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Venture Capital in the Implementation of EU and Polish Policy of Innovation

Abstract

The article presents venture capital as an economically attractive concept of financing innovative projects complying with the EU socio-economic programme (the Lisbon strategy) and the European Research Area programme. Because of Poland's participation in the programmes and the progressing globalization that increases competitive pressures on Polish enterprises, the necessary and urgent liquidation of the technological gap is emphasised. The instrument to be used for this purpose is innovations financed by EU funds and the venture capital funds.

Introduction

Coming to the Directorate of Time¹, we are, naturally, late. Here, in a glass room, the World Clock No. 1 silently assembles every second from nine billions of parts. It does not resemble any regular clock; it rather looks as a rack with computers, inside which atoms of time vibrate rhythmically – but our mind is wandering. **Let us not waste a single moment..., we need to hurry up** (Gleick 2003, p. 11).

This Main Clock consults fifty other clocks located in separate, air-conditioned rooms. Those are caesium clocks and a hydrogen maser powered by Diesel generators and secured by emergency battery systems. They measure time together and incessantly communicate with their overseas counterparts. The absolute point of reference has been shifted from the stars (the Earth is

¹ The Directorate of Time is part of the US Department of Defense in charge of several tens of atomic clocks located on a hill on the Potomac River in Washington.

shaking and the stars are drifting, which makes them rather unreliable) to the beams of atoms in their air-conditioned rooms (particles are more stable than the planets are and thus more trustworthy) – (Gleick 2003).

This exact measurement of time is possible owing to many technologies and sciences, but also modern technologies could not exist without that degree of accuracy. It is up to a country or to a nation, whether or not to hurry up. The ultimate outcomes of the alternative are commonly known. In this technology-driven world those who decide to accelerate are better-off and live more comfortable lives (the negative effects of civilization apart). Others doom themselves to parochialism, marginalization and existence outside the global market.

In view of this, the following deserves special attention:

- support for Polish firms that should strive toward a knowledge-based economy;
- retaining the research base in firms acquired by foreign owners (because of the logic of certain processes that make up globalization) (Grudzewski, Hejduk 2004);
- application of genuine innovative solutions protected by patents and copyright;
- transfer of the state-of-the-art technologies and knowledge;
- creation of a legislative, promotional and educational environment conducive to innovative thinking and management.

The exact measurement of time mentioned in the introduction inevitably affects all economic mechanisms. A lack of time-measured precision needed to execute, to synchronize, to perceive, etc., makes it impossible to function in the global economy, whose expansion cannot be stopped, even though its acceptance is not common. Even biochemical processes – having their own pace – are becoming a subject of research intended to accelerate and to modify them. We are therefore compelled to accept innovation that is costly, but whose benefits are considerably in excess of the outlays. But for innovation to be launched some initial financial support seems essential. **Venture capital is commonly viewed as highly useful funds invested in innovative projects.**

Its importance has been growing and it attracts more and more attention from theoreticians and managers, especially those running small-sized and medium-sized enterprises (SMEs). It is so, because innovation is the main instrument that allows to gain competitive advantage ensured by the scale of operations and technologies.

In the age of globalization, a global manager's attitude allowing for cultural, political and social differences between societies² is as important as a global business strategy, allocation of the production factors and IT infrastructure corresponding to worldwide operations. A global manager without such characteristics is doomed to fail in the global competition.

1. EU innovation policy

Firms, countries and continents, including Europe, seek ways of improving their competitiveness. The European Union believes that such improvement can be effected by the cooperation between science and economy enhanced by other EU policies. The implementation of a research policy and research programmes is a legislated and political obligation of the Community³.

