

THE RISK OF ADVERSE SELECTION AND ITS MANAGEMENT IN THE PROCESS OF VENTURE CAPITAL INVESTMENT

The experience of Hungarian investors

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Venture capitalists can be regarded as financers of young, high-risk enterprises, seeking investments with a high growth potential and offering professional support above and beyond their capital investment. The aim of this study is to analyse the occurrence of information asymmetry between venture capital investors and entrepreneurs, with special regard to the problem of adverse selection. In the course of my empirical research, I conducted in-depth interviews with 10 venture capital investors. The aim of the research was to elicit their opinions about the situation regarding information asymmetry, how they deal with problems arising from adverse selection, and what measures they take to manage these within the investment process. In the interviews we also touched upon how investors evaluate state intervention, and how much they believe company managers are influenced by state support.

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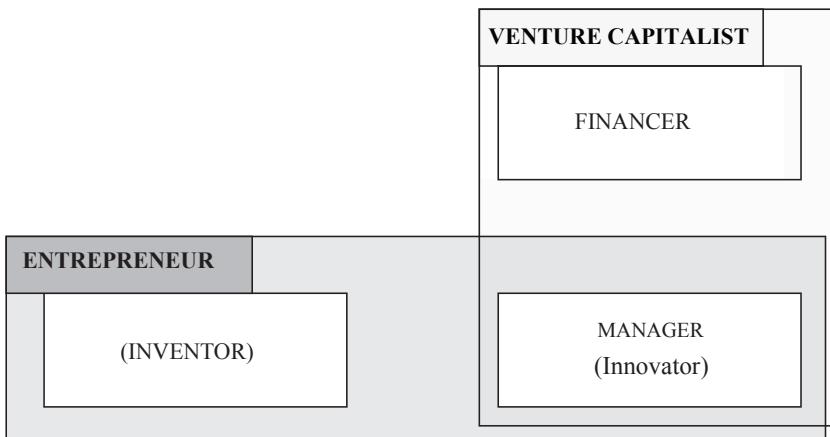
1. INTRODUCTION

Innovation is an oft-mentioned concept today and its use widespread; however, not everyone would agree on its meaning. As a concept, its definition is constantly changing and general debate surrounds its interpretation to this day. The foundations of the concept can be linked to the work of Schumpeter, who held that innovation always represents a new solution, be it the introduction of a new product, application of a new production method, tapping of new sources of procurement, development of a new organisational structure, or entry into a new market (Schumpeter, 1980 [1912]). The conceptual definition in business economics somewhat differs from this: here, innovation is the satisfaction of consumer needs to a new, higher-quality level (Chikán, 2008). From the commercial and investor point of view, meanwhile, innovation is anything that secures a given company a competitive advantage (Zsembery, 2012).

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For an innovation to be successful, three factors need to be present together: the idea, the management and the financial capital. On this basis, at least three functions can be distinguished in the innovation process. The *inventor* is the original proprietor of a new idea, to whom the idea initially occurs (Kornai, 2011). The birth of the idea may be preceded by a research process, but it may even come about during the ordinary course of business, for example when a worker on the production line “accidentally” discovers how to improve the manufacturing process. A *manager (innovator)* is then needed for this to lead to the creation of a product which can be sold on the market (Kornai, 2011), who coordinates further research and development, ensures the necessary capital, oversees production, organises sale on the market, etc. The management function can be fulfilled by an individual, a team or an entire company. An external source of financing may be necessary to bring an idea to fruition, and for this reason we differentiate a third player, the *financer*, who is able to provide this. The three functions may be sharply separated from each other, managed by different individuals or organisations, or they may work in parallel within the same large company. A typical example of an inventor and manager appearing together is at a small innovative company for which the lack of funding is often the obstacle to growth. Venture capital investors are among the vital participants in the innovation process. Not only do they play a role in the financing sphere, but – in addition to their financial contribution – they also provide professional assistance (management) to the enterprises concerned. Figure 1 displays the participants in the innovation process, as well as the roles filled by each.

Figure 1
Sphere of tasks and roles in the innovation process



Source: own design

If the inventor also carries out management tasks, then I call him simply an entrepreneur. If the financer takes an active role in the enterprise's success, meaning that they carry out management tasks in addition to financing, then I call them a venture capitalist. The relationship between the entrepreneur and the venture capitalist is characterised by information asymmetry, which can lead to numerous problems.

