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Article

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LUCYNA LEWANDOWSKA

The capital barrier to innovation in the small and medium-sized enterprises

Abstract

The article discusses SMEs' situation with reference to the process of creating an innovative economy. The presented discussion covers both non-material and financial barriers impeding the development of innovations. The examined range of new solutions designed to finance innovation includes types of capital support such as leasing, franchising, venture capital, Business Angels, NewConnect.

1. Introduction

The never-ending destruction of the existing ways of manufacturing lies at the core of today's open market economy. This implies evolving interpersonal ties and emergence of new organizational forms, also among economic organizations. This process of destruction is creative²⁰, as it stimulates a ceaseless stream of innovations. According to Joseph Schumpeter, one of the most prominent economists of the 20th c., the dynamics of changes is driven by the entrepreneur. Entrepreneurs change the status quo, because they materialize their desires using their skills of obtaining and generating resources that they need for this purpose, such as knowledge, human labour and capital.

²⁰ Some people do not share this opinion. They call the tactics used by modern capitalism to attain its goals the shock doctrine. See N. Klein (2008), *Doktryna szoku*; Warszawskie Wydawnictwo Literackie MUZA SA, Warsaw.

Entrepreneurs can find capital in the external sources, and this possibility improves chances of developing innovative activity and entrepreneurship that otherwise would be slim. In other words, economic development is propelled by capital that depends on the development of culture and infrastructure risk. This makes external funds a necessary factor that decides about the appearance of major sources of values, such as innovations, production and use of knowledge. The demand for capital is growing, because the present stage in the development of our civilisation is called hyperinnovation, where innovation, being a value in itself, takes increasingly numerous and sophisticated forms.

The above circumstances make a growing number of European high-tech concerns move their research and development centres to the USA, China, and India, where they find better environment for nurturing new business ideas and technologies. In order to contain these adversary trends, the EU countries formulated in 2000 a **challenge** known as the Lisbon Strategy. It is expected to turn Europe into the most innovative and attractive space for living to the year 2010. For this to happen, especially the small and medium-sized enterprises must be provided with easy access to capital, because they are deemed the creators of the space. The real world, full of uncertainty, permanent changes and incomplete knowledge cannot do without support offered by individual countries. One of the things that has re-emphasised this fact is the present financial crisis. Firms deciding to investment in new products have to think about their future customers, their desires and aspirations, because the ethics of responsibility cannot ignore consequences that may affect future generations (Walczak-Duraj 2002). This calls both for changes in mentality so that people can see that innovation is a necessary vehicle of higher standard of living in the longer time horizon, and for capital making such a life possible.

The above is the responsibility of the international society, in which the small and medium-sized firms prevail. Because this type of organizations delivers appropriate quantities of products at a level ensuring their broadly understood usefulness, it is important that high technologies be applied and financed. Whether this will be possible depends on investments in innovations (Porter, Stern 1999) that need knowledge and funds.

2. Innovation in SMEs

In general, the small and medium-sized enterprises find it difficult to meet criteria imposed by a competitive global market; their growth is mainly driven by know-how, patents and other external solutions. Because business is, in fact, created by the customers who decide about its form and content, a firm has to

learn how to provide things that the customers expect and what they should buy to live better lives (Drucker 1994, p. 52). Therefore, the entrepreneurs ask themselves the following fundamental questions:

- how much money should be invested and what type of asset is worth being invested in (investment decisions), and
- where and how can funds be obtained so that the planned investment project can be carried out (financial decisions)?

