Patrícia Becsky-Nagy – Balázs Fazekas

Investment or Learning Curve?

The effects of EU and government funds on the development of the Hungarian venture capital market

SUMMARY: With the appearance of the Jeremie venture capital programme in 2010, financed by EU and Hungarian government funds, a highly crucial factor of the start-up ecosystem received funds of approximately HUF 130 billion. The present paper examines how effective the Hungarian venture capital market can be in enhancing the financing prospects of young and innovative firms through the increase of government and EU resources, and what opportunities and limits the government's participation in the venture capital market provides. Our conclusion is that the Jeremie programme could be a forward-thinking initiative towards an efficient venture capital market, which in turn is an essential element of creating successful startups at an industry level, but at the same time, the development of the ecosystem surrounding affected businesses is also necessary in the long run. Taking the characteristics and features of this ecosystem into consideration enables us interpret the development as well as the limits of the Hungarian venture capital market.

KEYWORDS: venture capital, government funding
JEL CODES: G24, H54

In Central and Eastern Europe, venture capital financing has always lagged behind the advancement of developed countries so in comparison, this particular type of financing is still in its infancy in this region. In the interest of the development, convergence of this sector, government incentives gained an ever increasing role in Europe and the presence of the state strengthened on the market (Karsai, 2013). While in the period prior to the crisis, government-backed funds gave 14 percent of the capital injected into the industry, 40 per cent of the funds newly set up in 2013 had relations with government bodies, particularly in the Central and Eastern European region (EVCA, 2014).

The question is whether developing venture capital markets that are still in their growing phase can contribute efficiently to the funding of innovative, young businesses with high growth potential if the role of government strengthens. This article examines the means of active and passive government participation as well as the impact of hybrid funds that combine market and government funds and that have dominated the Hungarian venture capital market since their appearance in 2010. In our opinion, while hybrid funds can be considered a step forward in the role of government, compared to fully market-backed funds, they are less efficient in bridging funding gaps and in supporting young, innovative enterprises. Consequently, it is the catalysing role of hybrid funds that should be emphasised, they are not able to address the problems of the venture capital market in the long run.

E-mail address: becsky.nagy.patricia@econ.unideb.hu

ACTIVE GOVERNMENT PARTICIPATION IN THE VENTURE CAPITAL MARKET

When the government assumes a role, it presumes the existence of funding gaps and aims at bridging these gaps through government assistance. A funding gap is the difference between the demand and supply of financial funds (Nagy, 2004; Szerb, 2006) and it occurs when a given circle of companies is unable to raise sufficient funds and the pertaining enterprises are unable to finance their operations and growth. Such a gap may develop at young, innovative, technology-driven enterprises which, due to informational imperfections and high business risks, lose their financing sources. The reason for the funding gap is the equity gap derived from the imbalances of capital demand and supply, on the one hand, and the information or knowledge gap stemming from information asymmetry, on the other (Harding, 2002; Nagy, 2004).

The government is actively participating in the venture capital industry when it increases venture capital supply i.e. it invests budget resources in capital-deficient, innovative, technology-intensive small enterprises through state-owned investment firms or funds (Karsai, 2007; Karsai 2014). The active role of the state as a financier is based on the presumption that young, innovative enterprises do not get sufficient funds due to market imperfections, i.e. it assumes a problem with capital supply. Imperfectly informed players and the lack of appropriate institutional investors may lead to market imperfections and may also render active government participation necessary.

The most important argument for active government participation is that it sustains small enterprises that drive innovation, generate economic growth and create new jobs (OECD, 2006) because the private sector does not provide enough capital for their survival. The role of the state is to identify investments with high social benefits and contribute to their survival with its assistance (Lerner, 1996). Due to the external nature of new knowledge or information derived from innovative activity, the usefulness of market participants may increase (Arrow, 1962).

In relevant literature, an ever increasing number of researchers have brought up counter arguments against active government participation and by now it has become certain even in practice that this cannot lead to a general success in venture capital funding. According to researchers, the objective of maximising exchange gains is violated in the case of direct government investments (Gompers, 1995). Additional cons against direct government participation state that government players are not able to control management appropriately i.e. the state is present in the ownership structure as a silent investor. Due to the lack of control, it is unclear whether the use of funds serves the specified goals and since selection by the market does not work here, several similar funding can be provided simultaneously (Devenow – Welch, 1996).