The scale of information asymmetry varies across individual markets, but in certain cases may assume dimensions so serious that even a project that would otherwise create value cannot gain financing (credit rationing) (Tirole, 2006). Adverse selection and the danger of double moral hazard both appear in the context of venture capital financing. In the present study I will deal with the problem of adverse selection, examining what kinds of problems Hungarian investors experience in this regard during the decision-making process, and how they manage these in the lead-up to their investment decisions. On the Hungarian market, (non-refundable) state subsidies play a key role – particularly in the case of micro and small enterprises (Bánfi-Boros-Lovas, 2012). For this reason, I will also deal separately with the issue of how, for example, investors' decision-making is influenced by the fact that a given enterprise previously received state subsidies. In preparing this analysis, I carried out a series of interviews with domestic venture capital investors. During my research, I conducted an in-depth interview with a member of the board of directors of each of 10 different Hungarian venture capital investment firms. Seven managers of so-called *JEREMIE funds* took part in the interviews, as well as three members of the management of venture capital investment funds financed purely from private sources. Table 1 reveals the identities of the investors whose opinions are reflected in the results of the interview series.

Table 1
Investors taking part in the interview series
(listed alphabetically)

| Name | Name of venture capital firm | Position |
|-----------------|------------------------------|-----------------------|
| József Berecz | DBH Investment | executive director |
| Viktor Déri | Prosperitás | CEO |
| Csaba Gaál | Core Venture | CEO |
| Viktor Gerő | Central-Fund | partner |
| László Hradszki | 3TS Capital Partners | investment manager |
| András Molnár | PortfoLion | investment manager |
| Tímea Szilágyi | Docler Investments | investment director |
| András Szombati | Primus Capital | investment director |
| Péter Tánczos | Euroventures | chairman of the board |
| Gábor Vitán | Venturio | chairman of the board |

During the research, I primarily sought to reject or confirm the following hypotheses:

Hypothesis 1: An entrepreneur is better informed about the feasibility of a project and their own capabilities.

Hypothesis 2: Venture capital investors filter projects significantly, which is time-consuming and can lead to some good projects slipping through.

Hypothesis 3: The system of state selection is adequate, and the existence of state subsidies is a positive signal to venture capital investors.

The interviews with investors were marked not only by the official positions of the given venture capital funds which I came to know, but also by the personal experiences which the investors shared with me. In this regard, several of the subjects asked that their names should not appear when individual opinions are cited, and consequently I present these investor opinions collectively and anonymously.

2. INFORMATION ASYMMETRY BETWEEN ENTREPRENEURS AND INVESTORS

If every participant holds identical information about the feasibility of an innovation and its likely success, then they are equally informed. It may be assumed, however, that the initiator of the innovation – the inventor or entrepreneur – is better informed about the nature of the idea and its feasibility. In this event, a situation of information asymmetry arises, which has a major impact on the implementation and financing of innovations. In this way, the implementation (and financing) of an innovative idea often gives rise to a problem similar to the classic Akerlof (1970) “market for lemons” model (adverse selection). Investors are cautious because, compared to the entrepreneur, they are less aware of the technical feasibility of the idea. The danger of adverse selection can be particularly acute in the financing of an innovative idea at the initial stage (Alam-Walton, 1995; Hubbard, 1998). In the course of venture capital investments, however, bilateral information asymmetry may even arise, where not only the management of the portfolio company holds an information advantage, but the venture capital investors too. A venture capital investor long active on a certain area of the market may have better information about the potential of the market (Strausz, 2009).

2.1. The features of a project as hidden information

In the case of early-stage, classic innovation, two types of risk can be distinguished. One is the technology risk, which is connected to physical feasibility, and the other the market risk, which relates to financial feasibility. Investors agree that the en-

trepreneur's information advantage may be genuine in the first case. An inventor (for example a physicist) is able to determine whether a given innovation carries technology risks, but within this the scale of the asymmetry is dependent on several factors. For instance, the investor can very easily "catch up" with this technological information advantage because, on the one hand, they may have experience – having already been involved with something similar – while on the other hand, they have experts at their disposal. How significant the information asymmetry is considered to be in the case of various types of innovation also varies from investment firm to investment firm. Experience of earlier investments, or the nature of the corporate group to which the given company has ties, can represent moderating factors.

For this reason, venture capitalists generally specialise in a select number of sectors (e.g. healthcare, information technology) (*Lerner*, 2002). In other words, in certain peripheral, pioneering areas where venture capitalists have no experience, information asymmetry – and thus financing problems (the credit rationing) – may prove greater.