Both types of decisions are vital. The financial decisions – especially the strategic ones – verify the investment decisions. On the other hand, the investment decisions should be closely connected with technological and organizational innovations, which must be viewed as strategic means allowing the entrepreneurs to gain a favourable market position. However, in the currently frenetic investment community distinguishing one type of decision from the other is not easy (Grave 2007, p. 12). Much depends on the project execution stage and entrepreneur's expectations. As a result, allocation of resources to projects promising the best chances of satisfying profits while showing traits such as innovativeness, safety, quality, environmental awareness, etc., becomes a challenge. The aforementioned types of decisions depend not only on the effectiveness of firm management, but also on the strength and effectiveness of the entire national economy, technical infrastructure and other externalities that a firm can use. If a firm wants to be competitive, it must develop considerable abilities to absorb and adapt technological and organizational innovations at every level, including its relations with the international environment (Kowalak 2006, pp. 11–48). Local firms as a whole are a major player affecting innovative processes taking place in the national economy. However, individual firms have their specific attitudes to innovation that range from very simple to very complex ones, involving the cooperation with partners in the business environment.

The fact that the Polish SMEs operate in the European Single Market broadens the range of possibilities that are available to them. The knowledge of EU laws and adjustment processes Poland has acquired should constitute a major factor in the formulation and implementation of every firm's strategy. Such strategies should build on the experiences of other member states, identify available opportunities and possible threats arising from the integration, as well as determinants of competitiveness. An important role should be played by the state's policy of innovation, aimed at ensuring consistency with the EU and regional policies, especially with respect to the institutional, legal and social climate supporting stronger innovative activities in firms and across a knowledge-based economy.

Because of the globalizing economy, management strategies change not only in the SMEs, but also among their internal and external partners (including competitors). Because the globalization trends are gaining their momentum, firms intending to be competitive must strengthen their determination to innovate. The EU assumes as its legal and political responsibility the provision of linkages between science and economy placed in the context of implementation of other Community policies. Such linkages are expressed via the EU research policy and execution of research programmes focusing on innovations, in which the Community seeks its competitive advantages.

The scope of activities covered by the XII Directorate General of the European Union „Science, Research and Development” includes industrial technologies, biotechnologies, biomedicine, non-nuclear energy, training for science workers, etc. Further, the XIII DG „Telecommunications, information market, and exploitation of research” deals with telematics, ICT and innovations across all areas of research. Both DGs work on improving EU’s competitive position vis-à-vis its major competitors, i.e. the USA and Japan. The European Commission believes that in order to strengthen EU competitiveness and retain employment at an adequate level a potential of innovation must be available, especially among the small and medium-sized firms, as well as governments’ assistance²¹. The main goal is implementation of high technologies in a knowledge-based economy, such as sensor technologies, biotechnologies, modern semi-conductors and computers, high-density data storage media, optoelectronics, flexible computer-integrated manufacturing, technologies based on imaginary numbers and artificial intelligence (Lewandowska 2005, pp. 139-158). The CIM and sensor technologies aside, in the high-tech field Europe lags some 20 years behind the US and Japan. Therefore, the EU must insist on intensive implementation of innovations.

The expanding economic globalization implies that its impacts affect almost all spheres of life. The new EU members, including Poland, that represent 20% of the enlarged Community, but only 5% of its GDP, must cope with the difficult task of liquidating the economic gap that exists between them and the better-off Community members. EU membership offers a chance to succeed. Although each country’s economic results will predominantly depend on the quality of its policies, the global policy will also play a role. “International economic integration is supposed to serve economic and political purposes, and thus the well-being of the integrating countries, maintaining peace, democracy, and respect for human rights” (Wysokińska, Witkowska 2001, p. 15). The practice is sometimes different. Supporters of globalization