Informational imperfections affect the financing opportunities of young, innovative enterprises as well as venture capital investments in a complex fashion. However, the question arises that if market participants are unable to resolve information issues, why the government would be able to do so. Ludányi (2001) and Karsai (2007) point out that the appearance of the government as an active investor may distort the market. The reason for this is that government bodies can bridge information problems less efficiently than market investors and they have less experience in the identification of enterprises suitable for investment, as a result of which their venture capital investments will lead to a less efficient capital allocation. The problem of adverse

selection may increase further if, as a result of weak investments, the group of companies intended to be supported will receive a more negative evaluation than before the government intervention.

The management of the information issues following the investment is realised through the active participation of venture capitalists and the application of other means of risk management. In addition to the capital made available, market investors support portfolio companies in the utilisation of their growth potential with their expertise, closer cooperation with the portfolio enterprises and by making their network available (Becsky-Nagy, 2008). In contrast, government-backed venture capital funds are able to improve the situation of portfolio companies primarily by providing funds but participation in their operation and the support of business decisions are less successful (Schilder, 2006), thus they are not efficient enough in the management of business risks and the resolution of information issues, either. International experience supports the weak performance of government-backed funds. Based on the examination of *Luukkonen et al.* (2013), government-backed funds lagged behind fully market-backed funds in the changing of the composition of management, the appointment of managers, the preparation of exits and the promotion of growth. *Murtinu* and *Grilli* (2014) point out in their paper that no significant growth is observed at enterprises financed by government-backed funds, neither in terms of sales, nor in the number of employees.

PASSIVE GOVERNMENT PARTICIPATION IN THE VENTURE CAPITAL MARKET

The situation of young, innovative enterprises cannot be improved solely through active government participation. So far experience shows that intervening on the side of supply is only the treatment of symptoms because in itself, it will not solve the fundamental problem on the demand side which states that the number of innovative enterprises eligible for receiving venture capital is too few. As opposed to active government participation, passive means that aim at developing the ecosystem of enterprises are gaining more and more ground. It is an increasingly widespread view in literature that the problem of the European venture capital sector is not just the lack of funds, the deficiencies of the demand side are also posing limits and barriers (Veugelers, 2011; Murray et al., 2012). However, in the absence of enterprises with a significant growth potential, the raison d'etre of government funds is also questioned and it threatens with the less efficient use of funds (Murray et al., 2012).

Passive government participation provides a stable economic and political environment which contributes to the improvement of the entrepreneurial and investment mood. By establishing a favourable economic environment, the government can help multiply the number of companies which use new technologies and which can be eligible for venture capital financing (Mason – Harrison, 2003). The task of the state is to decrease regional (country) risk which could have a great impact on the encouragement of investments. Based on the opinion of *Gompers* and *Lerner* (1999), the most important factors are the generation of high GDP and a high level of governmental R&D expenditures. Institutional and statutory conditions should also be created along with the launching of innovation and enterprise-incentivising programmes. Karsai's (2002) study points out that the government should assume a significant role in the support of business angels and incubation centres in order to bridge the funding gap. The government also has an additional important role in

facilitating the development of the primary and secondary capital market (Ludányi, 2001; Lerner, 1996). *Lawton* (2002) emphasises the importance of information provision, so that the lack of trust in the venture capital industry is mitigated.

Tax allowances available for investors support the development of innovative, technology-driven enterprises and the function of classic venture capital in a passive manner, along with the state guarantees aiming at mitigating risks in the case of loans provided for small enterprises and capital investments (Oakey, 2003).

The venture capitalisation of small enterprises is affected passively when the government provides non-reimbursable subsidies for the financing of research and development and innovative activities but from the perspective of enterprise development, it qualifies as active participation. The government assumes a similar role when it offers tax allowances or subsidised loans for enterprises under conditions more favourable than those of the market in order to encourage innovative activities.