From the market point of view, however, this information asymmetry is no longer as clear-cut. An investor experienced in a given field might be better informed regarding market opportunities than the entrepreneur. While inventors and entrepreneurs possess more information about the innovation itself, generally they know substantially less about its business feasibility and marketing opportunities than the venture capitalist. Consequently, if the inventor in question was working in "laboratory" conditions prior to the given project, then they do not hold an information advantage from the market viewpoint. Moreover, within these parameters it is the investor who holds the information advantage. By contrast, when an entrepreneur working on the launch of an innovative project has already been involved in the given sector for many years, for example as an employee, they may possess more market information than the venture capital investor. Alternatively, a company operating for several years may also harbour other hidden information. For example, it may happen that a customer accounting for a large proportion of revenues has not yet given notice of quitting a long-standing business relationship, but the company management is aware of its intention to do so. In certain sectors, however, venture capitalists are at an information advantage which is not offset by the entrepreneur's better knowledge of their product. Bilateral information asymmetry does not cancel itself out; in other words, it does not resolve tensions, but increases them, so that in the final analysis financing is made more difficult.

For a venture capital investor, the product itself is often not as informative as the person, meaning that from the point of view of the investment decision the person actually implementing the project is more interesting. The venture capi-

tal investor is looking for a person to whom they can give money, in whom they can trust, and who has the ability to successfully implement a high-risk, high-return project. It follows that the main question for the venture capital investor is whether they can sell what the entrepreneur has invented, and whether there is a sufficiently good business expert within the enterprise. Whether it is a start-up enterprise or a larger company, the quality of management is always the important thing to an investor. It is for this reason that there is perceptible information asymmetry, since this is information known primarily to the entrepreneur; while the company management is aware of its own capabilities, this information remains hidden to an external player.

The results of international research confirm this, as the perception of entrepreneurs or management occupies a prominent place among venture capitalists' assessment criteria (*Firgi*, 2014).

On the Hungarian market, however, the problem of adverse selection is further exacerbated by two factors. On the one hand, there is a lack of adequate teaching in Hungary of how to handle errors, which instead people attempt to cover up. By contrast, in America for example, someone who owns up to unsuccessful previous efforts is admired as the kind of entrepreneur who is already aware of where things might go wrong (recognising the mistakes which result in failure), but who demonstrates, by taking new steps, an ability to move forward. On the other hand, within the entrepreneurial class in Hungary, "subsistence start-ups" are still a common occurrence. Sometimes, through no fault of their own, someone is incapable of a task which the management of a start-up demands and is inclined to give up at the first hurdle; and yet a great many people want to launch start-ups these days, diluting the start-up community as a whole.

2.2. Conclusion

The entrepreneur may hold an information advantage regarding the technical feasibility of the project. Innovative start-up companies are less well-informed about market feasibility, while hidden market information is more likely to present a problem for the financer at companies that have been operating for several years. From the point of view of a venture capital investor, however, the capabilities and ambitions of the entrepreneur or management represent the most important information – but this information is less well-known to them than to the entrepreneur. This, however, does not diminish the financing difficulties arising from information asymmetry.

3. STEPS TAKEN BY AN INVESTOR TO REDUCE AN INFORMATION DISADVANTAGE

Analysis of the process of investor decision-making and the criteria for investment decisions already stretches back more than 40 years in the specialist literature (e.g. Wells, 1974; Hoban, 1976; MacMillan et al., 1985; Hall-Hofer, 1993; Fried-Hisrich, 1994; Petty-Gruber, 2011²). In the Hungarian writing on the subject, Ludányi (2001a; 2001b) examined the influence of capital strength and investor background on investors' decisions.

There is agreement in the specialist literature that this is a process of several steps, requiring months (or even years), and that only a small proportion of received proposals win financing (Cumming-Johan, 2009).

Venture capitalists may use a variety of tools to manage a situation of information asymmetry. One is to *completely eliminate* the technology risk, and to be willing to finance an enterprise only if there is already a product that meets a specific market demand and which has already been sold on the market. In this way the investor *transcends* the technological *information asymmetry* by stepping away from financing early innovations, and the credit rationing remains.