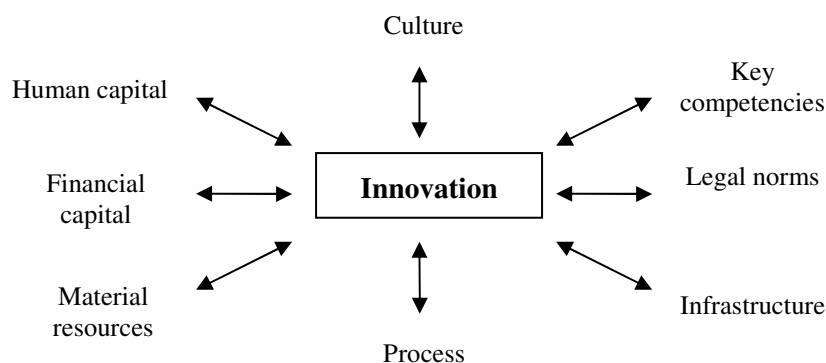
²¹ www.mg.gov.pl/struktur/DSG/index3-sg/5ii-roz.2.hm

believe that this process drives economic growth that reduces poverty and evil caused by globalization, and they blame corrupt or incompetent national governments. In their opinion, the real problem is not globalization itself, which was and still is very advantageous, but the way it is being carried out, and the rules that are adhered to (Stiglitz 2007). On the other hand, the alterglobalists claim that globalization, as is today, leads to consolidating economic stagnation, growing inequalities, multiplying acts of hostility and violence directed against the richest. Jeffrey Sachs – the UN adviser for poverty – believes that the challenges faced by the world can be solved using relatively modest resources that are likely to bring enormous long-term benefits. The US spends US\$ 450 bn on its military defence against global risks, but only US\$ 13 bn is allocated to fighting poverty, diseases and despair that breed such risks. According to Sachs, the US contribution of US\$ 35 bn would suffice to break the vicious circle of poverty for three fourths of the humankind.

Democratic governments should support an international order sanctioning solutions where everyone pays the costs, but also everyone participates in the profits. The entrepreneurs are expected to perform many relevant functions as well, including their compliance with the environmental safety rules. Innovative solutions serve the same purpose. The level of innovativeness the national economies and EU show is the total of innovativeness exhibited by particular business organizations, especially the SMEs.

SMEs' ability and propensity to innovate hinge on the macro- and microeconomic determinants, as illustrated in Chart 1.

Chart 1. Major determinants of innovation



Source: developed by the author.

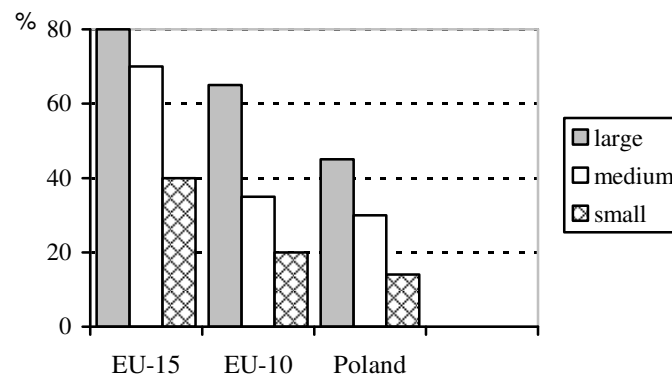
Innovations enable new business applications of resources and create expected competitive advantages. Many sources can be used to generate new ideas. Their scope ranges from one's own company, workers, customers, competitors, an international network of distribution, to conventions, fairs, exhibitions, professional literature, normative and patent publications, brochures, catalogues, market studies and forecasts, and foreign research institutions. On the other hand, the impulses to innovate come from the motivation of resourceful individuals.

As the instruments of entrepreneurship, innovations offer competitive advantages that firms expect and allow the maximisation of cash inflows, which is considered the paramount, holistic goal of firm management. Therefore, it becomes necessary to implement concepts of financing that generate and secure cashflows. P. Drucker explains the weight of innovation in creating firm's success by referring to various practical examples. His conclusion is that the world needs an entrepreneurial society where innovation and entrepreneurship are normal, permanent and continuous activities. Innovation and entrepreneurship must become an intrinsic practice, supporting the life of new organizations, economy and society (Drucker 1992, p. 272).