Table 1 summarises the factors and economic policy instruments listed in literature which influence the operation and efficiency of the venture capital market. It is obvious that the government has a wide range of instruments for both innovative enterprises and

Table 1

PASSIVE AND ACTIVE GOVERNMENT PARTICIPATION IN THE VENTURE CAPITAL INDUSTRY

Passive government participation in the venture capital industry		Active government participation in the venture capital industry
Passive government participation in the funding of technology-driven small enterprises	**Active government participation in the funding of technology-driven small enterprises**	
1. Stable economic environment 2. Stable political environment 3. Mitigation of country risks 4. High GDP 5. High public R&D expenditure 6. Environment favourable for innovation 7. Environment incentivising entrepreneurial activities 8. Institutional and statutory conditions 9. Support by business angels 10. Support by incubators 11. Facilitating the development of the capital market 12. Tax allowance for investors 13. Government loan and capital guarantees 14. Training, education 15. Improvement of entrepreneurial culture 16. Promotion of information flow	1. Non-reimbursable government grants for innovation and research and development 2. Tax allowances for innovation and research and development activities 3. Subsidised loans for the implementation of innovative and research and development activities	1. Investment of budget resources in venture capital funds 2. Management of venture capital funds created from budget resources

Source: Authors' own editing

the venture capital market, and as for active participation, its indirect role in the given areas is also decisive. The reason for this is that venture capital financing is an element of a system, or as it is more often referred to these days, the startup ecosystem, and it is interdependent with the factors shown in Table 1.

CHANGE OF APPROACH IN GOVERNMENT PARTICIPATION – HYBRID FUNDS

The government can only fulfil its venture capital market developing function efficiently if it directs the market towards efficiency and long-term stability by distributing risks, letting market selection take its course and investing under market conditions while ensuring the sector's self-financing in the meantime. Nevertheless, the presence of the government on the venture capital market as an active participant is only justified temporarily. Consequently, its exit strategy also has to be elaborated (Fazekas, 2014). The question is whether market players are willing to participate in venture capital funding in the long run and whether new investors and venture capital firms emerge. This can be realised if the government helps turn the attention of venture capital investors to the transactions that are key for the development of the industry and also assists the enterprises to prepare for receiving the investments. The role as a catalyst in the development of the venture capital sector and the improvement of the investments' ecosystem are the litmus tests of the programme's success. On the supply side, the learning process of market participants forms part of this development along with the enhancement of the companies' marketability and their preparation for receiving the investments which will lead us to the area of passive government participation. The change of approach represented by hybrid funds managed by market players, which combine the instruments of active and passive government participation and, consequently, market and government resources, provides capital in the area of active government participation while it passively, through the use of incentives, guarantees the involvement of market players and thus the appearance of market evaluation. With the involvement of market players and the harmonisation of the interests of public and private equity investors, the competencies and the market approach necessary for investment management can also be utilised. The investors of the private sector have sufficient experience in supporting the growth of portfolio companies. Thus, the formerly mentioned weakness of active participation that arises in venture capital funding in the area of the selection and management of enterprises can be eliminated. In addition to regulating investment policies, the assumption of losses also helps the targeted group of companies, which would not be able to increase their capital under market conditions, in receiving venture capital, and it can also result in the decline of the quality of companies selected for funding.

GOVERNMENT PARTICIPATION IN THE VENTURE CAPITAL SECTOR AND THROUGH THE EXPERIENCES OF THE DOMESTIC JEREMIE PROGRAMME

In Europe, after the 2008 crisis, the role of private funds decreased significantly in venture capital financing, leading to an increase of the weight of government-backed funds, but the participation of private equity funds seemed to increase once again in 2012. The funding gap affecting the financing of small and medium-sized enterprises, which have a great growth potential in the region, proved to be a serious problem compared to the European average. The crisis made the problem even worse, but at the same time EU funds tried to make up

for the lack of classic venture capital (Karsai, 2015). For this reason, nearly half of the capital collected for this purpose was composed of government funds. This was also the trend in Hungary, owing to the Jeremie programme.

The funds of the domestic venture capital programme which utilised EU Jeremie funds started their operations in 2010. Hybrid funds, which combine EU, government and private funds were established within the framework of the programme but their management is the responsibility of market investors. The investors of hybrid venture capital funds supported from domestic Jeremie funds enjoy both the benefits of the fact that the government assumes some of their losses and a higher share of profits. The funds that can be won through tenders as part of the programme make up 70 per cent of managed funds, thus high leverage can be achieved for private market investors which points towards higher risk assumption.

In addition, the funds have to undertake to invest 80 per cent of their capital which, in light of fund management and operating costs, represents the full available capital. This commitment by the funds can also have a distorting effect and may result in the financing of less growth-oriented enterprises. At the same time, the obligation to invest the accumulated capital can have an incentivising effect on the diminution of the information asymmetry predominating in the market, since the population of potential portfolio companies has to be explored for the realisation of the investments. In addition, the promotional activity related to the programme improves the informed status of the demand side in respect of the form of financing.