The second strategy is *risk reduction*, entailing *preliminary investigation* of the product, project or management. A preliminary investigation and evaluation is particularly important in the case of venture capital investments. A venture capital investor's expected yield is high, with a willingness to invest in high-risk projects, but only provided the potential risks are known. In the opinion of investors, the goal is not to eliminate all risks but to reach a point where there are no hidden risks. Accordingly, the venture capitalist should be familiar with the market for the product, its competitive position, etc.

The first step in the decision-making process, when potential proposals reach the venture capitalist, is the search. According to Tyebjee and Bruno, this is possible in three ways: a) entrepreneurs seek out investors directly (the so-called cold call technique); b) a partner (venture capital investor, bank) recommends the project to an investor; and c) the investor itself carries out an active search strategy (Tyebjee-Bruno, 1984).

Ludányi (2001b) takes the view that from the investor's point of view there is no clear separation between an active or a passive *search process* (actively seeking investment opportunities, as opposed to waiting for the right offer to come in), and that generally investors follow a mixed strategy. The method of searching for opportunities depends on the current stage in the life cycle of the investment

² For an overview of 40 years of international specialist writing on the subject, see PETTY-GRUBER (2011)

company. In the initial stage – due to a less extensive network of contacts – a more active search method is typical, but as time passes the strategy shifts in an increasingly passive direction. *Fried* and *Hisrich* (1994) likewise note that some companies seek out investors themselves with proposals, while learning of other opportunities through recommendations from others. In the latter case, it is noticeable that the rate of rejection is lower than in the former.

In the opinions of investors I interviewed, numerous channels exist today which help potential partners (entrepreneurs and venture capitalists) find each other. According to Hungarian venture capital investors, entrepreneurs seek them out through publicly advertised media (e.g. e-mail, website), via formal channels (e.g. conferences, start-up competitions) or by informal methods (e.g. acquaintances). The results of our interviews show that the domestic market continues to be characterised by a mixed active and passive search strategy.

3.1. Information memorandum and personal meetings

The interviews revealed that as the first step in establishing contact, entrepreneurs draw up an *information memorandum*, which is of key importance from the point of view of a financing decision. Based on these information memoranda, investors filter out more than half of the submitted projects, and on average only 30 out of 100 will earn further attention. Due to the large number of projects up for consideration, little time is devoted to decisions at this stage, with typically only one member of the venture capital firm dealing with each submitted project, which may then only be forwarded to the other members of the firm based on this individual's decision. Both objective and subjective factors may come into play in making a decision. A personal meeting may only be set up if a memorandum has been prepared which conforms to preliminary requirements. An important question relating to the information memorandum is whether the given project fits the venture capital firm's profile and advertised strategy. Among the conditions of a JEREMIE capital fund are the conditions for entry into a JEREMIE programme.³ There are certain lines of business in which venture capital firms do not like to invest; for example retail, where there is no added value, or construction, where resoundingly successful projects cannot be implemented.

We may call this the *pre-qualification stage*, which the specialist literature confirms as the stage for screening the fundamental characteristics of a project – such as size, geographical location and financing level – which the investor expects from the portfolio companies (*Tyebjee-Bruno*, 1984). At this stage, however, only the

³ Entry conditions for the JEREMIE programme can be read, for example, in the study by LOVÁS-RÁBA (2013).

company is examined while the proposal itself is not yet evaluated; typically at this point, the business plan is given only a superficial inspection (*Fried-Hisrich*, 1994). The next critical point is the *first meeting*. If the memorandum suggests the business may be interesting, a personal meeting helps to validate and better understand this, as well as to get to know the entrepreneur. The venture capitalist will gauge whether cooperation is conceivable for a period of 6–8 years, and if a viable “chemistry” exists; for example, they will look at how the entrepreneur’s office is furnished, and how they dress, behave and communicate. Given that a venture capital investment entails a long-term commitment requiring continuous cooperation, it is very important that the parties can work together satisfactorily.

If the entrepreneur has the requisite experience, or is at least amenable, then the parties will agree on how to progress, albeit still without making any promises. So begins the *negotiation process* in order to draw up a business plan on which both parties can agree. This stage is seen in the specialist literature as the *proposal assessment and project evaluation stage* (*Zacharakis-Shepherd*, 2001). The goal of this phase of discussions and conciliation in the process leading up to an investment is, on the one hand, for the parties to get to know each other better; and, on the other hand, to test and jointly revise the business plan. During this process the primary focus is on the entrepreneur, with the market only a secondary issue. Investors look at the entrepreneurs’ capabilities, how they behave in difficult situations, and how they and their colleagues manage conflicts.

