, regulatory, and statistical materials listed in the bibliography. Questionnaires as well as logical-constructive method, statistical and comparative analyses were used in the research. The processing of the survey results was carried out in the program SPSS.

3.1. Research procedures (the organization and conduct of the research)

To conduct the research, the author developed a special questionnaire, which included 27 closed and one open question (Annex 1). The questionnaire was developed based on the analysis of publications and other sources of scientific information, including interviews, conducted on behalf of the EVCA, with venture capitalists (George and Nathusius, 2007), the personal experience of the author and focused interviews with three experts in this field. The open question asked to indicate whether there were other factors which affected the attraction of investments into venture capital funds that were not listed in the questionnaire and offered to list them. In this way it was possible to evaluate both the adequacy of questions for the questionnaire, as well as additional information for

analysis. On the open question that asked for additional factors affecting the raising of capital, only 4 out of 18 respondents responded, which might indicate a correct formulation of the list of questions. The peculiarity of this questionnaire is its three levels used to assess the impact of each factor. This number of levels of evaluation was provided for easily filling out the questionnaire by respondents in order to attract a larger number of experts for questioning. The author realized that the processing of questionnaires requires the application of analysis methods for ranking information for this number of levels. By means of the method of expert evaluation and consultations with the administration of the LVCA, it was revealed that at the time of conducting the research (late 2012 - early 2013), there were about 25 professionals in the venture capital industry in Latvia who were either general partners – co-owners of management companies or directors of management companies of VC funds – or partners of other companies, i.e. financial intermediaries operating in the VC industry. This group of professionals did not include public and corporate venture capitalists, as their motivation for investing was different from the motivations of independent venture capitalists. The group also did not include limited partnership investors (LPs). Of the 25 specialists of the venture industry, 18, or 72%, agreed to participate in the survey. Of the 7 persons who rejected the offer to take part in the survey, three pre-acquainted themselves with the contents of the questionnaire and realised that they would not be able to answer questions by reason of the lack of knowledge on the research topic. Thus, one can assume that the rest of participants in the survey had sufficient information and qualification to answer the survey questions. For the purposes of achieving greater objectivity in the survey and increasing the number of respondents, the survey participants, at their discretion, were offered a guarantee of anonymity. Probably due to the fact that the venture capital industry traditionally has a rather closed nature, and perhaps, for some other reasons, 11 persons out of 18 survey participants asked for the guarantee of anonymity. For this reason, the present paper does not list the names of the respondents. The partners of all five funds in Latvia (Imprimature capital SEED fund, Imprimature capital Startap fund, Eko investor, Baltcap, and ZGI Capital) engaged in venture investments (ten individuals), seven partner companies – financial intermediaries, and one head of the direct and venture investment department of a commercial bank participated in the survey. Questionnaires were sent to the respondents and obtained from them in electronic form. The survey was carried out in December 2012 - January 2013. All of the respondents had higher education. The MBA degree was possessed by 14 of the 18 respondents. Annex 2 shows the survey results.

3.2. Research results and discussion

The processing of replies to the questionnaire took place in the form of statistical analysis and consisted of the following stages:
1. Analysis of the relationship among the expert evaluations of the significance of factors; factor analysis.
2. Analysis of the consistency of the views of experts; cluster analysis.

3.3. Analysis of the relationship among the significance of factors

For the analysis of the relationship among ordinal variables, Spearman's rank correlation coefficient was used. The questionnaire employed three levels of evaluation to describe the effect of each factor. In this case, more than one factor with the each level of significance is present in any respondent's replies. For these factors, their rank was defined as the average value.

Based on the obtained ranks, the average rank of each of the factors was calculated (Table 2).

Table 2

Average ranks of the factors

Factor	Average rank	Factor	Average rank	Factor	Average rank
Q1	15.28	Q10	15.39	Q19	13.42
Q2	14.58	Q11	13.97	Q20	11.90
Q3	12.36	Q12	13.58	Q21	11.23
Q4	16.53	Q13	16.17	Q22	12.90
Q5	9.94	Q14	13.28	Q23	9.44
Q6	14.19	Q15	14.36	Q24	7.56
Q7	11.69	Q16	16.62	Q25	8.50
Q8	10.75	Q17	18.31	Q26	14.16
Q9	17.36	Q18	19.03	Q27	12.56

Source: the author's calculation

Higher values of rank correspond to more important factors. Thus, the most important factor, according to the experts, is Q18 ("Investors have no confidence in the fund's management team because of the lack of positive experience and previous achievements"), and the least important - Q24 ("It seems to the fund's investors that the fund collects a too high "success fee"”). Annex 3 shows Spearman's rank correlation coefficients for the factors with a statistically significant relationship.

Based on Spearman's rank correlation coefficients, the following conclusions can be made:
1. A strong direct relationship between the importance of factors Q9 ("Attracting investments is hindered by a lack of institutional investors") and Q27 ("Attracting investors is hindered by the legislation"). That is, the experts giving more importance to the presence of institutional investors, on average, give importance to legislation as well.
2. A strong inverse relationship between the importance of factors Q7 ("Investors in funds understand that the projects, for some reasons, are not ready to attract venture capital and therefore do not want to invest into the funds") and Q27 ("Attracting investors is hindered by the legislation"). That is, the experts giving more importance to characteristics of venture projects, on average, give less importance to legislation. Thus, significant relationships among the importance of various factors were established in the questionnaire. This allows for factor analysis, combining sets of factors into basic components. Annex 4 shows results of the factor analysis.

3.4. Analysis of the consistency of expert opinions

For the analysis of the consistency of expert opinions, there were used:
1. Spearman's rank correlation coefficient to determine the pairwise similarity of the experts' replies.
2. Kendall's coefficient of concordance to determine the overall coherence of the expert's opinions.
3. The Mahalanobis distance from the average ranks to identify experts with a striking opinion.
4. Cluster analysis for the distribution of the experts into group.
5. Spearman's rank correlation coefficient enables us to determine the degree of similarity between each pair of views of experts. Significant coefficient values are given in Annex 5.

The experts R2 and R3 showed a complete convergence of views. An almost identical expert opinion was expressed by the experts R11 and R15. A significantly opposite view was expressed by

the following pairs of experts: R9 and R12, R13 and R16. It should be noted that the experts R13 and R16 were the GPs of a fund, so that their views could largely be the same.

To verify the overall coherence of expert opinions, Kendall's coefficient of concordance was used. The values calculated are presented in Table 3.

Table 3

Kendall's concordance among the respondents

Kendall's Coefficient of Concordance	
Null hypothesis	Opinions of the experts are consistent
Kendall's W	.179
Chi-Square	69.757
Df	26
Asymp. Sig.	.000
Null hypothesis is rejected	

Source: the author's calculation

Thus, the hypothesis on the consistency of all the experts' opinions was rejected. In order to identify the most differing expert opinion, the Mahalanobis distance (averaged over the number of replies) between their replies and average ranks was calculated. The values calculated are presented in Table 4.

Table 4

Mahalanobis distance of the respondents' opinions from the average

Respondent	Mahalanobis distance from the average ranks
R1	14.35
R2	7.62
R3	7.62
R4	13.59
R5	14.45
R6	12.28
R7	17.84
R8	16.1
R9	16.06
R10	16.26
R11	17.09
R12	13.75
R13	17.39
R14	16.48
R15	17.24
R16	19.77
R17	19.13
R18	14.85

Source: author's calculation

It may be noted that the opinions of the experts R16 and R17 differ most from the average. However, as shown in Table 5 with percentiles for the deviation and the corresponding figure box-whiskers (Figure 1), one cannot argue that these deviations are significant.

Thus, one could not identify an expert opinion sharply deviating from the average. This can be explained not only by the fact that the sample has no incompetent experts, but also by the fact that experts with highly varying opinions were collected in the sample. This is due to the fact that the respondents were 10 GPs, and the other respondents – the financial intermediaries that were not attracting institutional investors into venture capital funds.