Results of investigations exploring product, process, organizational and marketing innovations implemented by the SMEs in the developed countries testify to the fact that these organizations catch up with the large enterprises. In Poland, the situation is different. Small and medium-sized firms have limited potential to create innovations, especially these related to technologies. As a result, innovation in the industrial SMEs is relatively modest, and it is less developed among the private sector firms than in the public sector. This situation arises from the shortage of capital in Polish SMEs, as well as insufficient interest in highly risky R&D activity. Consequently, the competitive position of Polish SMEs can be expected to deteriorate in the future, because only a small percentage of them are classified as innovative organizations today (<http://www.winnova.pl/pl>, 23 Jan. 2008)²².

Polish enterprises are among the least innovative in the European Union. Only 17% of them conduct innovative activities (EU-15 – 44%, EU-10 – 25%). Chart 2 illustrates the shares of enterprises running innovative activities by enterprise size.

²² The problem of innovation in enterprises operating in Poland is discussed at <http://www.winnova.pl/pl>

Chart 2. Enterprises conducting innovative activities (% of all enterprises in the group)

Source: developed by the author, modifications based on (Maciaszczyk 2006, p. 148).

Set against the EU average, Polish SMEs are the least innovative. Because of the barriers impeding innovative processes in SMEs, mainly entrepreneurs' insufficient capital, frequent unavailability of external funding (due to its high cost and excessive collaterals) and underdeveloped infrastructure allowing commercialisation of research results, that have been persisting for a long time, this situation is likely to deteriorate.

The EU member states permanently monitor the levels of innovation in their firms. Since 2004 Poland has been a member of a major EC initiative, i.e. of the European Research Space, and so she is obligated to draw up a report on the progress of innovative activities (every 2 years EU countries are expected to prepare a report on the level of innovation). The current assessment of innovation reveals large gaps between particular member states. Especially worrying is the low level of R+D among the SMEs, limited propensity to take risk, and low quality of the managerial staff that does not allow communication technologies and external capital to be used. This observation mainly concerns the new member states, including Poland.

Intergenerational transfer of family businesses has a large, but idle potential in Poland. The experiences of the Scandinavian countries prove that family firms that have been made over to the younger generations are more competitive than those newly established are, owing to the lessons such firms have already learnt, as well **technical, technological and organizational innovations they have implemented**. A fact that has been noted also in Poland is that **a firm does not necessarily have to be based in a large agglomeration to go global and attain major international success**. A good example is the

company Transsystem located in the village of Wola Dalsza near Łańcut, which is the largest Polish producer and supplier of handling systems, steel constructions, and a partner to major international concerns. Transsystem exports its equipment and complete process lines to all major car manufacturers in the world (Daimler Chrysler, Audi, BMW, Daewoo, Fiat, Ford, Mercedes, Opel, Seat, Volkswagen, Saab, Porsche and General Motors). Transsystem has subsidiaries in Germany, the Czech Republic, Russia, the Ukraine, the USA, and a representative office in Spain. Its equipment operates in the Polish plants of foreign carmakers, cement mills, steelworks, post offices, in the chemical, furniture, food, electronics, and electroengineering industries. **The secret of Transsystem's success lies in innovation, dynamism of the manager and personnel, many actions being run concurrently on the competitive market and coordination of various initiatives. Put together, all these elements produce a synergic effect.** The main reason for which most Polish SMEs neglect innovation is their shortage of funds and barriers impeding access to capital.

An important instrument in the development of regional innovation is the programme Interreg IVC that has been in place since 2007. Its activities planned for the years 2007-2013 are partly financed from the European Regional Development Fund. In addition to prioritizing topics such as innovations serving a knowledge-based economy and natural environment together with preventing the risk of its degradation, the programme supports all measures under regional initiatives. Naturally, EC's financial support available for the small and medium-sized enterprises is not sufficient. The firms themselves must constantly adapt their management and financing to customer expectations (L. Lewandowska, 2001). Nevertheless, their efforts should be supported by the state.

3. Capital support for the SMEs

The financial situation of the small and medium-sized firms should encourage a search for new forms of financing, as well as newer and more attractive variants of the established, well-known sources of funding, whose range and ways of application have been extending.