Since the start of the programme in 2010, a significant number of enterprises have been invested in (nearly 150)[1]. We need to emphasise that the Jeremie funds have not reached even half of their term, and a significant portion of the funds created within the Jeremie programme have still not appeared on the market actively, nevertheless, certain individual characteristics of the operation of the hybrid funds have become visible.

The advantage of the Jeremie programme is that the sharply increased amount of capital flowing into the sector enables small and medium-sized companies with a great growth potential, which in the past were not eligible for venture capital investment and bank lending due to the lack of securities, to receive a sufficient amount of capital. The nearly 150 enterprises that were examined for the most part have a technical or IT profile, while there were also investments in the area of medicine and healthcare as well as biotechnology. The involvement of market participants clearly helped technology-driven, innovative enterprises, which are the targets of classic venture capital financing, to receive funds.

As mentioned before, the regulation of funds' operation and the various incentives may have a distorting effect during the evaluation, thus exit is considered as the real market measure not only in the case of individual enterprises but of the sector as a whole as well. The number, value and methods of exit show the level of development of the venture capital market (Becskyné, 2006). According to the earlier results of *Brander* and *Hellman* (2010), the chance for a successful exit from the enterprises decreases if government-backed funds acquire large ownership share and control, while as minority shareholders, they can increase the possibility of a successful exit. In contrast, investors clearly aimed at acquiring a majority share in the enterprises participating in the domestic Jeremie programme, thus the owners can exercise control over the company. Additionally, in the case of the hybrid funds, the active participation of investors is indicated by the use of preferential shares which is widespread in international practice.[2]

Although in the past we saw examples of

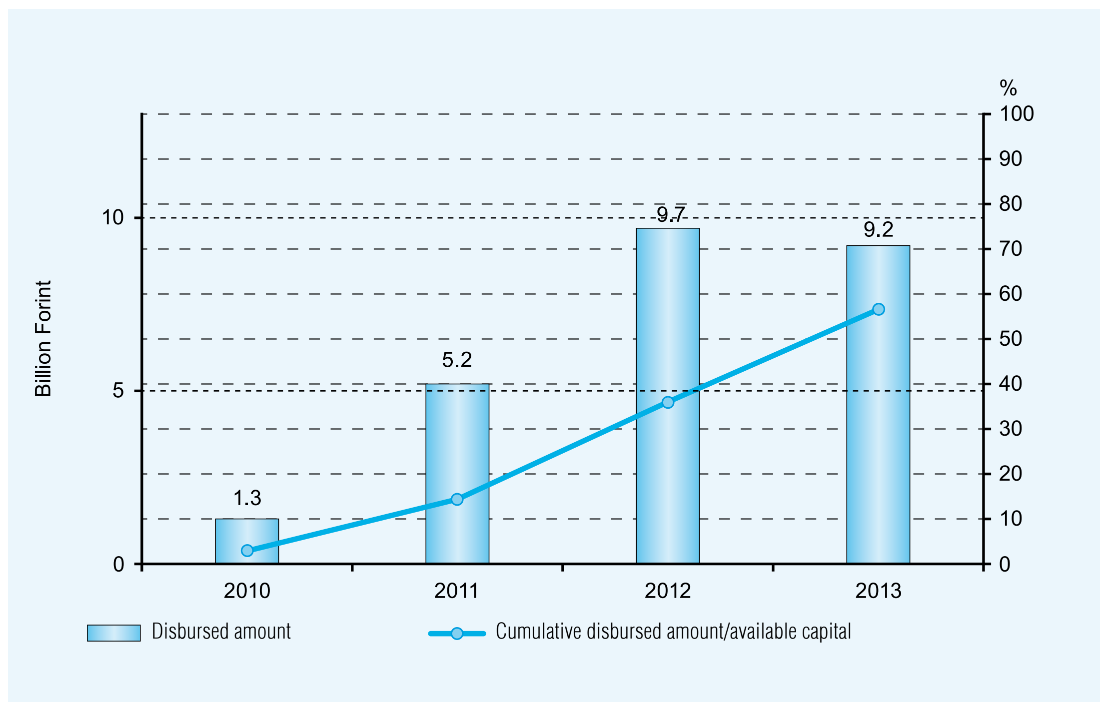
exits through the stock exchange by enterprises that received local venture capital investment, due to the relatively underdeveloped state of the domestic primary and secondary capital markets, this method of exit is less available for Hungarian investments. The chance of the further financing of the growth phase by involving financial investors or selling to them diminished in light of the fall of the potential investment capital available for Central and Eastern Europe, which continued to shrink in 2013 despite the fundraising in the European Union (Karsai 2014; Karsai 2015). In the case of domestic venture capital investments, selling to strategic investors is the primary opportunity for exit.