The venture capital investor will now start to familiarise themselves with that they have seen in the entrepreneur’s presented materials and during the personal meetings. For the investor, the internet is one of the best sources for this these days. In addition, investors expect information from the entrepreneur during this phase. Typically the task of acquiring this information is carried out by investors in-house, and an external expert will only be invited if some special technical issue needs clarification.

3.2. Investment proposal and due diligence

The negotiation process, typically based on a decision by the investment committee or board of directors, culminates in a declaration of intent (term sheet), which contains the main conditions for the investment; namely, the sum of money to be put in by the venture capital investor and the attached conditions. The signing of a term sheet is likewise a significant point in the decision-making process, offered to approximately 10% of incoming projects. Before it is issued, investors generally request exclusivity for a specified period, meaning that they will only sign a term sheet with those who commit themselves to not negotiating with other venture capital investors.

Once the term sheet has been signed, the earlier negotiation process resumes, but now the investors not only screen the entrepreneur, but also begin preparations for the parties' joint cooperation. During the term sheet phase, the investors initiate an official screening or *due diligence* procedure. Due diligence is essential, as before carrying it out the investor will typically have been guided only on the basis of information gathered from the internet, acquaintances and the actual entrepreneur. The work of due diligence is almost always carried out with the support of an external team or outside experts, who conduct a thorough screening in the *legal, financial, business and tax* spheres. This is also often complemented by a *management audit*, where the management's capabilities and techniques come under the microscope. Moreover, in countries where it is more difficult to screen entrepreneurs, a *background check* may also be conducted (to determine, for example, the entrepreneur's integrity or whether there may be shady dealings in their past). A check like this is easy to carry out in Hungary (e.g. on Facebook or Google), but not so easily in Bulgaria, for example, where a specialised firm may be required to complete the task.⁴

The issuing and signing of a term sheet, aside from the official due diligence process, is an important milestone because it signals a change in the roles played by the entrepreneur and the venture capital investor in the investment negotiations. At the start of the whole process, when introductions take place and initial negotiations begin, the entrepreneur outlines the project with the intention of convincing the investor to take part. By submitting the term sheet, the venture capitalist sets out their financing package with the intention of having the entrepreneur accept the conditions contained therein. In the preceding stage of the process, few entrepreneurs question or take an interest in the whys and wherefores of the investment structure, and consequently the arrival of the term sheet leads to a perceptible wavering on the part of entrepreneurs. It is here that they face up to what it actually means for a venture capital investor to finance an enterprise, what obligations must be undertaken and what strict sanctions may be imposed for failure to adequately execute the project. It is not uncommon for the entrepreneur to beat a retreat on receiving the term sheet, and for every 10 term sheets issued, an average of only seven investment contracts are concluded.

If the time frame for making contact between the investor and the entrepreneur was typically 1–2 days, meaning that entrepreneurs would reckon on a two-day response time and another two days to receive feedback and tasks, then the entire process leading up to the investment itself would require approximately three months. The time required for each of these steps, however, is more typically two weeks, so that it is very rare indeed for the due diligence process to be completed

⁴ E.g. Control Risks Group (<http://www.controlrisks.com/>)

within six months. The long period is also necessary in order for the parties to get to know each other better, since a venture capital investment is “a marriage where the parties know they’re going to have a child together, and they also know that it will end in divorce” (as one investor put it). Investors should therefore not decide within only a couple of days that they need to collect the majority of information so quickly. In the case of a seed and start-up investment, this period may be shorter (3–4 months) because the company has no or only a very brief history, meaning that due diligence requires less time and it may not be necessary to involve an external service provider in screening every sphere.

3.3. Conclusion

Venture capital investors apply strict objective and subjective requirements, devoting considerable efforts to screening companies. The process is lengthy and a significant number of projects do not receive financing.

4. EVALUATING STATE INTERVENTION FROM AN INVESTOR’S VIEWPOINT

State support for the processes of research, development and innovation receives a great deal of attention at both the national and international levels. Varying tender or financing opportunities have appeared from country to country, or from programme to programme, ensuring numerous possible sources of funding for developing companies (*Walter, 2014*). On the Hungarian market – or more precisely among Hungarian companies – non-refundable state or EU funding plays a dominant role. For example, in the period from 2008 to 2011, close to 50% of enterprises carrying out innovations received subsidies, while in 2011 two-thirds of company managers planned to submit tenders (*Bánfi–Boros–Lovas, 2013*).