Effective cooperation between the SMEs and financial institutions decides about financing effectiveness, from project implementation to placing a product on the market, and then financing other innovative projects. The factors that are important here are the EU policies, the will of the governments (A. Marshall stressed that he expected the government to help do business and not do business (Dzionek-Kozłowska 2007), awareness of investors' fears, as well as SMEs'

knowledge of the pros and cons characterising different methods of seeking and implementing various instruments of financing.

Polish SMEs participating in European polls disclosed the following major barriers impeding the financing of innovations (by importance):

- high costs of obtaining the long-term capital,
- limited availability of capital, and
- high costs of R+D activity.

According to the above, external long-term capital can be obtained after meeting serious formal requirements. This barrier seriously checks development and its importance has been growing.

Although in the start-up phase most small entrepreneurs take advantage of their own capital, in the growth stage the financial surplus their firms have accumulated becomes insufficient and additional, external sources of funding are necessary. One of the factors shaping the intensity of their utilisation is entrepreneurs' (managers') knowledge, experience and skills.

In order to make available funds that might enhance innovative activities in Polish SMEs' some systemic solutions are necessary, offering assistance based on the stage in industry development and the level of demand for high technologies.

There is little information on SMEs' utilization of various types of assistance, because entrepreneurs are reluctant to reveal it. Targeted and fragmentary surveys do not provide the grounds for making any generalisations. It is a common knowledge, however, that most Polish SMEs believe that the main barriers to development are:

- lack of capital (twice as many responses as in the EU),
- high costs of financing development,
- high costs of R+D activity,
- exchange rate risk.

The SMEs can choose from a broad range of financial facilities (Lewandowska 1999), such as venture capital funds, bank credit, credit guarantees, leasing, factoring, forfaiting, franchising, bonds, aid funds, loans, securitisation (i.e. issuance of securities similar to bonds, or short-term commercial papers secured against cashflows generated by various types of assets), business angels, long-term instruments issued to finance issuer's investment projects and development activities, and finally NewConnect, which is an alternative to the stock exchange.

Most firms in the EU take advantage of bank loans and the overdraft facility. In Spain, France, Luxemburg, the Netherlands and Portugal leasing is

used more frequently than overdraft. Factoring and forfaiting are especially popular in France.

The method one chooses to finance innovation depends on the method's characteristics, firm's financial standing, but first and foremost on the amount of entrepreneur's knowledge and experience regarding the skill (or rather the art) of managing funds and marketing activities.

It is worth stressing that banks are reluctant to grant loans to SMEs, and they explain this attitude by high risks that such transactions involve. In contrast, venture capital funds control substantial and available resources, but they cannot find enough eligible projects in the SME sector, ensuring an acceptable rate of return on the committed capital. Most projects fail to meet requirements such as:

- presentation of a proof that the activities will be market-oriented and concentrated vis-à-vis the competitors
- customers' acceptance,
- security of capital repayment,
- rights to the product (patents, copyright, trade marks, etc.).

These considerations constrain SMEs chances of absorbing the high-risk capital.

Still other problems disturb implementation of the structural funds. Their main source is project application and project settlement rules that the potential beneficiaries must comply with, inconsistencies between programme documents and the laws in force, and the instability of the latter. Since the role SMEs play in the national economy can hardly be overestimated, the limited involvement of the state in stimulating the appropriate processes is rather incomprehensible.

The National Development Plan for Poland, spanning the years 2007-2013, is subordinated to the fundamental goals of long-term support for the development of the Polish economy, corresponding to those set by the Lisbon Strategy. The Plan emphasizes the use of EU structural funds and domestic stocks of capital. However, this does not seem to be enough to support innovation in the SMEs.