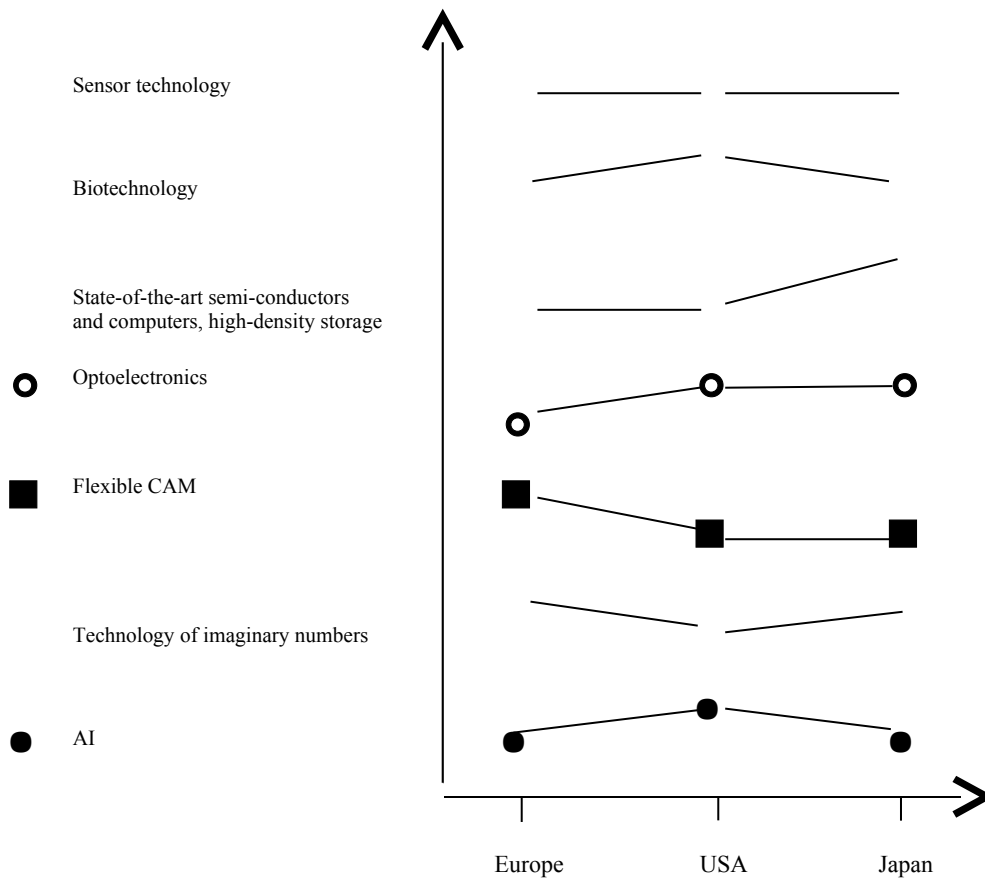
The EU views that the main source of competitive advantages is innovation. The scope of Directorate General XII (Science, Research and Development) covers industrial technologies, biotechnologies, biomedicine, non-nuclear power, education of knowledge workers. In addition, Directorate General XIII (Telecoms, Information Industries, Innovation) conducts research on telematics, information and communication technologies, and innovation in all industrial activity. The European Commission's policy intended to enlarge the scientific potential and to implement R+D strategies is actively supported by the Joint Research Centre in Europe.

The key goal of the efforts is stronger competitiveness of the Community's against its major competitors (USA and Japan). Paradoxically, it is the overseas venture capital that has been assigned an important role in catching up with the US.

Europe's competitive position is illustrated by the chart below.

² See also Ch. Hampden-Turner, A. Trompenaars, *Siedem kultur kapitalizmu*, 2nd edition, Oficyna Ekonomiczna, Kraków 2000 and by the same authors, *Siedem wymiarów kultury*, Oficyna Ekonomiczna, Kraków 2002. The authors agree that in every culture economic activity is governed by a covert structure of beliefs. Cultural values constitute the permanent base of national identity and a source of economic power – and weakness. The most recent research has evidenced that employees doing global work are not free from thinking in terms of national stereotypes. That is why in the age of globalization processes mutual respect for the „basic assumptions” taken by foreign cultures and the images they have chosen to ensure consistency is of primary importance for business strategies.

³ Vertrag von Amsterdam. Texte des EU – Vertrages und des EG-Vertrages, Europa Union Verlag, Bonn 1998.