Due to the ubiquity of tenders, a venture capital investor has a good chance of meeting a company manager who has already applied in a tender before, or who has received a non-refundable subsidy. During my research, I thus placed an emphasis on gauging the opinions of venture capital investors regarding entrepreneurs who had already received such support.

While examination of the impact of state subsidies or intervention has served as the basis for numerous research studies, few have approached an investigation of the topic based on information asymmetry (*Karsai, 2012*). *Takalo and Tanayama (2010)*, for example, dealt with the issue from the point of view of contract theory, demonstrating that the existence of state subsidies is a positive thing because it reduces the entrepreneur’s financing deficit and can serve as another positive sign

to investors. The latter authors are active in the Scandinavian region and presumably used their experiences on that market as their model. The question is: What do investors think about state subsidies on the Hungarian market, and does their existence contribute to reinforcing or rejecting their investment decisions?

In the view of most investors, for as long as the precise details are unknown, the question of whether or not a given entrepreneur has received state support has a neutral impact on their decision. It can also be regarded as neutral because the criteria for evaluation of tenders at state organisations are different, while often tender conditions do not match the investment goals of a private investor. For example, the state's goal may be to bring about mass production from a prototype, or to provide work for 15 researchers at a research facility, or to generate jobs in a socially disadvantaged region. The target companies often do not fit the profile because the tender requirements conflict with their investment policy (e.g. a JEREMIE venture capital fund may not invest in a firm more than five years old, while a tender may state that it must have completed at least two business years).

4.1. State support as a positive sign

On the one hand, the existence of state support indicates to the investor that the entrepreneur was able to win a tender. This is a positive thing considering that tenders require applicants to state the use for which the money is intended. In other words, once something has passed a selection process, it means that the company's team has successfully convinced someone of its worth. State support makes the venture capital investor's task of analysing easier because they do not have to start their evaluation and draw up a business plan completely from scratch. At the same time, the winning of state support also means that the company's management was able to put together a good tender document and is therefore skilled in handling and writing tenders.

Subsidies are typically non-refundable, and so represent a cheap source of funding. If the company uses this money for useful projects, this is positive. The cheap funding is also favourable from the investor's point of view since it constitutes leverage (a higher yield can be attained on own resources than without subsidies), does not have to be paid back, and is very favourable if it coincides with the company's development goals (anyway also a requirement of the venture capital investor). For example, it is a requirement at certain companies that possible sources of funding and potential tender opportunities be explored. But if none yet exist in a project, and are only planned, then for the time being the investor will not factor these into the project. If the entrepreneur does not receive subsidies after all, and money runs out during the investment process as a result, then this would be one of the worst outcomes for the investor. Consequently, plans are made that omit

potential subsidies, so that if this surplus comes in after all then it spells very good news for the investment (but is still not included among the decision criteria).

Venture capitalists are often only willing to invest (avoiding the technology risk) if the development process is already complete or if the entrepreneur has already performed on the market; in other words, if sales of the product have already occurred. Tenders are often instrumental in a project reaching this phase. Consequently, state support is a positive sign as it indicates that the project is at an advanced stage. Indeed, in this regard we should mention purely state-owned venture capital funds (e.g. Széchenyi Capital Fund Management), as well as enterprise development bodies (e.g. the Regional Development Holding). In the initial phase of Hungary's venture capital sector, the majority of investment projects drew on government resources (*Karsai*, 2002), and until the early 2000s funds typically only specialised in major investments. In 1998, the government established Small Enterprise Development Financial Ltd., which by 2003 handled 65 small start-up investments, making it the market leader on the venture capital investment market (though it was not termed a capital fund). Even today the state maintains a noticeably prominent role in early-stage investments, with almost 40% of such investments implemented by state-owned companies (*Karsai*, 2002). For this reason, the participation of the state as a previous financer is favourable for the venture capital investor since it may mean that the company has already completed early-stage developments.

4.2. State support as a negative sign

In itself, the existence of state support also carries risks. The winning of tenders is conditional upon the undertaking of various obligations which do not always conform to the company's optimal operating policy. For example, a company may be obliged to employ at least 10 people when it could operate efficiently with an optimal staff of only four; or be required to reach revenue growth in the initial stage which cannot be accomplished during the phase of R&D and project implementation.