Development of entrepreneurship (as defined by J. Schumpeter) **rests on access to external financing.** This fact has been understood by the governments of countries such as France and Ireland (they assist their SMEs under systemic financial projects), Spain (in addition to EU's resources, Spanish SMEs can use around 30 other instruments to finance their growth; the available financial assistance corresponds to ½ of project's worth), Greece (the newly established firms are entitled to subsidies reaching as much as 150,000 €), Austria, Germany, and in the Asian countries.

Beside direct aid, the Polish government only offers (Community guidelines on state aid 2006/C 194/02 of 18 August 2006) a system of securities and bank guarantees, and makes available funds necessary to obtain EU funding or some selected bank products facilitating SME development. The institution of guarantor allows spreading risk over the borrower, the bank and the guarantor. This facility is important, because loans are very popular as a financing method among the SMEs (bank loans represent ca 77% in the structure of external sources of funding).

Another instance of liberalisation of capital flows is the amended foreign exchange law of 27 July 2002, which was made effective on 1 October 2002. Its provisions have broadened the market for financial services available to the SMEs. For example, Polish enterprises can apply for loans to the Danish or Swedish banks now. It is not certain, however, whether the banks will not prefer, like the Polish banks do, large and renowned companies (because of credit risk and economic risk), and to what extent the general attractiveness of relatively lower interest rates on foreign loans compared with those charged in Poland will be able to counterbalance higher transaction costs. The possibility of depositing funds into foreign accounts and seeking cheaper banking services also provides the SMEs with new development opportunities.

The SMEs mainly pursue low-cost funds to finance their innovative projects. Considering the Polish circumstances, instruments financing SMEs' work on high technologies, such as **leasing, franchising, venture capital and business angles, and NewConnect**, could play a bigger role.

The popularity of **leasing** has been growing in all EU countries (ca 30% of investment projects are financed with leasing), including Poland (around 20% of projects). In the case of SMEs the attractiveness of leasing can be expected to grow (Lewandowska 2007, pp. 159-176), mainly for its economic effectiveness, but also because of firms' frequently not having an alternative way of acquiring capital assets, when they are not creditworthy or unable to produce a collateral (under leasing, the leased item secures the debt). One of leasing advantages (especially its operational variant representing 96% of all lease contracts) is that the lessee can always reach for the cutting-edge technological solutions.

Another financing option is **franchising**. This instrument combines **efforts of an innovator** who created a market-winning product and a reputable trademark **with human and financial resources** of its franchisees characterised by a high level of motivation. The franchiser offers substantial assistance to its franchisees (Mendelsohn 1998, p. 603), especially in the area of finance and promotion, as well as legal and organizational advisory services.

Venture capital (Lewandowska 2005, pp. 114-131) serves as a means of financing projects labelled as innovative. It helps the developing organizations

to mature and enter the stock exchange. Venture capital is available for thriving firms that respond to unconventional challenges, mainly in the field of telecommunications, telematics, biotechnologies, IT, nanotechnologies, etc. In these branches, SMEs are scarce. Although projects eligible for venture capital support involve higher investment risk, they also promise satisfactory return in the long term. Higher activity of the National Capital Fund assisting capital funds that engage themselves in innovative projects at the seed stage²³ would probably give the SMEs a better chance of expanding their innovative activities.

The current problems in the development of SMEs in Europe, and thus in Poland, bring so-called business angels to the forefront (Mikołajczyk, Krawczyk 2007), i.e. informal investors. Business angels gladly finance development of the small and medium-sized enterprises, especially these that have fallen into the investment gap. The values they bring with them to SMEs in addition to financial capital are enormous. These are intellectual capital, knowledge of management, business contacts, access to know-how, frequently specialist skills they have acquired in the course of their hobbies, the knowledge of a given industry and a market, and of the product, organizational and marketing innovations.