Europe versus USA and Japan in the 1990s of the 20th c.

Source: developed by the author based on *Research after Maastricht, an Assessment, a Strategy*, European Commission, Bulletin of the EC, Supplement 1992, No. 2.

The above chart does not indicate how backward or forward Europe is in selected industries; it only indicates its position. But even that illustration proves that economic development in Europe is relatively slower.

The European Commission deems that in order to enhance their competitiveness and to keep employment at a certain level, firms must have some capacity of innovation and governments have to offer relevant support⁴.

The strategy of building the most competitive economy in Europe by the year 2010 has become the Community's major socio-economic programme.

⁴ www.mg.gov.pl/struktur/DSG/index3_sg/5ii_roz.2.htm

The strategy was approved in Lisbon in 2000. The following year, in Gothenburg, the original economic and social pillars of the Lisbon strategy were supplemented by the environmental pillar. Since 2004 Poland has participated in the implementation of the Lisbon strategy and of another important initiative of the EC – the European Research Area.

One crucial area addressed by the Lisbon strategy is **innovation in a knowledge-based economy**. The Community is concerned with:

- consistency of innovation policies pursued by the Member States;
- harmonization of laws governing instruments stimulating innovation;
- tying up the innovation policy with the fiscal policy, competitiveness policy and labour market policy, as well as other instruments operated at the level of the Community, nations and regions, respectively;
- the provision of conditions conducive to the expansion and promotion of innovative business activities and strengthening relations between science and industry. As the European Commission stresses, this should not be interpreted as a disregard for national innovation measures. On the contrary, the member states, including Poland, are expected to build on the country-specific characteristics of development and enterprise promotion and to take advantage of the innovative potential of national firms.

Poland is obligated to harmonize its innovation strategy with the European Union and to prepare information about her level of innovation using comparable indicators (a report on innovations in member countries is to be produced on a bi-annual basis). According to EC's assessment of innovation the member states show large (frequently drastic) variations. In particular, the assessment has revealed insignificant SMEs' investments in research and development, the reluctance to take risk, shortage of funds and low managers' qualifications that prevent them from taking opportunities offered by IT, communication technologies and **venture capital**. In most cases the criticism concerned EU-10, including Poland.

Currently, Poland participates in the Sixth EC Framework Research, Technological Development and Presentation Programme spanning the years 2002–2006. The Programme includes a variety of measures in the sphere of science, research and **innovation**. Its primary goal is establishment of the European Research Area based on the integration and coordination of research, and on competitive advantages of the economy. The Programme's budget is around €20 bn, which makes up around 6% of all the R+D expenditure EU-25⁵.

Within the European Research Area structuring effort, we can distinguish:

- **research and innovation**;
- human resources and mobility;

⁵http://europa.eu.int/pol/rd/overview_en.htm.

- research infrastructure;
- science and society.

Almost all measures serving the implementation of the Sixth Framework Programme can be used by firms participating either in programmes or in selected priority thematic areas. The involvement of 407 Polish teams (out of 2,774 proposed by Poland) in the Sixth Framework Programme to February 2004 made Poland a leader among EU-10⁶.

The results of relatively extensive research conducted by Coopers & Lybrand (covering Belgium, Denmark, Finland, Spain, the Netherlands, Germany, Portugal, Switzerland, the UK and Italy) prove that venture capital funds hold the largest shares, ranging from 40 to 50%, in financing innovative projects. In addition, they are irreplaceable in the creation and expansion of small-sized firms. More than half of firms would never have been established without venture capital and over 80% of them would have expanded much more slowly. Most investees participating in venture capital projects have been in business up to five years – 48%, 24% from 5 to 10 years, 10% from 10 to 15 years and 18% over 15 years (Kornasiewicz 2004, pp. 62–63).

Regardless of the common policy pursued by the member states, particular countries, including Poland, apply their own instruments to spur pro-enterprise and pro-innovation activities (Kozioł 2005, p. 153). Polish firms are ill-prepared (their knowledge is not sufficient) to take opportunities provided by **venture capital**, as well as other financial instruments. In the western countries venture capital is an attractive and proven financial instrument available for innovative projects. The Community shares this opinion. The European Regional Development Fund and the European Investment Fund offer financial support for all initiatives aimed to expand the use of venture capital.