Table 5
Percentiles for the distance of the respondents' opinions from the average

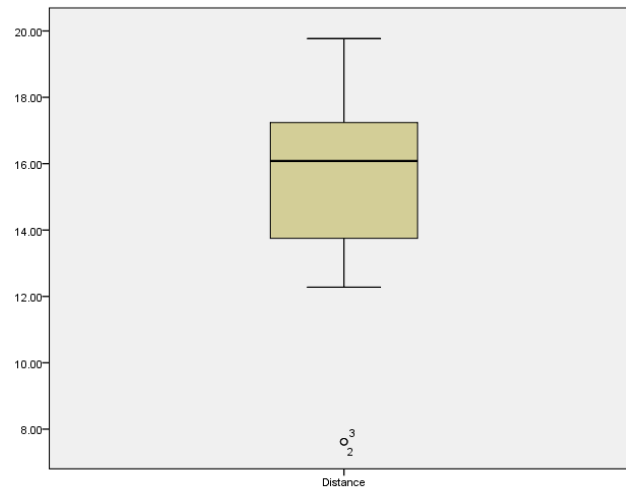|		Percentiles						
		5	10	25	50	75	90	95
Weighted Average(Definition 1)	Distance	7.6200	7.6200	13.7100	16.0800	17.2775	19.1940	.
Tukey's Hinges	Distance			13.7500	16.0800	17.2400		

Source: the author's calculation

Figure 1. Box-whisker diagram for the distance of the respondents' opinions from the average
Source: the author's construction

In order to determine whether the distribution of the experts into groups is possible, a cluster analysis was conducted. The cluster analysis was carried out twice - on the basis of the factors mentioned by all the experts, and based on all the factors. Table 6 shows the experts' affiliation to clusters and the distance to the centre of the clusters.

Table 6
Results of the cluster analysis: the distribution of clusters

Respondent	All factors		Factors mentioned by all the experts	
	Cluster	Distance from the cluster centre	Cluster	Distance from the cluster centre
R1	1	20.04	1	20.38
R2			1	24.63
R3			1	24.63
R4	1	30.24	1	26.35
R5	1	31.14	2	30.82
R6			2	20.69
R7	2	31.09	2	25.19
R8	1	34.28	2	26.61
R9	2	29.35	2	24.34
R10	1	25.89	1	26.26
R11	1	20.09	1	17.61
R12	1	32.91	1	29.67
R13	1	36.03	1	22.19
R14	2	36.49	2	31.23
R15	1	20.96	1	17.46
R16	2	25.36	2	24.51
R17	2	32.88	2	23.03
R18	2	27.43	2	27.04

Source: the author's calculation

Thus, the respondents R1, R2, R3, R4, R10, R11, R12, R13, and R15 were allocated to Cluster 1, the respondents R6, R7, R9, R14, R16, R17, and R18 – to Cluster 2, while the cluster with the respondents R5 and R8 depends on the set of questions. To identify the key features of the clusters, their centres were considered (Annex 6).

In the clusters, average expert opinions differed most on the following questions:
1. Q7, investors realize that the projects, under some circumstances, are not ready to attract venture capital and therefore do not want to invest in the funds.
2. Q9, attracting investments is hindered by the lack of institutional investors.
3. Q12, investors see that there will be difficulties with the "exit" through attracting a strategic investor.
4. Q20, the fund's strategy was incorrectly designed.
5. Q26, attracting investors is hindered by the restrictions that exist for institutional investors.
6. Q27, attracting investors is hindered by the legislation.

The experts from Cluster 1 gave much more importance to the factors Q9, Q26, and Q27, while the experts from Cluster 2 – to the factors Q7, Q12, and Q20. It should be noted that six out of ten GPs were affiliated to Cluster 1, three GPs to Cluster 2, and another GP could be attributed to Cluster 1 or Cluster 2, depending on the questions.

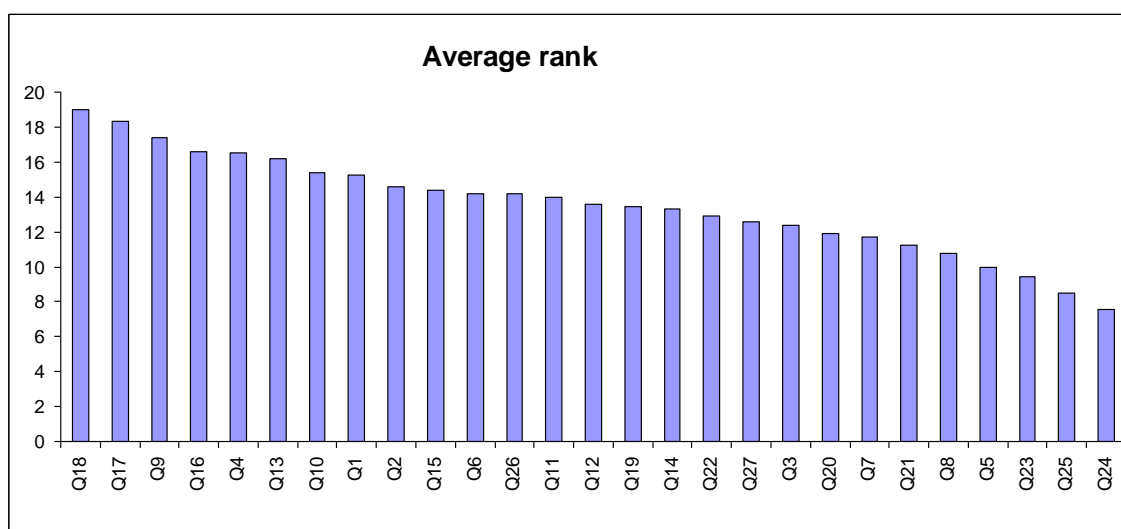Figure 2 shows the ranked factors influencing the attraction of capital into venture capital funds.

Figure 2. Ranking of the factors influencing the attraction of venture capital into funds
Source: the author's construction

For clarity, Table 10 shows six factors having the most negative impact on the attraction of capital into venture capital funds. It should be noted that the factor Q17 (Attraction of capital coincided with the post-crisis period when investors were not ready to assume such risks) is more relevant to the crisis and post-crisis period, in which venture capital funds faced difficulty in raising capital. One can assume that in a normal (non-crisis and early post-crisis) period, this factor will have no effect on raising capital, so let us consider the other five factors.

Factor Q 18 (Investors have no confidence in the fund's management team because of the lack of positive experience and previous achievements).

This factor, called venture capitalists, as the most important factor for a country with a little history of its venture capital industry looks natural. In fact, no instances have yet been reported that VC funds in Latvia have completed their job (exit) and earned a profit for their investors. According to experts of the global consulting company Bain & Company, fund-raising strongly correlates with exit activity (Bain & Company, 2012). The same situation is with GPs. A comparison of repeated attraction of capital by funds in Latvia, Europe, and America is shown in Table 7. The results of a study conducted on request by the EVCA and based on interviews with venture capitalists in

different European countries showed that the most successful venture capitalists have more exits and outperform other venture capitalists in terms of experience and external resources (George, Nathusius, 2007). But there are no foreign VC funds and GPs in Latvia, which had successful exits. Annex 2 shows that in the questionnaire survey, seven out of ten GPs assigned the maximum value to this factor and only one GP assigned the minimum value.

Table 7

VC teams' experience by number of funds raised (2011)

Number of funds raised in the past	Latvia	Europe	US	Ratio US/Europe
2 or more	0	73	334	4.6
3 or more	0	58	202	3.5
4 or more	0	28	132	4.7
5 or more	0	8	94	11.8
6 or more	0	4	65	16.3

Source: the author's calculations based on Earlybird (2011) and the author's data (Latvian funds)

Factor Q 9 (Attracting investments is hindered by a lack of institutional investors).