A new option that is likely to become an attractive alternative to new, growing firms, especially these launching innovative projects, is **NewConnect**, which opened on 30 August 2007 by the Warsaw Stock Exchange. **NewConnect** is a stock market with an alternative system of trading managed by the WSE. NewConnect has the status of a structured market, despite its operating outside the regulated market. Similar platforms have already been made operational in Europe, for instance London's AIM, or First North in the Scandinavian group OMX. Because the issuers are quite specific, the formal and information requirements imposed by the NewConnect are rather liberal, owing to which the costs of raising funds are lower. NewConnect creates a market where small and medium-sized firms with very good growth prospects can seek capital, mainly these dealing with new technologies, and expands Poland's financial infrastructure under the regional Financial Centre of Central and Eastern Europe. NewConnect has been designed to provide services for innovative firms operating in sectors such as IT, electronics, telecommunications, biotechnologies, cosmetology, unconventional energy, etc. NewConnect is also expected to help its listed firms to launch careers at the Stock Exchange.

²³ Resolution of the Minister of Economy of 13 July 2006 concerning financial aid for the seed capital funds, O.J. No. 141, items 1000, 2006.

Another important aspect of supporting innovation in the SME sector is formation of a core group of managers by the tertiary educational institutions. For instance, the World Bank participates in composing curricula for their potential future staff. Poland should be especially sensitive to such valuable initiatives, because her simple reserves driving development have already been depleted, and new resources taking advantage of knowledge and innovation have not been launched yet. This situation calls for switching the mental levers. Although Polish SMEs cannot afford to develop more advanced technologies, but then niches exist, where the potential of Polish scientists and engineers can be employed. This line of action requires financial capital, but mainly outlays on R+D. Regarding the sources of R+D money and the structure of organizations running R+D activities, Poland is below the EU-27 average. The EU-27 rate of businesses running R+D activities on their own is larger by 8.5 percentage points from the rate characterising organizations that merely finance this type of activity; in Poland, however, the situation is reverse – the share of businesses financing R+D exceeds the share of R+D executors by 1.6. p.p. In other words, The Polish business R+D shows a negative financial leverage. The conclusions of the National Programme Foresight Poland 2020 reveal that pro-innovation effects can be expected in the optimistic scenario only after the year 2013.

The world initiates foresight activities (foresight is defined as a process of active reflection on the future so that actions ensuring materialization of the desired course of development can be taken) to give politicians information on what directions of research are worth being invested in to enable economic development. In experts' opinion, a major obstacle to starting reformation efforts aimed at releasing Poland's potential of innovation are short-term interests of the groups in power (Bendyk 2008, pp. 104-105). Entrepreneurs, researchers and the entire Polish society are other groups where a mental switch is necessary. **However, it is important for knowledge and sensibility to be closely associated.** Many researchers exploring modern societies (U. Beck, J. Naisbitt, N. Naisbitt, B. Philips, M. Castells, A. Tofler) concentrate on the threats that technological progress has unleashed on an unprecedented scale and at a pace that has been unheard of so far (Boksańska 2008, pp. 50-58). Innovations should only be a vehicle allowing the achievement of pre-determined goals. Whether innovations should be applied, and to what extent, must be decided by the human mind respecting relevant values and norms. In Poland, it is not always so. Among the EU-27 countries, Poland has the highest rate of research unrelated to a specific economic or social goal and her degree of research dispersion is one of the highest in Europe.

4. The conclusion is that:

- the small and medium-sized enterprises decide about the level of innovation in the economy,
- the prerequisite for developing innovations is lifting barriers that prevent SMEs from using external financial capital,
- new, unconventional methods for financing should be disseminated and promoted,
- exploitation of key competencies of persons managing the national economy and firms, their positive attitudes to the challenges of innovation, and financial strategies aimed at implementing innovations produces a synergic effect,
- larger R+D outlays and boosted activity of the National Capital Fund that supports innovative seed-stage projects are necessary for releasing the potential of innovation,
- it is crucial to implement legal solutions that will give a new, expected quality to rules governing the financing of science (including R+D), so that the funds can be used more effectively and atmosphere favouring investments in innovations can be created.

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