⁶ www.6pr.pl/statystyki.

2. Venture capital in financing innovative projects

„Venture capital is funds invested in innovative projects (that present increased risk), which are expected to bring atypically large returns” (Lewandowska 1999, p. 107, 2001). The major „recipients” of venture capital are undertakings showing sizable development potential, i.e. involving the implementation of new technological solutions, and offering a relatively high return on the invested funds. In most cases, venture capital funds are used to foster the small and medium-sized enterprises until they go public. This type of investment can be made directly by a business angel or through venture capital funds that specialize in some type of projects. The financing party realizes its gains as a dividend and returns or by selling its shares after the project has been successful. It is the very nature of the venture capital concept that investors give up their current profits to help the investee grow, hoping instead that the future returns will be larger than average. A specific **attribute of venture capital** is that investments are made in ambitious projects, with potential for development and involving higher risk, but also promising larger gains in the longer term. Europe and the USA define the venture capital concept differently.

In Europe, venture capital is used to finance:

- start-ups;
- mature investment projects;
- investments typical of Development Funds;
- further expansion of an enterprise;
- enterprise restructuring projects;
- MBO.

In the USA the notion is less capacious and it only encompasses investments in the early stages of a project (Kornasiewicz 2004, p. 25).

Many authors raise the issue of various meanings of the term venture capital⁷. Nevertheless, they all agree that **venture capital is a medium-term and long-term financial instrument** suitable for organizations with large

⁷ Such as:

- L. Cary [ed.], *The Venture Capital Report Guide to Venture Capital in the UK & Europe*, Bath 1995,
- J. Pellin, A. *Guide to Venture Capital*. BVCA – British Venture Capital Association, London 1994,
- W. Bygrave., J. Timmons, *Venture Capital at the Crossroads*, Harvard Business School Press, Boston 1992,
- J. Węclawski, *Venture capital. Nowy instrument finansowania przedsiębiorstw*, PWN, Warsaw 1997.

potential for development and implementing innovations. According to the definition, venture capital is used to finance projects and the profits are usually realized via the sale of shares held in a full-fledged company (either trade sale to a strategic investor or IPO). Whether or not a project has been successful is only known after 5 or 7 years.

There are two ways of raising funds that a project needs:

- **the investors become shareholders** in a venture capital fund having the status, for instance, of a joint-stock company, which organization is more efficient in accumulating capital (the committed funds are put together to finance innovative projects), or
- **funds are raised for individual innovative enterprises** or those that have some concept of development (a venture capital fund seeks the most attractive sources of funding and then co-manages the project together with the investee to increase its value).

In addition, venture capital means professional management of innovative enterprises' shares, which ensures their high value and accelerated technological progress in various undertakings aimed to increase the effectiveness of the existing firms and to encourage pro-innovative actions.

A simple venture capital investment is built on the following triad:

- an innovative firm seeking capital;
- venture capital fund – an intermediary in raising funds;
- investors.

Venture capital funds invest in firms' early stages and expansion. Those investing in **early stages** (seed, start-up and the first stage) expect the rate of return on the invested capital to be around 50% over the next 5 to 7 years (Winteler 1985, pp. 137–138). As regards **expansion** (second, third and fourth stages), when an innovative enterprise has already been successful, because the market has accepted its product and now it can launch a large-scale operation, the expected return on capital is ca 30%, which means that the committed funds double over the period of three years (Winteler 1985). Additionally, in order to fund the modernization of some operations and to cover the IPO costs – more capital sought from banks or insurance companies that frequently offer venture capital as well. As the next stage, the investee company is converted into a joint stock company and its stock is introduced to the stock exchange. This is the point of time, when investors can sell their shares to the enterprise owners or some strategic investor.