As has been previously shown, institutional investors in Europe (and the world) are the main source of capital for venture capital funds. In Latvia, the institutional investors are not the main source of supply of capital for venture capital funds (Prohorovs, 2013). If the investments of government agencies and private investors attracted are summed up and if it is assumed that the other investments are made by institutional investors, in the countries of CEE in 2007-2011, the amount of investment attracted from institutional investors by venture capital funds accounted for 70.22% of the total, while in Latvia during the same period it was only 28.98% (Table 8).

Table 8

European, CEE, and Latvian venture capital funds raised, by type of investors in 2007 – 2011

Types of investors	European 135 venture capital funds, 2011 (%)	CEE venture capital funds, 2007-2011 (average %)	Latvian venture capital funds raised, 2007-2011 (%)
Government agencies	34.0	23.2	65.14
Private individuals	14.9	6.58	5.88
Institutional investors	54.9	70.22	28.98

Source: the author's calculations based on EVCA Central and Eastern Europe Statistics 2011; EVCA Peper Analytics, Yearbook 2012 and the author's source (Latvian funds)

Naturally, it seems to the professionals of the venture capital industry of Latvia that there is a lack of institutional investors. Especially because some of the classes of institutional investors are not yet fully formed and developed in Latvia, for example, such as insurance companies and foundations, investment companies, wealth management and family offices, endowments, and others that play a significant role in the supply of capital funds. For example, the endowment of the largest fund of an institution of higher education in Latvia, the University of Latvia, is only EUR 7 million (Foundation „University of Latvia Fund", Annual Report 2012). In Latvia, there is no fund of funds specializing in investing in VC&PE instruments, therefore, asset managers wishing to diversify investments in the instruments of venture capital through a fund of funds are forced to use such institutions located in other countries, for example, in Estonia, as does JSC "Swedbank Investment Management Association", investing part of the funds of state-funded pension funds in the Hansa Cee Fund of Funds Unit (Pension plan "Dinamika" of the state-funded pension scheme, Annual Report 2012). Due to the fact that pension funds are a mature, actively developing, and leading class of institutional investors in Latvia, let us highlight the issue of delivery of venture capital by pension funds in a separate section and consider it in more detail.

4. PENSION FUNDS AS A SOURCE OF SUPPLY OF CAPITAL FOR VENTURE CAPITAL FUNDS IN LATVIA

In Latvia, there are two types of pension funds – private pension funds and state-funded pension funds – distributed on 36 pension plans. The pension plans are managed by 9 asset managers (Asset managers of the state-funded pension scheme). According to the LVCA, as of August 2010, six of them have invested in venture capital funds in Latvia (Grisins, 2010). According to the data of the author, later on another asset manager made an investment in a venture capital fund, thus, of the 9 pension fund managers of Latvia, 7 have invested in venture capital funds in Latvia.

At the end of 2012, the assets of private pension funds amounted to EUR 203 million (Report on Level 3 pension plans, 2012). Even grater assets are controlled by the state-funded pension funds. Their assets, at the end of 2012, reached EUR 1464 million (Report on the state-funded pension scheme plans, 2012). Under the existing legislation, the state-funded pension funds have the right to invest in venture capital funds up to 5% of their assets (Law on State Funded Pension); at the end of 2012, it amounted to EUR 73.2 million. In accordance with the existing legislation, the private pension funds have the right to invest in venture capital funds up to 10% of their assets (Law on Private Pension Plans), and these 10% were equal to EUR 20.3 million at the end of 2012. However, according to the data of the author, the investment of pension funds in the VC&PE funds still make up less than one percent of their assets. Besides, part of the investments is invested outside Latvia. For example, at the end of 2011, the pension plan "Dinamika" managed by JSC "Swedbank Investment Management Association" hold the following positions in venture capital funds: EUR 1620239 in Second Eco Fund (Latvia), EUR 122238 in Baltcap Venture Capital Fund (Latvia), and EUR 1524642 in Hansa CEE Fund of Funds Unit (East European Fund of Funds) (Pension plan "Dinamika" of the state-funded pension scheme, Annual Report 2012). The value of the net assets of the pension plan Dinamika, at the end of 2011, was EUR 386 139 000 (JSC "Swedbank Investment Management Association", Management Report 2011). Thus the proportion of investments of the pension plan Dinamika in VC&PE (the plan is not a conservative one) accounted for 0.84% of its assets at the end of 2011. It should be noted that JSC "Swedbank Investment Management Association" is a leader in the management of the assets of Level 2 pension plans with a market share of 38.8% (JSC "Swedbank Investment Management Association", Management Report 2011). There should be placed additional focus on two aspects. The first aspect. As the author has pointed out, and this is also shown by the findings of this research, the respondents noted the difficulty of raising capital in the post-crisis period. If one considers only the investments made by JSC "Swedbank Investment Management Association" (plan Dinamika) in the post-crisis period, they comprised EUR 122238 or 0.03% of the net assets, which indicates either a very conservative policy, or a very substantial effect of factor Q18 (Investors have no confidence in the fund's management team because of the lack of positive experience and previous achievements). The second aspect is the fact that approximately half (46.6%) of the investments in VC&PE by the pension plan Dinamika were made outside Latvia, despite the fact that in the same period there was an opportunity to invest in two Latvian funds (Baltcap Venture Capital Fund and Imprimature Capital) and in both funds the investor was the government with a share of 67%. The government limited its future profits in these funds to six percent, which could allow investors to get more revenue from this asymmetric allocation in the future. It is possible that for the pension funds (and the other institutional investors in Latvia) it was not a sufficient incentive for investment in the venture capital funds of Latvia. The asymmetrical distribution of profits, in which the upper limit of profit is set for the government, is practiced not only in Latvia. In Latvia, the interest rate, under the asymmetric allocation, was 6%, while in Russia it was 5% and 4.5% in Great Britain (Financing Innovative Development, 2007, pp. 172-173). Possibly the low activity of pension fund managers was affected not by this incentive but the above-mentioned factors Q17 and (or) Q18. If the GPs were able to attract these financial resources, the investment of venture capital funds would be increase by EUR 80-90 million, which is about equal to the amount invested by the VC&PE funds of Latvia in portfolio companies over the last ten