In addition, the entrepreneurial culture may be adversely affected if subsidies have accounted for a high proportion of revenues. Suspicions may arise if an enterprise has hitherto only brought in predominantly state or EU revenues. Subsidies have the strange effect on companies of placing them in a partial virtual reality. This is fine (comfortable) for the people working there, but it distances the company from the given sector and market environment, and calls into question whether it will survive in a market situation. Consequently, state subsidies in an enterprise can ring alarm bells if we are talking about a built-in dependence, if an entrepreneur is living off tender funds, or if they are accustomed not to satisfy-

ing the demands of the market but to merely keeping people in employment or disseminating knowledge. One Hungarian entrepreneur expressed a strikingly extreme opinion in this regard, saying: "Public money distributed on the basis of no matter what clever criteria can also harm enterprises" (Bojár, 2013). The state behaves differently from a market player. It distorts the corporate culture, sales strategy, and through this everything up to and including production. The market is able to provide confirmation in the long term, but state subsidies isolate the entrepreneur from it. When a venture capital investor enters an enterprise, the expectation is that the company must be able to differentiate itself on the international stage, to sell its products abroad and to attain the best possible market positions. But if the recognition seeps through the company's culture that it subsists not on money from the market but from tender funds, then it will be incapable of accomplishing these goals.

4. 3. Conclusion

In the opinion of investors, the assessment of state subsidies depends on a number of factors. Overall two of the 10 interview subjects judged that subsidies send out negative signals, while three gave them a positive and five a neutral assessment, albeit with reservations. On the Hungarian market, state subsidies have had a characteristically negative effect because they can distort the entrepreneurial culture and impede an enterprise's ability to operate under market conditions. At the same time, the general opinion of state support reflects the latter's impact not only with regard to adverse selection but to the moral hazard as well. While hidden information (on features of the project and the company, the capabilities of the entrepreneur and management) represents the problem with adverse selection, in the case of the moral hazard it is hidden action (where the work of the entrepreneur and management cannot be fully observed and supervised). Distorted behaviour due to the involvement of state subsidies may thus magnify the problem of the moral hazard.

5. SUMMARY

Compared to the financing of a traditional business project, the financing of innovation has numerous characteristics which can encumber, and often even thwart, the implementation of innovative projects. One of the main problems is the occurrence of information asymmetry between entrepreneurs and venture capital investors. This range of issues was the focus of the present research, the findings of which are as follows.

Hypothesis 1 was partially confirmed, meaning that entrepreneurs are at an information advantage. However, this information advantage applies mainly to technical feasibility, and the situation may be reversed when it comes to the market feasibility of a project. A clear information asymmetry may come about in relation to the entrepreneur's capabilities and the management of the company concerned.

Hypothesis 2 was confirmed. Venture capital investors make use of their own resources, or involve external experts, in order to thoroughly scrutinize and familiarise themselves with entrepreneurs and projects. A process of several months is required in order for a venture capital investor to reach an investment decision.

Hypothesis 3 was partially rejected. On the one hand, conditions of government tenders often do not coincide with the conditions for market investment. On the other hand, in many instances state subsidies distort the corporate culture, so that the existence of state support may even send out negative signals. At the same time, state support may have a positive effect as it may also indicate that the management has been able to put together a good tender and the company has thus secured cheap funding.