Recapitulating:

- **early stages** – even though the demand for capital is growing from the very beginning, enterprise's own capital combined with venture capital funds and sometimes subsidies are sufficient, investor's entrance costs are low and the profit potential is very large, but the product risk and the market risk are also very high; the need for management support becomes considerable;
- **expansion** – until IPO is effected the demand for capital ranges from large to regular, additional investors are sought, investors' entrance costs are high and growing with the approaching IPO, the prospective profits range from high to typical, and a low product risk is accompanied by a market risk ranging from high to typical.

Other targets of venture capital are:

- **Management/Leveraged Buy-Out (MBO/LBO);**
- **Management Buy-In (MBI);**
- **Venture management;**
- **Turnarounds, bridge financing.**

In addition to offering capital, venture capital funds play a very important role in project implementation, as they manage projects through a professional and competent team of managers, partake in developing market strategies, take risks as other shareholders do, provide the investee with access to know-how, do not require the investee to provide any collateral, increase the investee's credibility among its market partners and are naturally interested in the enterprise's success, as they have a vested interest in the undertaking and profit from its growing value.

Venture capital is used to finance various project stages that correspond to stages in the development of a started up or already operational enterprise. The varying demand for capital is determined by the investee's line of business and its specific different rates of growth and market expansion. The last two factors decide whether the financing will bring fast implementation of innovations, control over or a share in a market niche, and financial satisfaction. What venture capital companies are concerned about is optimization of the business risk. That is why they make professional and in-depth analyses of innovative projects.

In order to be attractive for potential allies, investees must have the following characteristics⁸:

- **show market orientation and mobilization in a competitive environment;**

⁸ VC companies selecting projects for financing are generally guided by the still valid Ludwig von Mises and Friedrich Hayek's thesis that the only mechanism available to mankind that allows to discover and to share knowledge necessary to resolve the resource allocation problems is the market.

- **be accepted by customers** (a market-tested product is involved);
- **present credible prospects of expansion;**
- **prove the knowledge and skills of management submitting the project and then running it.**

Venture capital companies reduce their risk by choosing their portfolios companies from various industries and at different stages of their business life.

A venture capital investment can be broken down into the following stages (Węclawski 1997, p. 124):

- **raising of funds;**
- **searching for attractive innovative projects;**
- **screening of projects in terms of their optimal effects;**
- **negotiations and investment;**
- **co-management;**
- **divestment** (i.e. exit). The selected type of exit instrument determines whether the enterprise owner will maintain or lose control of the organization.

The European Private Equity and Venture Capital Association formed an opinion based on the results of empirical surveys in Europe that **venture capital can be largely conducive to economic growth**. A guess was hazarded that venture capital helps stimulate innovation and then impels economic growth in the country, as any other single financial instrument cannot do. The main factors supporting the expansion of the venture capital industry are the introduction of new technologies, growing capital markets, regulations encouraging to use the state-of-the art technologies, and positive attitudes to innovation, pro-enterprise culture and tendencies.

That venture capital funds contribute to the growth of many national economies, particularly the USA (in 1946 the American Research and Development Corporation was established, mainly to finance new enterprises) is out of the question. An important conclusion arising from the National Science Foundation survey is that **venture capital is the most effective financial instrument as regards the creation and expansion of enterprises implementing new technologies**.

Results of other surveys in this area make it evident that the USA owes its high rate of economic growth to the participation of the financial system (including **venture capital**) in hi-tech projects. They also prove that small-sized recipients of venture capital promise more jobs than large organizations.

3. Venture capital funds and innovation in Poland

Poland can also benefit from the enhancement of the European venture capital market that the Community has assumed its priority. Whether or not the available opportunities will be taken depends on us, on our determination, ambitions, circumstances in the endogenous and exogenous environment and on managers' attitudes. M. Crozier (Crozier 1993) believes that firm's renewal is the responsibility of a social innovator puts together individuals and ideas, and engages them in the process of solving increasingly complex problems. In order to fulfil expectations formulated in the spreading sphere of uncertainty and complexity, as well as the need to create innovation incessantly – a manager has to be guided by the logic of responsibility. Whether domestic or global, a firm has to be dynamic. The dynamic model of operation (Cushman, King 1996, p. 9) has to be:

- **innovative** (capable of generating innovative products, processes and organizational forms);
- **adaptable** (i.e. flexibly meeting the changing attitudes of management, customers, competitors, investors);
- **effective** (able to protect advantages in all firm's operations, including the speed with which advantage is gained).