years. If it is assumed that half of these amounts, for various reasons, for example, such as diversification by country or industry, will not be invested in instruments of venture capital, even EUR 40-45 million is still a very significant amount of finances for the venture capital industry of Latvia. For comparison, the amount of funds invested by the government (along with co-funding from the European institutions) in venture capital funds in Latvia from 2007 to the end of 2012 amounted to EUR 35.2 million (data of the author). It should be noted, however, that the pension funds have a relatively high rate of growth of assets. Thus, according to the Association of Commercial Banks of Latvia, in 2011 and 2012, the assets of private pension funds grew by more than 10% a year (Review of the pension plans, Association of Commercial Banks of Latvia, 2012). The state-funded pension plans, for the year 2012, showed an even greater increase of 17% (Summary on the assets and liabilities of pension plans of the state-funded pension scheme). Besides, not only earnings of the pension funds increased, but also the number of participants of pension plans of both the private and state-funded pension funds rose (Review of the pension plans, Association of Commercial Banks of Latvia, 2012). The author believes that in a medium-term, the growth trend of pension fund assets will continue at least for a few reasons. First, over the next few years, the state-funded pension funds will receive additional financial resources because during the crisis the government temporarily reduced the rate of contributions to the state-funded pension funds from 8 to 2%, and over the next few years, it is planned to gradually increase the rate of these contributions to the initial 8% (Law on State Funded Pension). Second, as the crisis ends, the economy gets partially out of the "gray" area; for this and other reasons, the average wage rises. For example, from 2010 to 2012, the average wage grew by 8%, for the first time surpassing the pre-crisis level (Central Statistical Bureau of the Republic of Latvia, statistical database. Wages – monthly/quarterly, annual data). As Latvia integrates into the international labour market and approaches the level of economic development of the countries of Western Europe, wages continue to rise, and, accordingly, the assets of the state-funded pension funds will increase in the long-term. Third, unemployment decreases and employment grows in the economy. Compared with 2010, when the proportion of working population was 53.1%, in 2012 this number increased to 56.3% (Central Statistical Bureau of the Republic of Latvia, statistical database. Activity rate, employment rate, unemployment rate). Accordingly, the contributions to pension funds increased and continue increasing. According to the author's calculations, even at a 5% rate of growth of the assets of pension funds, under the current legislation, could provide at least another EUR 20 million investment in venture capital funds within the nearest five years. These facts show that if speaking of the pension funds as a source of venture capital, there is no lack of funds. There is also a sufficient amount of institutional investors of this class. The problem is the decisions made by managers of pension funds on investing in instruments of venture capital in Latvia. Surely their decisions have to be justified. For example, among the EU11 countries, Latvia takes the lowest place in the Global Venture Capital and Private Equity Country Attractiveness Index regarding VC, to which institutional investors pay attention (Groh, Liechtenstein, Lieser, 2012). This means that, all other things being equal, institutional investors will invest in funds located in other countries of the EU11. The purpose of institutional investors, particularly pension funds, is making a profit. Thus, the average yield of Level 2 conservative pension plans managed by Swedbank's Investment Department was 8.28% in 2012 (a 4.64% average annual yield since inception), the average yield of balanced pension plans was 8.77% in 2012 (a 4.44% average annual yield since inception), and the average yield of active pension plans was 9.15% in 2012 (a 4.14% average annual yield since inception). The private pension funds or Pension Level 3 provided earnings for their investors in 2012, according to Dace Brencena, the head of the Private Pension Fund Committee of the Association of Commercial Banks of Latvia and the head of the executive board of the SEB Open Pension Plan. The average yield of plans of private pension funds was 8.8% last year. The average yield of all the plans, since inception, reached 4.82% a year. The average yield of Level 3 balanced pension plans was 8.23% in 2012 (a 4.72% average annual yield since inception), while the average yield of active pension plans was 9.19% in 2012 and their average annual yield since inception was

4.88% (in 2012, the pension funds earned almost 9%).

Accordingly, the pension fund managers invest in assets with higher risk in anticipation of increased return on their investment. On average, the investment of venture capital funds generates lower returns than that of buyout funds or mezzanine funds. This refers not only to the average indicators for all the funds, but also to the funds belonging to half of the most profitable funds and even to the first quartile of such funds (EVCA 2011 Pan-European Private Equity Performance Benchmarks Study). The comparative indicators of return for various venture capital and private equity funds are presented in Table 9.

Table 9

Comparison of venture capital and private equity internal rates of return in Europe

Types of funds	Annualised net pooled IRR* from inception to 31.12.2011		Top-half net pooled IRR from inception to 31.12.2011		Top-quarter net pooled IRR from inception to 31.12.2011		Horizon IRRs to 31.12.2011 (Funds formed 1980-2011)		
	No. of funds	Pooled IRR	No. of funds	Pooled IRR	No. of funds	Pooled IRR	5-year IRR	10-year IRR	20-year IRR
Seed/Early-stage	459	-0.98	230	7.02	115	12.52	-2.86	-3.15	-1.06
Later-stage	120	2.82	60	12.65	30	17.49	-0.32	-1.54	2.39
Balanced	191	3.97	96	7.80	48	15.98	2.57	1.88	4.09
All venture	770	1.51	385	8.04	193	13.20	-0.14	-0.94	1.46
All buyout	466	11.42	233	19.23	117	30.09	2.41	8.33	11.26
Mezzanine	33	8.84	17	17.51	9	20.03	5.69	7.30	8.88
Generalist	144	9.95	72	11.17	36	11.52	-3.78	3.23	11.48
All private equity	1,431	8.95	716	13.95	358	22.54	1.55	5.62	9.23

Source: the author's calculations based on EVCA 2011 Pan-European Private Equity Performance Benchmarks Study and Thomson Reuters

As shown in Table 9, the financial performance of venture capital is lower than that of any of the state-funded pension plans of Swedbank for the period of their existence. Therefore it is supposed that among all the institutional investors, pension funds in Latvia have the most significant potential for increasing the size of venture capital funds. In order that the pension funds can significantly increase their investments in venture capital funds in Latvia, the VC&PE funds have to meet the investment criteria set by pension fund managers and have a history of positive «exits». Just like it is, for example, in Poland where, over the past 10 years, the return on investments in VC&PE funds averaged 15.6% (Klonowski, 2013).

Factor Q16 (Latvia possesses no venture capital that could be invested in venture funds or such capital is insufficient) has to be divided into two components. The first component – the lack of institutional investors, based on the example of pension funds in Latvia –, we have considered in the previous section as factor Q9. In this section we consider individual investors of venture capital funds. Interestingly, Q16 is the only factor of the factors considered for which the GPs of Latvia showed a surprising unanimity. All the ten GPs, who participated in the survey, assessed the factor Q16 as a factor having an average value of attracting capital into the VC&PE funds of Latvia. During the crisis, many of the private investors lost their appetite for risk, and some of them lost their money. Crisis circumstances and services provided by private investors may eventually decrease, but this factor has another aspect – the aspect of export of capital by private investors. In accordance with the so-called law on "zero declarations" in May 2012, all residents of Latvia had to fill out a declaration that reflects their property status ("Law on the Property Status and Disclosure of Undeclared Income by Natural Persons"). According to the generalized information from the State Revenue Service, for the first time the exact amount of these investments in financial instruments outside Latvia made by private persons became known from these declarations. Foreign

investments were made by 679 persons who filed the declaration, and the amount of their investments totalled EUR 79 million (Valtmane, 2013). This constitutes an average of 165 thousand EUR of foreign investment by each of the 679 investors. According to the data of the author, in all the five venture capital funds in Latvia in 2007-2011, the private investors invested EUR 3.2 million and the management of these funds invested additionally EUR 1.6 million, which was 16 times less than the foreign investments made by Latvian individuals acting as private investors. The total amount of investments in foreign financial instruments by Latvia's individuals was not much less than the amount of 80-90 million EUR, which, in accordance with the laws and regulations, may be additionally invested in the VC&PE funds by the managers of pension capital.

In the future, the attraction of private investors into venture capital funds in Latvia can take place in one of two scenarios. The first scenario – as the confidence of private investors in venture capital funds and GPs (including their financial performance results) increases in Latvia, investments by private individuals or portions of the investments may be a source of capital for the VC&PE funds in Latvia. According to the second, the negative scenario, as well as taking into account various factors such as macroeconomic indicators and risks of the country, the trend of increasing cross-border venture capital investments and internationalization of venture capital, Latvia's last place among the countries of the EU11 in the Global Venture Capital and Private Equity Country Attractiveness Index, and other factors, the trend of increasing foreign investments by individuals – private investors in the VC&PE instruments may persist or worsen. As regards the government of Latvia, the package of preferences and privileges that encourage institutional and private investors to invest in venture capital funds in Latvia may look logical. Different kinds of preferences and privileges to private investors investing into venture capital funds, such as the write-off of taxes due to losses from investments, tax deferral, and exemption from income tax are provided by a number of countries – Belgium, the USA, Canada, France, and Great Britain, especially if these venture capital investments are used to finance SEED and Start up funds (Financing Innovative Development, 2007, pp. 174-175).