REFERENCES

- AKERLOF, G. A. (1970): The Market for 'Lemons': Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics*, Vol. 84, No. 3 (Aug.), pp. 488–500.
- ALAM, P. – WALTON, K. S. (1995): Information Asymmetry and Valuation Effects of Debt Financing. *The Financial Review*, Vol. 30, No. 2 (May), pp. 289–311.
- BÁNFI, T. – BOROS, Á. – LOVAS, A. (2012): The sensitivity of company managers to innovation, their approach and intentions – survey results. *Vezetéstudomány*, 43:(3) pp. 2–18.
- BOJÁR, G. (2013): The State and Innovation – A bad combination? Online, *Napi.hu*, http://www.napi.hu/allaspont/bojar_gabor_az_allam_es_az_innovacio_%E2%88%92_rossz_parositas.547297.html – downloaded 24 June 2013.
- CHIKÁN, A. (2008): *Vállalatgazdaság* (Business Economics). Aula Kiadó, Budapest.
- CUMMING, D. J. – JOHAN, S. A. (2009): Venture Capital and Private Equity Contracting: An International Perspective. Academic Press, Oxford.
- FIRGI, R. (2014): The decision process of venture capitalists. Thesis submitted at Corvinus University of Budapest.
- FRIED, V. H. – HISRICHL, R. H. (1994): Toward a Model of Venture Capital Investment Decision Making. *Financial Management*, Vol. 23, No. 3, pp. 28–37.
- HALL, J. – HOFER, C. W. (1993): Venture Capitalists' Decision Criteria in New Venture Evaluation. *Journal of Business Venturing*, Vol. 8, No. 1, pp. 25–42.
- HOBAN, J. P. JR. (1976): Characteristics of Venture Capital Investments. Unpublished doctoral dissertation: Utah, The University of Utah.
- HUBBARD, R. G. (1998): Capital-Market Imperfections and Investment. *Journal of Economic Literature*, Vol. 36, No. 1 (March), pp. 193–225.
- KARSAI, J. (2002): What is the state doing on the venture capital market? *Közgazdasági Szemle*, Vol. XLIX (November), pp. 928–942.
- KARSAI, J. (2012): The new kings of capitalism. *Közgazdasági Szemle*, Budapest.
- KORNAI, J. (2011): Thoughts on Capitalism. Akadémiai Kiadó, Budapest.
- LERNER, J. (2002): When Bureaucrats Meet Entrepreneurs: The Design of Effective 'Public Venture Capital' Programmes. *The Economic Journal*, Vol. 112, No. 477 (Feb.), pp. F73–F84.
- LOVAS, A. – RÁBA, V. (2013): The state's role in financing start-up companies. *Hitelintézet Szemle*, 12:(5), pp. 353–370.
- LUDÁNYI, A. (2001a): The influence of capital strength and the founder's background on the investment behaviour of venture capital organisations – I. *Közgazdasági Szemle*, Vol. XLVIII, No. 7, pp. 659–672.
- LUDÁNYI, A. (2001b): The influence of capital strength and the founder's background on the investment behaviour of venture capital organisations – II. *Közgazdasági Szemle*, Vol. XLVIII, No. 8, pp. 779–797.
- MACMILLAN, I. C. – SIEGEL, R. – SUBBA NARASIMHA, P. N. (1985): Criteria Used by Venture Capitalists to Evaluate New Venture Proposals. *Journal of Business Venturing*, Vol. 1, No. 1, pp. 119–128.
- PETTY, J. S. – GRUBER, M. (2011): "In Pursuit of the Real Deal": A Longitudinal Study of VC Decision Making. *Journal of Business Venturing*, Vol. 26, No. 2, pp. 172–188.
- SCHUMPETER, J. A. (1980): Theory of Economic Growth. Közgazdasági és Jogi Kiadó, Budapest.
- STRAUSZ, R. (2009): Entrepreneurial Financing, Advice, and Agency Costs. *Journal of Economics & MANAGEMENT STRATEGY*, VOL. 18, NO. 3 (SEPT.), PP. 845–870.

- TAKALO, T. – TANAYAMA, T. (2010): Adverse Selection and Financing of Innovation: Is there a Need for R&D Subsidies? *The Journal of Technology Transfer*, Vol. 35, No. 1, pp. 16–41.
- TIROLE, J. (2006): The Theory of Corporate Finance. Princeton University Press, Princeton, New Jersey.
- TYEBJEE, T. T. – BRUNO, A. V. (1984): A Model of Venture Capitalist Investment Activity. *Management Science*, Vol. 30, No. 9, pp. 1051–1066.
- WALTER, Gy. (2014): State subsidies. In: Walter, Gy. (ed.): Corporate financing in practice: Opportunities and decisions on the Hungarian market. Budapest, Alinea, 2014, pp. 211–224.
- WELLS, W. A. (1974): Venture Capital Decision-Making. Unpublished doctoral dissertation. Pennsylvania, Carnegie Mellon University.
- WILSON, C. (1977): A Model of Insurance Markets with Incomplete Information. *Journal of Economic Theory*, Vol. 16, No. 2 (Dec.), pp. 167–207.
- ZACHARAKIS, A. L. – SHEPHERD, D. L. (2001): The Nature of Information and Overconfidence on Venture Capitalists' Decision Making. *Journal of Business Venturing*, Vol. 16, No. 4, pp. 311–332.
- ZSEMBERY, L. (2012): The relationship between the venture capital market and innovation. Hungarian Private Equity and Venture Capital Association (HVCA), conference on the financing of innovation, 6 September 2012.