In other words, managers have to become „intellectual executives” (Grudzewski 1999), with skills and characteristics typical of euro managers who can:

- introduce changes (promote the spirit of enterprise, and especially the spirit of innovation);
- learn permanently, also from other persons;
- communicate (have the knowledge of foreign languages, etc.);
- manage human resource, etc.

An unfavourable symptom indicating the parochialism of many Polish managers (as evidenced by research) is their fear of competitors, whose roots they seek not in their own weaknesses, but outside themselves, outside their firms, most frequently blaming their competitors. Among the five basic EU freedoms represented by the free movement of goods, persons, services, capital and the freedom of establishment the latter seems to be the most difficult to exploit, mainly due to complexes arising from ignorance and the shortage of funds.

Hopefully, the situation will change under the Sixth Framework Programme 2002–2006 (6FP). It is becoming necessary to motivate Polish managers to participate in research and technology development processes

financed by the 6FP. Mechanisms enabling such participation have been established by the Ministry of Economy in cooperation with the the Technology Agency, the Polish Agency for Enterprise Development and the National Contact Point for 6FP.

As a consequence, Polish firms (especially the SMEs) can take advantage of the global technological developments by participating in the European Research Area. The European Charter for Small Enterprises specifies relevant recommendations for member states' governments. It is necessary to establish government bank loan guarantee systems and instruments for increasing finance available for **venture capital funds** that co-finance innovative projects in small- and medium sized enterprises. Economic and technical universities are another example of organizations that should provide firms with educational and consulting services.

Enterprise and science are closely interrelated. Differences between the two activities are not that large as they might seem at first glance. Both of them concentrate on solving problems. The basic difference lies in the speed of taking decisions. Business competitiveness depends on taking fast decisions about innovation. Skills allowing to gain intellectual advantage are indispensable. Taking opportunities provided by VC development in the European market together with other innovation-financing instruments supported by :

- institutional environment;
- government assistance programmes;
- guarantee funds constituting an important source of security;
- contacts with innovation and enterprise centres;
- protection of the property rights;
- foresight⁹ in the development of innovation strategies;
- expansion of clusters (concentrations of enterprises doing similar business in the same geographical area);
- information and consulting;
- laws;

constitutes an important basis for the development of **Polish entrepreneurship focused on innovations**.

⁹ **Foresight** means predicting, forecasting or visioning based upon all available sources of information and application of formal techniques and consistently structured opinions. It aims to develop a strategic vision and proactive attitudes needed in the current decision-making processes oriented to the future (see Instytut Badań nad Przedsiębiorczością i Rozwojem Ekonomicznym, *Regionalna strategia innowacji – foresight regionalny*, S.W.Sz.PiZ. in Łódź, Łódź 2004, No. 1, pp. 7–8).

The expansion of venture capital depends „both on the supply of innovative projects and on the supply of capital” (Lewandowska 1999, p. 115). It is difficult to judge, which of the two factors is more important. Nevertheless, it is certain that both are crucial for making the Polish economy grow.

Venture capital funds expand their sphere of influence, because of the financial resources they have accumulated and the establishment of new funds. An average fund controls assets amounting to around US\$ 74m. There is some regularity connected with the sources of capital. The smallest funds have entirely Polish capital of approx. US\$ 14m and the largest funds, all foreign, have around US\$ 212m. Mixed funds, where the Polish capital prevails, are twice as small as those with predominantly foreign capital. The proportion of domestic funds in the pool of financial resources controlled by venture capital funds is steadily growing.

Polish venture capital funds are mainly supplied by banks (40%), followed by governmental agencies (13%) and then pension funds and supranational organizations – around 10% each. The remaining share of funds is provided by enterprises, insurance companies and other venture capital funds (Pietraszewski, Urbanek, Matusiak 2001).