Factor Q4 (Investors in funds understand that the funds face difficulties to find good projects). The GPs' views on the impact of factor Q4 on attracting venture capital investors divided. Other financial intermediaries that participated in the survey assigned this factor a quite high value, which allowed this factor to become one of the five most important factors that influence the attraction of capital into venture capital funds. A good project (for a potential portfolio company) in the venture capital industry can be understood as a company with a strong management team capable of interacting with investors, a realistic and forward-looking business plan, and a scalable business model with a good offering for the market. It can be assumed that the lack of good projects is related to factors such as low levels of innovation development, due to which Latvia ranks last among the countries in Europe and the third lowest among companies (Innovation Union Scoreboard, 2012). The factor Q4 can be explained by the fact that a small number of technological and innovative start-up projects originating from universities is implemented in Latvia, which is a necessary condition for innovative development (Etzkowitz, 2008, pp.123-130). It should be noted that the factor Q4 is not much, just 0.09 points different from the previous one, and only by 0.36 points higher than the next significant factor Q13 (investors in funds understand that Latvia is a small market).

Table 10

List of six factors having the most negative impact on the attraction of capital into venture capital funds by all respondents and GPs

Factor designation	Factor name (in descending order of rank)	Average ranks of the factors	Number of GPs that assigned the maximum value to this factor	Number of GPs that assigned an average value to this factor	Number of GPs that assigned the minimum value to this factor
Q18	Investors have no confidence in the fund's management team because of the lack of positive experience and previous achievements	19.03	7	2	1
Q17	Attraction of capital coincided with the post-crisis period when investors were not ready to assume such risks	18.31	4	5	1
Q9	Attracting investments is hindered by a lack of institutional investors	17.36	6	2	2
Q16	Latvia possesses no venture capital that could be invested in venture funds or such capital is insufficient	16.62	0	10	0
Q4	Investors in funds understand that the funds face difficulties to find good projects	16.53	3	4	3
Q13	Investors in funds understand that Latvia is a small market	16.17	2	8	0

Source: the author's calculations

Table 11

List of five factors least affecting the attraction capital into venture capital funds by all respondents and GPs

Factor designation	Factor name (in descending order of rank)	Average ranks of the factors	Number of GPs that assigned the maximum value to this factor	Number of GPs that assigned an average value to this factor	Number of GPs that assigned the minimum value to this factor
Q24	It seems to the fund's investors that the fund collects a too high "success fee"	7.56	0	1	9
Q25	It seems to the fund's investors that the minimum size of investment is too large	8.50	2	1	7
Q23	It seems to the fund's investors that the fund collects too high fees	9.44	0	4	6
Q5	Investors in funds understand that good projects exist, but these projects are financed from other sources	9.94	0	3	7
Q8	Funds fail to attract the	10.75	1	0	9

	necessary number of foreign investors				

Source: the author's calculations

Factor 13 (Investors in funds understand that Latvia is a small market and, therefore, it is difficult to implement a project in other European countries as well as in other countries because of other rules, laws, and languages). Latvia is a small country in terms of population and territory. A number of researchers, including the author, believe that the small size of the country reduces its attractiveness to venture capitalists (Karsai, 2012). The results of the survey of venture investors, conducted on behalf of the EVCA, showed that there were three main problems in Europe. The first problem was the heterogeneity in languages, culture, and consumer preferences in all European markets. The second problem was insufficient, although improving, opportunities for exits – both through the IPO as well as direct sales. The third problem was an insufficient number of large institutional investors to invest in venture capital funds, and relatively underdeveloped conditions for raising capital in general (George & Nathusius, 2007).

Table 11 shows the results for the five factors which, in the opinion of the respondents, did not have a negative impact on attracting capital into venture capital funds.

5. CONCLUSIONS

1. According to the venture capitalists of Latvia, the five main factors affecting the attraction of capital into venture capital funds in Latvia (excluding the factor of post-crisis period) are as follows: investors have no confidence in the fund's management team because of the lack of positive experience and previous achievements; Latvia possesses no venture capital that could be invested in venture funds or such capital is insufficient; investors in funds understand that the funds face difficulties to find good projects; and investors in funds understand that Latvia is a small market, and, therefore, it is difficult to implement a project in other European countries (as well as in other countries because of other rules, laws, and languages).

2. In the opinion of the venture capitalists, the coincidence of the post-crisis period and the attraction of capital into the funds are the second-ranked negative factor hindering the attraction of capital, therefore, it can be concluded that as the crisis ends, venture capitalists expect a significant increase in "responsiveness" by venture capital investors.

3. The venture capitalists of Latvia believe that a range of factors does not negatively affect the attraction of capital by venture capital funds or this effect is insignificant. Such factors as: it seems to the fund's investors that the fund collects a too high "success fee"; it seems to the fund's investors that the minimum size of investment is too large; it seems to the fund's investors that the fund collects too high fees; investors in funds understand that good projects exist, but these projects are financed from other sources; and funds fail to attract the necessary number of foreign investors are among the most insignificant ones. The author believes that the professionals of the venture capital industry underestimate the potential of foreign sources of capital.

4. The pension funds of Latvia, under certain conditions, can be a major or one of the major sources of supply of capital to VC&PE funds.

5. To attract the capital of institutional and private investors into venture capital funds, it is appropriate to grant them tax or other preferences. In some cases, such a decision could be more efficient both financially and from the perspective of government than the direct financing of the funds from public resources (except projects at the SEED and start-up stages, in which the situation is not as clear).

6. In 2007-2011 in Latvia, the proportion of institutional investors in venture capital funds was 2.5 times less than in the CEE countries and almost 2 times less than in Europe as a whole.

5.1. Practical use of the research results

1. The results may be used by the bodies of public administration – as an analytical material and a source of new data on the VC&PE industry and for the development of instruments and incentives for investors of venture capital funds.
2. Public administration bodies supervising the VC&PE industry – for analyses of the current state of planning and development of the VC&PE industry of Latvia.
3. VC&PE funds and other market participants – as a material for assessing the capacity of institutional and private investors of venture capital funds.
4. Venture capital researchers – to use the information and conclusions presented in this paper for further research related to raising capital in the venture industry.

Of particular interest may be future research on the causes and factors that guide institutional and private investors in making decisions on investing in venture capital funds in Latvia.

REFERENCES

1. "Asset managers of the state-funded pension scheme", "Valsts fondēto pensiju shēmas līdzekļu pārvaldītāji", available at: *http://www.fktk.lv/lv/tirgus_dalibnieki/pensiju_fondi/ (accessed: 25 October 2013).*
2. Bain & Company, Global Private Equity Report 2011, (p.13-19), available at: *http://www.bain.com/bainweb/PDFs/Bain_and_Company_Global_PE_Report_2011.pdf (accessed: 25 October 2013).*
3. Bain & Company, Global Private Equity Report 2012, (p.45-49), available at: *http://www.bain.com/bainweb/pdfs/Bain_and_Company_Global_Private_Equity_Report_2012.pdf (accessed: 25 October 2013).*
4. Bernothy,K., Colavecchioz, R., Sass, M. Drivers of Private Equity Investment in CEE and Western European Countries, *German Institute for Economic Research, Discussion Papers 1002, 2010*
5. "Central Statistical Bureau of the Republic of Latvia, statistical database. Wages – monthly/quarterly, annual data", "LR Centrāla statistikas pārvalde, Statistikas datubāzes Latvijas statistika, 15.04.2013, Darba samaksa - mēnešu/ceturkšņu dati, ikgadējie dati", available at: *http://www.csb.gov.lv/statistikas-temas/metodologija/menesa-videja-un-reala-darba-samaksa-36412.html (accessed: 25 October 2013).*
6. "Central Statistical Bureau of the Republic of Latvia, statistical database. Activity rate, employment rate, unemployment rate (%)", "LR Centrāla statistikas pārvalde, Statistikas datubāzes Latvijas statistika, 15.04.2013, Ekonomikās aktivitātes, nodarbinātības līmenis, darba meklētāju īpatsvars (%)", available at: *www.csb.gov.lv/ (accessed: 25 October 2013).*
7. Da Rin, M., Nicodano, G., Sembenelli, A., Public Policy and the Creation of Active Venture Capital Markets, *Working Paper Series No. 430, European Central Bank, 2005.*
8. Dessí, R., Yin, N., The Impact of Venture Capital on Innovation, *Toulouse School of Economics (GREMAQ and IDEI), 2010.*
9. Dijokas, V., Vanags, A., Venture Capital in Latvia, *Telia Sonera Institute Discussion Paper No. 1, the Telia Sonera Institute at the Stockholm School of Economics in Riga, November, 2004, 40p.*
10. Earlybird (2011): Turning Venture Capital Data into Wisdom: Why Deal Performance in Europe is now Outpacing the US?
11. Etzkowitz H. The Triple Helix. University – Industry – Government. Innovation in Action. NEW YORK and LONDON, Routledge, 2008, 164 p.
12. European Commission Internal Market and Services DG, Доклад экспертной группы Еврокомиссии по альтернативным инвестициям: Развитие прямых инвестиций в Европе, перевод с английского (European Commission expert group report on alternative investments: development of direct investments, translated from English), СПб, РАВИ. 2007, 66с.