Until the date of this article, only a few successful exits from the investments of Jeremie funds have been recorded.[3] The lack of successful early exits is in line with the international experience that if government-backed funds have a large share, investors will find it more difficult to sell their shares in the enterprise, while it may also imply the low quality of realised investments. Although it is a fact that the Jeremie venture capital funds are still at the beginning of their operation, and as such no definitive conclusions can be drawn based on the results so far, nevertheless, an increase in the number of successful exits could greatly contribute to the involvement of investors in additional sectors.

Chart 1 contains the changes in actual investments at the first-round Jeremie funds

Chart 1

THE AMOUNT* DISBURSED BY JEREMIE I FUNDS, IN HUF BILLION AND AS A PERCENTAGE OF THE CAPITAL OF THE MANAGED FUNDS, 2010–2013



* The disbursed amounts contain the growth in the subscribed capital and capital reserve of the portfolio companies as in the balance sheet. Consequently, the data disclosed by us for the disbursed amount may exceed the actual amount of the disbursement.

Source: Authors' own editing based on the data of the financial statements of the portfolio companies

between 2010 and 2013. Clearly, funds invested the highest amounts in 2012 and 2013. The investment phase of the funds that started their operation in 2010 was the end of 2013 in the original invitation for tender, while by the end of 2013, less than 60 per cent of the capital was actually disbursed as opposed to the 80 per cent that was undertaken. On the one hand, the slow investment of funds can indicate the lack of companies ready for investments. On the other, the regulation of investment policy may also contribute to slow capital investment. Although the investment period was extended until the end of 2015, the investment of total assets is not likely. In 2014, there were only a few investments into new companies, and the size of the portfolio of the various funds is between 10–15 companies which is the upper limit of manageable portfolio size.

The slow pace of capital placement also indicates that there are either not enough innovative companies for investors or they are not available to investors or are not ready to receive venture capital investments. Information issues significantly diminish the chances of domestic enterprises of gaining access to venture capital (Becsky –Nagy, 2014).

It is not only the imperfections of the market that have led to the diminishing of funds available for innovative, young enterprises but the underdevelopment of the given circle of companies and their deficiencies have also contributed to the fact that investors failed to show up in greater numbers on the domestic venture capital market. In this sense, there is no funding gap since such gaps assume the existence of marketable enterprises eligible for financing. Having surveyed the situation in Hungary, based on the estimates of *Szerb* (2009), only a fraction of the local enterprises, approximately 400–600, may have been suitable for venture capital investment in 2009. In the case of the local venture capital market and the startup ecosystem, the lack of support by business angels and incubators is a deficiency directly related to this problem along with the low level of information flow between market participants (Becsky–Nagy, 2013). In respect of venture capital, these factors are significant because they play a priority role in making the enterprises capable of receiving investments and in reinforcing market orientation.

CONCLUSIONS

The paper examined the efficiency of the use of EU and government funds on the venture capital market along with its impact on the development of young, innovative enterprises. In the Central-Eastern European region, including Hungary, the temporary participation of the government is needed to improve the less developed classic venture capital sector so that it may create an opportunity for the venture capital industry, which is operating under merely market conditions, to grow up. In this respect, government participation in the form of hybrid funds, such as the Jeremie programme, is a forward-thinking step as the low utilisation of funds can be prevented through the involvement of market participants. The participation of the government through hybrid funds helps eliminate the distorting effects typical of the investments of exclusively government-owned funds and provides capital to enterprises that would have received investments even under efficient market conditions. However, due to the government's risk assumption and the pressure to spend the capital to be invested, even those enterprises can receive capital that would have been rejected by market investors during the strict selection process.

For the players of the investment firms that were established during the Jeremie programme, the experience gained in respect of

their due diligence reviews and investments enable the creation of the professional background necessary for subsequent operations under market conditions.

Simultaneously, a change is also expected on the demand side also in respect of the resolution of the information gap, but the startup environment is not developed enough yet for a sufficient number of enterprises with great growth potential to become suitable for receiving venture capital. Currently, the state tries to help enterprises in the seed phase with active and passive participation. In the long run, diminishing active participation by the government, the increased weight of fully market-backed funds and the spreading of passive governmental instruments may help the sector the most, ensuring economic growth and the improvement of employment.