Research proves (Kornasiewicz 2004, p. 224) that the key obstacle to venture capital expansion in Poland is the funds’ poor opinion about management in Polish enterprises. Approximately 50% of respondents considered that the factor impeded the expansion of venture capital investments in the country. It is the major reason for which few innovative projects combined with commercialization plans can be found in Poland. Another piece of evidence is that less than 15% of projects submitted by Poland have been approved for financing under the Sixth Framework Programme.

Venture capital funds invest in projects they have procured on their own and through contacts with financial institutions; less often in the course of consulting services, conferences, through the Internet, or cooperation with the enterprise centres. A special role should be played by the Centres of Technology Transfers, especially as institutions actively proposing innovations. Poland has not established the tradition of direct cooperation between venture capital funds and such intermediaries. Channels that the venture capital funds use to find investees are presented in the table below.

Channels used by the VC/PE funds to reach potential investees

VC funds reach investees by	Total		By year of VC fund's establishment		By amount of VC funds		
			to 1997	Since 1998	to US\$ 50m	US\$ 51-100m	over US\$ 100m
	Number	%	responses (%)				
Own contacts and investigations	21	95.5	100.0	91.7	100.0	87.5	100.0
Cooperation with banks and financial institutions	15	68.2	80.0	58.3	57.1	50.0	100.0
National fairs	2	9.1	30.0	0	0	0	28.6
Internet	6	27.3	0	50.0	57.1	12.5	14.3
Contacts with innovation and enterprise centres	3	13.6	20.0	8.3	0	25.0	14.3
Contacts with scientific institutions	2	9.0	20.0	0	0	12.5	0
Conferences	1	4.5	10.0	0	14.3	0	0
Consulting firms	1	4.5	0	8.3	0	12.5	0

Note: figures do not add up to 100%, because respondents could state several options.

Source: Kornasiewicz 2004, p. 225.

To encourage the expansion of venture capital, still being at its early stage, legal, institutional, informational and consulting, and educational changes are required to create pro-enterprise attitudes among managers, especially in the small- and medium-sized enterprises. Venture capital funds have more assets than they can invest. The main reason for this situation is the low degree of innovation in the Polish economy, but also the reluctance on the part of some venture capital funds to commit funds to low-value projects, where the costs of developing investment programmes are relatively high (frequently comparable with projects valued ten times as high). There is some hope that in a more stable (i.e. more predictable) economy the trust in economic environment will grow, followed by the will to expand and to invest in innovative projects. The practical meaning of the government-approved programme of convergence with the Community for entrepreneurs is that the State pledges to pursue a responsible macroeconomic policy (Hübner 2005, p. 25).

4. Venture capital and high technologies in Poland

When discussing innovation in Poland it is difficult to disregard the importance of the venture capital funds that offer interest-free finance to enterprises, especially to start-ups (provided that the enterprise itself is innovative) and expanding organizations. The variety of SMEs in Poland and high demand for capital in that sector is expected to spur the growth of venture capital funds. But these are only opportunities. Real achievements are rather mediocre. Between early 1990s of the last century and 2003 venture capital funds invested around US\$ 700m in Poland, with the rate of return amounting to 25–30% of the committed funds.

Venture capital funds typically invest in telecommunications, IT, electronics (venture capital financed 8% of investments in 2002 and 18.6% in 2003 in these industries)¹⁰, biotechnologies and medicine, where firms show a large growth dynamics and their managers have high qualifications. Good opinion about management is the best guarantee of project's success, which reduces the risk exposure of the co-financing partners to minimum.

The anticipated development of telecommunications and IT will need funds to disseminate state-of-the-art technologies, which process will require VC funding as well.

Until now Polish venture capital funds have not had the opportunity to finance Polish biotechnological projects. Poland lacks relevant projects that are advanced enough to be attractive for investors. Nevertheless, venture capital funds have some experience in biotechnological projects implemented by foreign firms¹¹. This means that venture capital funds do not gain any experience in that area in the country; it is even worse: their capital goes abroad. This certainly hurts the economy, as the three industries are the most "marketable" among those targeted by venture capital.