13. EVCA 2011 Pan-European Private Equity Performance Benchmarks Study, available at: *http://www.evca.eu/publications/PBPS11.pdf (accessed: 25 October 2013).*

14. EVCA, 2012 *Pan-European Private Equity and Venture Capital Activity.*

15. EVCA, Central and Eastern Europe Statistics 2011, *An EVCA Special Paper, Edited by the EVCA Central and Eastern Europe Task Force, August 2012.*

16. EVCA, *Enterprise Capital Report, (92-101p.), 2011.*

17. EVCA, Peper_Analytics, Yearbook, 2012, available at: *http://www.evca.eu/uploadedfiles/home/press_room/Yearbook_2012_Presentation_all.pdf (accessed: 25 October 2013).*

18. Financing Innovative Development. Comparative Review of the Experiences of UNECE Countries in Earl-Stage Financing. United Nations. *New York and Geneva, 2007. Перевод с английского, СПб, РАВИ, 2008, 212 с.*

19. "Foundation „University of Latvia Fund", Annual Report 2012" // "Nodibinājuma "Latvijas Universitātes Fonds" *2012 gada parskats", Lursoft.*

20. George, G., Nathusius, E.,The European Venture Capital Market: Scaling Beyond Current Boundaries. *European Private Equity & Venture Capital Association, 2007, 96p.*

21. Global Scenarios for Private Equity and Venture Capital. Conducted by Oxford Analytica. *European Private Equity & Venture Capital Association, 2009, 168 p.*

22. Gompers, Paul and Josh Lerner. The Venture Capital Cycle, *The MIT Press, 2004.*

23. Grišins J., Venture Capital market in Latvia, 2010.

24. Grišins, J.,Venture Capital market in Latvia, Sigulda, August, 2010.

25. Groh, A.P., Liechtenstein and H., Lieser, K., The Global Venture Capital and Private Equity Country Attractiveness Index - 2012 annual, available at: *http://www.preqin.com/docs/reports/IESE_Global_VC_and_PE_Country_Attractiveness_Index_2012 .pdf (accessed: 25 October 2013).*

26. Innovation Union Scoreboard, 2011 (7 February 2012). The IUS Performance Scoreboard for Research and Innovation.

27. Jakusonoka, I., Prohorovs, A., "Problems and Trends in Venture Capital: a Critical Analysis", in *Innovative and Creative Solutions in Business and Culture: International Scientific Conference 2012*, available at: *http://www.prokscapital.eu/attachments/ekai-raksts-2012.pdf (accessed: 25 October 2013).*

28. "JSC "Swedbank Investment Management Association", Management Report 2011" // "A/S Swedbank Ieguldījumu Pārvaldes Sabiedrība vadības ziņojums par 2011 gadu", available at: *https://www.swedbank.lv/files/par_swedbank/gada_parskati/swedbank_gada_finansu_parskats_2011 _lv.pdf (accessed: 25 October 2013).*

29. Karsai, J., Development of the Hungarian Venture Capital and Private Equity Industry over the Past Two Dekades, Institute of Economics Hungarian Academy of Sciences, Discussion Papers MT-DP - 2012/1 .

30. Klonowski, D., Private equity in Poland after two decades of development: evolution, industry drivers, and returns, Venture Capital: *An International Journal of Entrepreneurial Finance,* This article was downloaded by*: [213.21.215.96] Publisher: Routledge, 2013.*

31. Kremmidas, T., Venture Capital - Driving innovation and competitiveness, *The Canadian Business Journal, May, 2012*, available at: *http://www.cbj.ca/features/apr_12_features/venture_capital_driving_innovation_and_competitivenes s.html (accessed: 25 October 2013).*

32. Laizans, T., Lace, N., "Factors Affecting Venture Capital Development: Comparing Latvia and European Markets", in *50th International Scientific Conference of Riga Technical University: RTU FEEM Scientific Conference on Economics and Entrepreneurship (SCEE'2009) – Conference Proceedings, 2009*, 15-16   October. – Riga: RTU Publishing House, 2009. – 13 p. – ISBN 978-9984-32-173-8 (CD).

33. "Law on Private Pension Plans" // "Likums Par privātajiem pensiju fondiem", available at: *http://www.likumi.lv/doc.php?id=44006 (accessed: 25 October 2013).*

34. "Law on State Funded Pension" // "Valsts fondēto pensiju likums", available at: *http://likumi.lv/doc.php?id=2341&mode=KDOC (accessed: 25 October 2013).*

35. "Law on the Property Status and Disclosure of Undeclared Income by Natural Persons" // "Fizisko personu mantiskā stāvokļa un nedeklarēto ienākumu deklarēšanas likums", available at: *http://www.likumi.lv/doc.php?id=241275 (accessed: 25 October 2013).*

36. Parhankangas, A., The Economic Impact of Venture Capital, In: *Handbook of Research on Venture Capital: A Globalizing Industry, Volume 2, p. 124-158*, Edited by Landsrõm, H., Mason, C., *Edward Elgar Publishing Ltd, 2012, 304p..*

37. "Pension funds earned almost 9% in 2012" // "Pensiju fondi 2012.gadā nopelnījuši gandrīz 9%". 16 January 2013. LETA. , available at*: http://www.delfi.lv/bizness/bankas_un_finanses/pensiju-fondi-2012-gada-nopelnijusi-gandriz-9.d?id=42976206 (accessed: 25 October 2013).*

38. "Pension plan "Dinamika" of the state-funded pension scheme, Annual Report 2012" // "Valsts fondēto pensiju shēmas līdzekļu pensiju ieguldījumu plāns "Dinamika" 2011. gada pārskats", available at: *http://www.manapensija.lv/pdf/ip02/Dinamika_2011.pdf (accessed: 25 October 2013).*

39. "Performance indicators of the private pension funds in 2011" // "Privāto pensiju fondu darbības rādītāji2011.gadā", available at: *http://bankasoc.lv/lv/komitejas/pensiju/privatie_pensiju_fondi_2011_gads.pdf (accessed: 25 October 2013).*

40. Prohorovs, A., "Attraction of Investments into Venture Capital and Private Equity Funds of Latvia", in *Economic Science for Rural Development 2013:proceedings of the international scientific conference*, No. 30. *Finance and Taxes, Jelgava: LLU, 2013, pp. 269-277. ISSN 1691-3078; ISBN 978-9934-8304-0-2*, available at: *http://connection.ebscohost.com/c/articles/87566454/attraction-investments-venture-capital-private-equity-funds-latvia (accessed: 25 October 2013).*

41. "Report on Level 3 pension plans, 31 December 2012" // "Pārskats par privāto pensiju fondu 3. līmeņa pensiju plāniem, 31.12.2012", available at: *http://www.bankasoc.lv/lv/statistika/pensiju_fondi.html (accessed: 25 October 2013).*