Notes

[1] During data collection, we primarily relied on the data reporting of fund managers, however, not all fund managers made their investments public. Consequently, the list of the reviewed enterprises does not cover the total population of the portfolio companies of the Jeremie programme. However, our database is supplemented with the information of the business press and news sites on portfolio companies, thus the examined enterprises that were collected until 31 January 2015 cover more than 90 per cent of the Jeremie investments.

[2] Based on the reports, in the case of the realised investments, it was possible to stipulate similar rights at companies operating as private companies limited by shares. Of the investments implemented by 31 December 2013, 32 affected enterprises operating as private companies limited by shares, and 28 of these used preferential shares which ensured voting preference rights and rights for the appointment of executive officers for the investors, while in addition, liquidation and dividend preference shares were also issued widely.

[3] By 31 January 2015, based on the data collection of the authors, only in four cases were businesses sold to strategic investors; two to locally listed companies and two to foreign investors.

Literature

Arrow, Kenneth J. (1962): Economic Welfare and Allocation of Resources for Invention. In: The Rate and Direction of Inventive Activity: Economic and Social Factors. 1962, pp. 609–626

Becskyné Nagy, P. (2006): *Kilépések politikája – Hogyan válnak meg a kockázati tőkések a befektetéseiktől? (Exit policies – How do venture capitalists leave their investments behind?)* Competitio. 5 (2), pp. 83–98

Becskyné Nagy, P. (2008): A kockázati tőke hozzáadott és „elvett" értéke. (The added and "taken" value of venture capital). PhD dissertation, University of Debrecen, Faculty of Economics and Business Administration, Doctoral School, p. 255

Becsky–Nagy, P. (2013): Venture Capital in Hungarian Academic Spin-offs. Annals of the University of Oradea: *Economic Sciences.* 2. pp. 351–360

Becsky–Nagy, P. (2014): Growth and venture capital investment in technology-based small firms – The case of Hungary. Annals of the University of Oradea. *Economic Sciences.* 2 (2), pp. 828–836

Brander, J. A. − Du, Q. – Hellmann, T. F. (2010): The Effects of Government-controlled Venture Capital: International Evidence. NBER Working Paper Series. National Bureau of Economic Research, Cambridge, November 2010. Online: http://www.nber.org/papers/w16521

Devenow, A. – Welch, I. (1996): Rational Herding in Financial Economics. *European Economic Review.* 40. pp. 603−615

Fazekas, B. (2014) Government interventions in the venture capital market – How Jeremie affects the Hungarian venture capital market? Annals of the University of Oradea. *Economic Sciences.* 2(2), pp. 883−892

Grilli, L. – Murtinu, S. (2014): Government, venture capital and the growth of European high-tech entrepreneurial firms, Politecnico di Milano. Department of Management. Economics and Industrial Engineering. Via R. Lambruschini 4/b, 20156, Milan, Italy

Gompers, P. A. (1995): Optimal investment, monitoring and staging of venture capital. *The Journal of Finance*. 50 (5). pp. 1461−1489

Gompers, P. A. – Lerner, J. (1999): What Drives Venture Capital Fundraising? *NBER Working Paper Series.* National Bureau of Economic Research. Cambridge

Harding, R. (2002): Plugging the knowledge gap: an international comparison of the role for policy in the venture capital market. Venture Capital: *An International Journal of Entrepreneurial Finance.* 1. pp. 59−76

Karsai, J. (2002): Mit keres az állam a kockázatitőke-piacon? A kockázati tőke állami finanszírozása Magyarországon. (What is the government doing on the venture capital market? Government funding of venture capital in Hungary.) *Economic Review.* Vol. XLIX., 2002/11, pp. 928–942

Karsai, J. (2007): Az intézményes kockázatitőke-piac szerepe az innovatív cégek finanszírozásában, In: Makra, Zs. A technológia-orientált kisvállalkozások jellegzetességei és fejlesztése Magyarországon (The role of the institutional venture capital market in the financing of innovative companies. In: Makra, Zs. The characteristics and development of technology-driven small enterprises in Hungary), pp. 101−124

Karsai, J. (2013): Válság után: változó állami szerep a kockázatitőke-ágazatban. (After the crisis: changing government role in the venture capital industry) *Külgazdaság*. 57 (5–6) pp. 12−34