Venture capital funds start paying attention to environmental projects. It is believed that environmental technologies should be as advanced as industrial technologies.

Generally, venture capital spurs the development of single firms, but also entire entrepreneurial environments that are innovative and make attractive sites

¹⁰ <http://www.ppea.org.pl>.

¹¹ For instance, the bmp Polska Sp. z o.o. holds in its portfolio:

- Noxxon Pharma AGNOXXON, producing biological drugs of the next generation;
- Jerimi Bio Pools GmbH that uses its own technological base to explore drug development methods serving the treatment of hitherto incurable diseases;
- MeGA Tec GmbH that developed a method (MeGA Tecu) allowing to remove large scars.

also competitive. Venture capital funds interested in the so-called new economy projects. Over 30 venture capital funds are active in Poland. In addition to MBO/LBO transactions, all known types of deals have already been concluded in the country. In 1990s of the last century venture capital funds did not have their preferred industries. Today funds specializing in high technologies start targeting industries of the new, knowledge-based economy, where areas connected with the development of science and expansion of high-tech industries are expanding fast (Stawasz 2005 p. 83).

Summing up we can hazard a statement that Polish firms are aware that they need venture capital, and also venture capital funds can supply relevant funding. This system is essentially disturbed by the limited number of hi-tech firms with considerable growth potential, low managerial skills in SMEs, lack of systemic solutions supporting the emergence of attractive innovative projects, as well as lack of additional laws enabling venture capital funds to raise finance. Poland's membership in the Community promises equalized levels of civilization, one source of which is innovation. The 2007–2013 National Development Plan for the Polish economy consolidates all developmental undertakings, particularly innovations. It also takes into account assistance available from the structural funds that Poland can benefit from. One goal of the European Regional Development Fund (ERDF) is co-financing of scientific research and development of new technologies that enhance the growth potential in regions (Walica 2005, p. 69).

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The literature of the subject as well as outcomes of empirical research suggest the following generalizations, comments and suggestions:

- The expansion of a worldwide, knowledge-based economy compels the implementation of technological, organizational, financial and intellectual innovation, as the entire corporate culture must innovate;
- Western countries owe their high rate of economic growth to the involvement of the financial system, including venture capital, in investment projects;
- In developed economies venture capital is assumed the most effective financial instrument for creating and expanding hi-tech firms;
- Poland's EU membership allows the country to benefit from the expansion of the European venture capital industry that the Community has put on top of its agenda;
- The freedom of establishment seems to be the most difficult to exploit by the Polish firms (especially SMEs); the main reason is the firms' complexes resulting from their lack of knowledge and insufficient capital;

- It is becoming necessary to motivate Polish managers to participate in research and technological development processes financed under the Sixth Framework Programme and successive EU programmes;
- technical and economic universities, as well as innovation and enterprise centres should provide Polish firms with educational and consulting services regarding their participation in the European Research Area, application of high technologies and access to the European and global markets;
- It is necessary for the Polish government to establish bank loan guarantee funds and to introduce regulations allowing venture capital funds supporting innovative SMEs' projects to increase the value of their assets;
- As viewed by the venture capital funds themselves the factors that impede the industry's development in Poland are low quality of management, slowly expanding capital market, low supply of attractive innovative projects and the tax system;
- The amount of finance available from the venture capital funds for major, prospectively successful projects exceeds the demand;
- Because of the interest-free funding, professional management and convenient exit instruments, venture capital is an attractive financial instrument for supporting innovation;
- As it has happened in other countries venture capital can stimulate innovation in Poland (after the aforementioned conditions have been met) and make the country's economy grow, thus contributing to reduced economic distance between Poland and other member states;
- The ability of Polish firms to exploit advantages that determine their innovative potential may decide about the extent of benefits derived from the country's integration into the EU;
- Generally, projects in industries of the so-called new economy have been the recently the major target of venture capital funds.

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