42. "Report on the state-funded pension scheme plans, 28 December 2012" // "Pārskats par valsts fondēto pensiju shēmas ieguldījumu plāniem, 28.12.2012", available at: *http://www.manapensija.lv/statistic/ip201212.php (accessed: 25 October 2013).*

43. "Review of the pension plans, Association of Commercial Banks of Latvia, No. 4, 2012" // "Pensiju fondu apskats, Latvijas Komercbanku Asociācija, №4, 2012", available at: *http://bankasoc.lv/lv/pdf/Apskats_2012_gads.pdf (accessed: 25 October 2013).*

44. "Summary on the assets and liabilities of pension plans of the state-funded pension scheme" // "Valsts fondēto pensiju shēmas līdzekļu ieguldījumu plānu aktīvu un saistību pārskata kopsavilkums", available at: *http://www.fktk.lv/lv/statistika/pensiju_fondi/ceturksna_parskati/2013-02-20_valsts_fondeto_pensiju_s/ (accessed: 25 October 2013).*

45. "Swedbank pension plan "Dinamika", list of investments, 28 December 2012 // Swedbank pensiju ieguldījumu plāns "Dinamika", Ieguldījumu saraksts 2012. gada 28.decembris, available at: *http://www.swedbank.lv/files/pakalpojumi_privatpersonam/uzkrajumi_un_ieguldijumi/2_limenis/Dinamika_2PL_ieguldijumu_saraksts_12_2012_LV.pdf (accessed: 25 October 2013).*

46. Tamužs, V., Riska kapitāla investicīju piesaiste, Eko investors, 2011 (Attraction of Venture Capital) , available at: *http://www.kapitals.lv/system/application/uploads/file/2011/hipo%20seminars/Viesturs_Tamuzs.pdf (accessed: 25 October 2013).*

47. Tykvová, T., Borell, M., Kroencke, T.A., Potential of Venture Capital in the European Union, European Parliament, DIRECTORATE GENERAL FOR INTERNAL POLICIES POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICY INDUSTRY, RESEARCH AND ENERGY, STUDY, IP/A/ITRE/ST/2011-11 PE 475.088, 2012.

48. Valtmane, E., "Some senior saved LVL 2.19 million in pension funds and life insurance" // "Kāds seniors pensiju fondos un dzīvības apdrošināšanā uzkrājis 2,19 miljonus latu". *LETA, 09 March 2013.*

Annex 1. Questionnaire

Name: _____

Surname: _____

Company: _____

_____(please, mark by a cross "X" if you want your opinion remains confidential)

List Of The Causes Due To Which Venture Capital Funds And Private Equity Funds (Including Those With A Balanced Strategy) Face Difficulties To Attract Investments

No.	Factor name	Venture capital funds
1.	Investors in funds understand that in Latvia it is difficult to find projects of less than EUR 200 thousand in size at SEED or start-up stages	
2.	Investors in funds understand that in Latvia it is difficult to find projects ranging from EUR 200 to 500 thousand in size	
3.	Investors in funds understand that in Latvia it is difficult to find venture projects of more than EUR 500 thousand in size	
4.	Investors in funds understand that the funds face difficulties to find good projects	
5.	Investors in funds understand that good projects exist, but these projects are financed from other sources	
6.	Investors in funds understand that no projects originate from universities and scientific institutions in Latvia	
7.	Investors in funds understand that the projects, for some reasons, are not ready to attract venture capital and therefore do not want to invest in the funds	
8.	Funds fail to attract the necessary number of foreign investors	
9.	Attracting investments is hindered by a lack of institutional investors	
10.	Investors in funds believe that there are no professional venture capitalists (with a necessary financial instrument and "smart capital")	
11.	Investors in funds believe that a stock exchange presently is an underdeveloped way for project implementation	
12.	Investors in funds believe that it will be difficult to sell projects to strategic buyers	
13.	Investors in funds understand that Latvia is a small market, and, therefore, it is difficult to implement a project in other European countries (as well as in other countries because of other rules, laws, and languages)	
14.	Investors in funds understand that project initiators have no experience in teamwork, but the funds do not need an idea without a team	
15.	Investors in funds understand that very often CEOs of "portfolio" companies are not sufficiently qualified	
16.	Latvia possesses no venture capital that could be invested in venture funds or such capital is insufficient	
17.	Attraction of capital coincided with the post-crisis period when investors were not ready to assume such risks	
18.	Investors have no confidence in the fund's management team because of the lack of positive experience and previous achievements	

19.	Investors in funds believe that the yield for their risk is too low	
20.	The fund's strategy was inappropriately designed	
21.	The fund's positioning was inappropriately carried out	
22.	The fund's marketing focused on the attraction of investors was inappropriately carried out	
23.	It seems to the fund's investors that the fund collects too high fees	
24.	It seems to the fund's investors that the fund collects a too high "success fee"	
25.	It seems to the fund's investors that the minimum size of investment is too large	
26.	Attracting investors is hindered by the restrictions that exist for institutional investors	
27.	Attracting investors is hindered by the legislation	
28.	Do other factors exist that affect the attraction of investments by the fund? (if yes, please, explain). 1. 2. 3.	

Factor evaluation:
Each item is evaluated in a three-point system:
3 points – significant effect
2 points – insignificant effect
1 point – no effect or the effect is too small
Please, fill out <u>both</u> columns!!!

Annex 3. Spearman's correlation among the factors

Number of Respondent 1	Number of Respondent 2	Number of observations	Spearman's rank correlation coefficient	p-value
Q1	Q2	18	0.486	0.041
Q1	Q3	18	0.555	0.017
Q1	Q6	18	0.488	0.040
Q3	Q9	18	-0.503	0.034
Q5	Q9	18	-0.479	0.044
Q7	Q9	18	-0.654	0.003
Q4	Q10	18	-0.496	0.036
Q5	Q10	18	-0.562	0.015
Q5	Q11	18	0.577	0.012
Q7	Q12	18	0.515	0.029
Q5	Q13	18	0.633	0.005
Q11	Q13	18	0.487	0.040
Q12	Q13	18	0.487	0.040
Q11	Q15	18	-0.504	0.033
Q14	Q15	18	0.676	0.002
Q6	Q16	17	0.577	0.015
Q10	Q18	18	0.640	0.004
Q2	Q19	18	-0.507	0.032
Q4	Q19	18	-0.651	0.003
Q6	Q20	15	-0.626	0.013
Q7	Q20	15	0.792	0.000
Q9	Q20	15	-0.537	0.039
Q20	Q21	15	0.599	0.018
Q16	Q23	15	-0.577	0.024
Q10	Q24	16	-0.647	0.007
Q9	Q25	18	0.478	0.045
Q20	Q25	15	-0.533	0.041
Q2	Q26	16	-0.508	0.045

Q3	Q26	16	-0.708	0.002
Q7	Q26	16	-0.598	0.014
Q9	Q26	16	0.628	0.009
Q7	Q27	18	-0.761	0.000
Q9	Q27	18	0.709	0.001
Q20	Q27	15	-0.517	0.048
Q26	Q27	16	0.568	0.022