Karsai, J. (2014): Hol tart a közép-kelet-európai kockázati és magántőke-piac öt évvel a válság után? (Where is the Central Eastern European venture capital and private equity market five years after the crisis?) Műhelytanulmány (Working Paper), Publisher: Research Centre for Economic and Regional Studies of the Hungarian Academy of Sciences, Institute of Economics, Budapest 2014, MT-DP- 2014/15, ISBN 978–615–5447–30–3, ISSN 1785–377X, p. 28

Karsai, J. (2015): Hol tart a közép-kelet-európai kockázati és magántőke-piac öt évvel a válság után? (Where is the Central Eastern European venture capital and private equity market five years after the crisis?), *Statisztikai Szemle.* 93 (1), pp. 5–24

Lawton, T. C. (2002): Missing the Target: Assessing the Role of Government in Bridging the European Equity Gap and Enhancing. *Economic Growth Venture Capital.* January−March 2002, 4 (1) pp. 7−23

Lerner, J. (1996): The Government as Venture Capitalist: The Long-run Impact of the SBIR Programme, *NBER Working Papers Series, Working Paper* 5753, National Bureau of Economic Research Cambridge. September 1996, pp.1−33

Ludányi, A. (2002): A tőkeerő és az alapítói háttér hatása a kockázatitőke-szervezetek befektetési

magatartására, I–II. rész. (The impact of capitalisation and founder background on the investment behaviour of venture capital organisations, Part I–II) *Economic Review.* 49 (7–8) pp. 659–672 and 779–798

Luukkonen, T. – Deschryvere, M. – Bertoni, F. (2013): The Value Added by Government Venture Capital Funds Compared with Independent Venture Capital Funds. *Technovation*. 33(4–5) pp. 154–162

Mason, C. M. – Harrison, R. T. (2003): Closing the Regional Equity Gap? A Critique of the Department of Trade and Industry's Regional Venture Capital Initiatives. *Policy Debates.* Regional Studies. 37(8) pp. 855–868

Murray, G. – Cowling, M. – Liu, W. – Kalinowska-Beszczynska, O. (2012): Government co-financed 'Hybrid' Venture Capital programmes: generalizing developed economy experience and its relevance to emerging nations. *Kauffman International Research and Policy Roundtable.* Liverpool, 11–12, March 2012

Nagy, P. (2004): Az informális és a formalizált kockázati tőke szerepe a finanszírozási rések feloldásában, (The role of informal and formal venture capital in resolving funding gaps) Industry and Company Economics Conference VIII, University of Pécs, 21–22 October 2004

Oakey, R. P. (2003): Funding Innovation and Growth in UK New Technology-Based Firms: Some Observations on Contributions from the Public and Private Sectors. *Venture Capital.* April–June 2003. 5(2) pp. 161–79

Paglia, J. – Harjoto, M. A. (2014): The Effects of Private Equity and Venture Capital on Sales and Employment Growth in Small and Medium Sized Businesses Journal of Banking and Finance. 47. pp. 177–197 Online: http://ssrn.com/abstract=2479574

Schilder, D. (2006): Public Venture Capital in Germany: Task force or forced task? *Freiburg Working Papers* TU Bergakademie Freiberg, Faculty of Economics and Business Administration

Szerb, L. (2006): Az informális tőkebefektetés és a kockázati tőke szerepe a vállalatok finanszírozásában. In: Makra Zsolt (szerk.): A kockázati tőke világa (The role of informal capital investment and venture capital in the financing of companies. In: Makra Zsolt (ed.): The world of venture capital), pp. 95–122

Szerb, L. (2009): A magyarországi kis- és közepes méretű vállalatok kockázatitőke-finanszírozási lehetőségei. In: Ulbert, J. (ed.) Az iskolateremtő. (Venture capital financing opportunities for Hungarian SMEs. In: Ulbert, J. (ed.) Establishing a new school). University of Pécs, Faculty of Economics, pp. 247–258

Veugelers, R. (2011): *Mind Europe's early-stage equity gap*. Policy Contributions. 660, Brugel

EVCA (2013): 2012 Pan-European Private Equity and Venture Capital Activity. Brussels

EVCA (2014): 2013 European Private Equity Activity: Statistics on Fundraising. Investments and Divestments. May 2014

OECD (2006): The SME Financing Gap. Theory and Evidence, Vol. 1.