Annex 2. Survey results

No	Questions	Respondents																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Investors in funds understand that in Latvia it is difficult to find projects of less than EUR 200 thousand in size at SEED or start-up stages	1	3	3	1	2	2	2	3	2	2	2	2	1	3	2	2	3	2
2	Investors in funds understand that in Latvia it is difficult to find projects ranging from EUR 200 to 500 thousand in size	1	3	3	1	1	2	3	3	3	1	2	2	1	2	2	2	3	2
3	Investors in funds understand that in Latvia it is difficult to find venture projects of more than EUR 500 thousand in size	1	3	3	2	1	2	3	3	3	1	1	1	1	1	1	2	2	2
4	Investors in funds understand that the funds face difficulties to find good projects	3	3	3	1	3	3	3	3	2	1	2	2	1	2	2	3	3	1
5	Investors in funds understand that good projects exist, but these projects are financed from other sources	1	1	1	1	2	2	1	1	2	2	1	1	1	1	1	2	3	2
6	Investors in funds understand that no projects originate from universities and scientific institutions in Latvia	2	1	1	1	2	2	2	3	2	2	2	3	1	2	2	2	2	2
7	Investors in funds understand that the projects, for some reasons, are not ready to attract venture capital and therefore do not want to invest in the funds	1	2	2	1	1	3	3	1	2	1	1	1	1	2	1	3	3	2
8	Funds fail to attract the necessary number of foreign investors	1	no reply	no reply	1	1	3	3	3	2	1	1	1	3	1	1	1	1	1
9	Attracting investments is hindered by a lack of institutional investors	2	3	3	3	2	3	3	1	1	3	3	3	3	3	3	1	1	1
10	Investors in funds believe that there are no professional venture capitalists (with a necessary financial instrument and "smart capital")	1	3	3	2	1	3	3	1	2	1	2	2	2	3	2	2	1	3
11	Investors in funds believe that a stock exchange presently is an underdeveloped way for project implementation	1	1	1	2	2	3	2	1	3	2	2	1	2	1	2	1	3	3
12	Investors in funds believe that it will be difficult to sell projects to strategic buyers	1	1	1	2	2	3	2	1	2	1	1	1	2	3	1	3	3	3
No	Questions	Respondents																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
13	Investors in funds understand that Latvia is a small market, and, therefore, it is difficult	2	1	1	2	3	3	2	1	2	2	2	2	2	2	2	3	3	2

#	Statement																		
	to implement a project in other European countries (as well as in other countries because of other rules, laws, and languages)																		
14	Investors in funds understand that project initiators have no experience in teamwork, but the funds do not need an idea without a team	1	2	2	1	3	3	3	1	1	1	1	3	1	3	1	3	2	2
15	Investors in funds understand that very often CEOs of "portfolio" companies are not sufficiently qualified	1	3	3	1	2	2	3	1	2	1	1	3	1	3	2	3	2	2
16	Latvia possesses no venture capital that could be invested in venture funds or such capital is insufficient	2	2	2	2	2	no reply	3	3	2	3	2	2	2	2	2	2	1	2
17	Attraction of capital coincided with the post-crisis period when investors were not ready to assume such risks	3	no reply	no reply	2	2	3	3	2	1	2	3	2	1	2	3	2	3	3
18	Investors have no confidence in the fund's management team because of the lack of positive experience and previous achievements	2	3	3	3	1	3	3	1	2	1	3	3	3	3	3	2	3	3
19	Investors in funds believe that the yield for their risk is too low	1	2	2	2	2	3	2	1	2	2	1	2	2	3	1	1	1	3
20	The fund's strategy was inappropriately designed	1	no reply	no reply	1	1	no reply	3	1	2	1	1	1	2	2	1	2	3	2
21	The fund's positioning was inappropriately carried out	1	no reply	no reply	1	1	no reply	3	1	1	1	1	2	2	1	1	2	3	2
22	The fund's marketing focused on the attraction of investors was inappropriately carried out	1	no reply	no reply	2	2	no reply	2	1	2	1	1	2	2	1	1	2	3	2
23	It seems to the fund's investors that the fund collects too high fees	1	no reply	no reply	1	1	1	1	1	1	1	1	2	2	2	1	1	3	2
24	It seems to the fund's investors that the fund collects a too high "success fee"	1	no reply	no reply	1	1	1	1	1	1	1	1	2	1	1	1	1	3	1
25	It seems to the fund's investors that the minimum size of investment is too large	1	1	1	2	1	1	1	1	1	1	1	3	1	3	1	1	1	1
26	Attracting investors is hindered by the restrictions that exist for institutional investors	1	no reply	no reply	1	2	3	2	1	1	3	2	2	3	3	2	1	1	2
27	Attracting investors is hindered by the legislation	1	3	3	2	2	1	2	1	1	3	2	2	3	1	2	1	1	1

Annex 4. Factor analysis results

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.816	21.539	21.539	5.816	21.539	21.539
2	4.068	15.066	36.605	4.068	15.066	36.605
3	3.614	13.386	49.990	3.614	13.386	49.990
4	3.320	12.298	62.288	3.320	12.298	62.288
5	2.565	9.499	71.787	2.565	9.499	71.787
6	1.977	7.323	79.110			
7	1.685	6.241	85.351			
8	1.399	5.182	90.533			
9	.831	3.078	93.611			
10	.643	2.383	95.993			
11	.428	1.586	97.580			
12	.357	1.323	98.903			
13	.230	.853	99.756			
14	.066	.244	100.000			
15	3.350E-016	1.241E-015	100.000			
16	1.783E-016	6.606E-016	100.000			
17	1.671E-016	6.190E-016	100.000			
18	6.230E-017	2.308E-016	100.000			
19	2.316E-017	8.578E-017	100.000			
20	-6.388E-017	-2.366E-016	100.000			
21	-1.198E-016	-4.437E-016	100.000			
22	-1.532E-016	-5.675E-016	100.000			
23	-1.861E-016	-6.893E-016	100.000			
24	-2.177E-016	-8.065E-016	100.000			
25	-3.096E-016	-1.147E-015	100.000			
26	-3.815E-016	-1.413E-015	100.000			
27	-3.986E-016	-1.476E-015	100.000			
Extraction Method: Principal Component Analysis.						

Annex 5. Spearman's correlation among the respondents

Number of Respondent 1	Number of Respondent 2	Number of observations	Spearman's rank correlation coefficient	p-value
R2	R3	19	1.000	0.000
R1	R5	27	0.401	0.038
R2	R7	19	0.672	0.002
R3	R7	19	0.672	0.002
R6	R7	23	0.531	0.009
R8	R9	27	0.393	0.043
R5	R10	27	0.526	0.005
R1	R11	27	0.696	0.000
R5	R11	27	0.414	0.032
R10	R11	27	0.561	0.002
R9	R12	27	-0.443	0.021
R4	R13	27	0.430	0.025
R12	R14	27	0.529	0.005
R1	R15	27	0.668	0.000
R2	R15	19	0.463	0.046
R3	R15	19	0.463	0.046
R10	R15	27	0.511	0.006
R11	R15	27	0.948	0.000
R12	R15	27	0.434	0.024
R7	R16	27	0.420	0.029
R13	R16	27	-0.441	0.021
R16	R17	27	0.413	0.032
R6	R18	23	0.442	0.035

Annex 6. Cluster analysis results: centres of clusters

Questions	All factors		Factors mentioned by all	
	Cluster 1	Cluster 2	Cluster 1	Cluster 2
Q1	14.2	16.4	15.5	16.3
Q2	12.9	16.3	12.9	18.2
Q3	10.4	14.3	10.4	15.2
Q4	14.7	18.4	16.9	16.4
Q5	7.8	12.1	10.1	12.3
Q6	14.1	14.3	18.0	13.2
Q7	7.6	15.8	7.5	18.2
Q8			11.1	9.2
Q9	22.9	11.8	22.7	10.2
Q10	15.5	15.3	13.9	17.4
Q11	13.1	14.9	15.4	14.8
Q12	9.1	18.1	11.4	19.6
Q13	15.6	16.7	18.8	16.3
Q14	9.9	16.7	12.0	16.2
Q15	12.7	16.1	12.4	18.2
Q16			20.1	14.1
Q17	21.1	17.0	19.7	16.4
Q18	12.7	14.2	19.5	20.0
Q19			13.9	13.8
Q20			8.7	16.7
Q21			9.9	13.3
Q22			12.6	13.3
Q23			9.9	9.9
Q24			8.7	6.8
Q25	10.2	6.8	11.2	7.2