

Innovation.bg 2007: The Bulgarian Innovation System in the European Union

(Summary of the Annual Innovation Performance Assessment Report)

Innovation.bg 2007 analyzes the state of the national innovation system and makes recommendations for enhancing the innovation performance of the Bulgarian economy. This year's report makes a review of the European innovation policy and the opportunities it offers to Bulgaria. Following the methodology of the previous edition, *Innovation.bg 2007* analyzes the development dynamics of the national innovation system during the past year and the growth opportunities in 2007 in five groups of indicators:

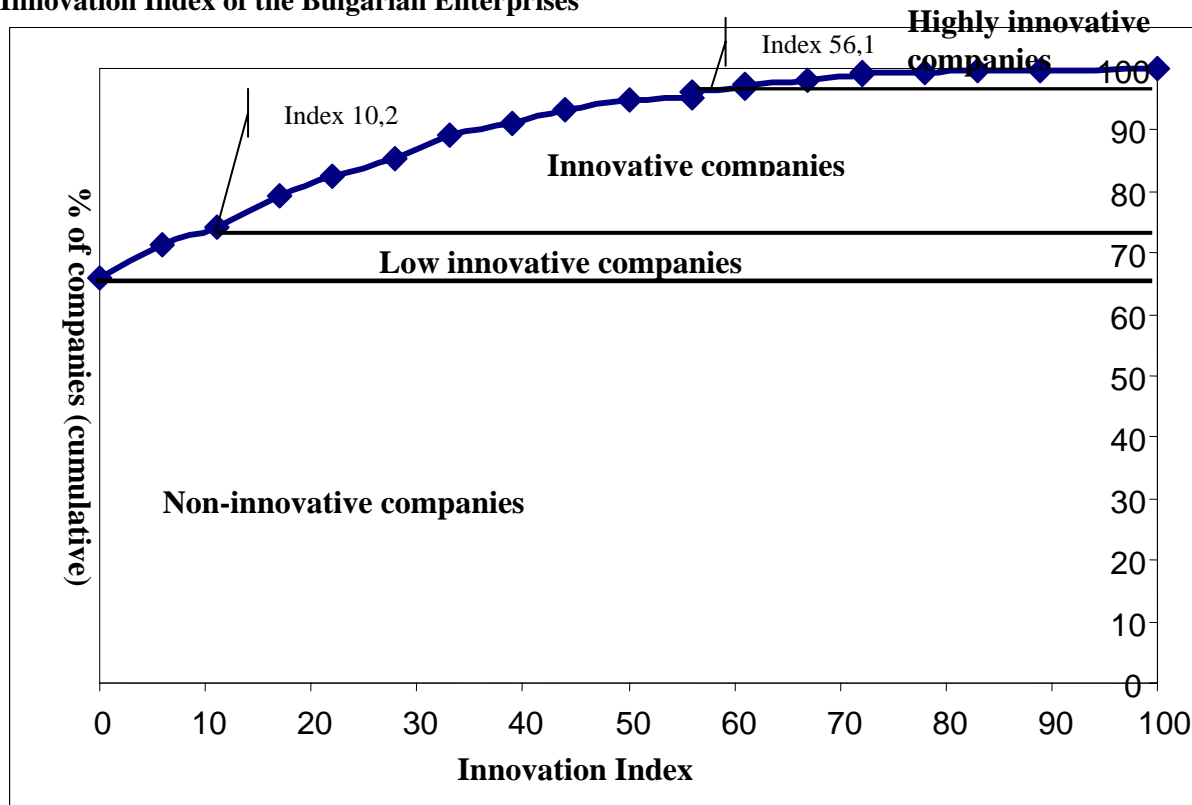
- gross innovation product;
- entrepreneurship and innovation networks;
- investment and financing of innovation;
- human capital for innovation;
- information and communication technologies (ICT).

This year's report introduces: (i) Innovation Index of the Bulgarian Enterprises based on the results of the annual surveys of the Innovation Relay Center, Sofia; and (ii) a profile of the Bulgarian innovative companies based on panel data and in-depth statistical analysis.

The Innovation Index of the Bulgarian Enterprises¹ reveals that a sizeable share of Bulgarian companies (over 65%) did not have any innovation activity during 2006. Most of the Bulgarian innovative enterprises (about 24% of all companies) have an innovation index below 40. Thus the average weighted innovation index of the Bulgarian enterprises in 2006 was 10.2 (out of 100). This reflects their lack of capacity to combine several types of innovation and the low degree of novelty of their innovation activities. Most of the innovations of Bulgarian enterprises are new only to the company or the Bulgarian market, but not internationally. The average value of the innovation index for the Bulgarian innovative companies is 56.1. The highly innovative Bulgarian companies, i.e. those which score above 56.1 represent less than 4% of all Bulgarian enterprises.

¹ The values of the index differ from these of the National Statistical Institute because of the different calculation method.

Innovation Index of the Bulgarian Enterprises



Note: 10.2 and 56.1 are average index values for all companies and for the innovative companies respectively.

Source: Applied Research and Communications Fund, 2006.

In 2006 the **gross innovation product** of the Bulgarian economy increased. Its rising is expected to continue steadily after Bulgaria's accession to the European Union in 2007. The innovation product is the major driving force in this trend, but the scientific product is growing as well. Enhanced innovation and R&D results, however, have not yet contributed to advancement in Bulgaria's technological product, although there are some signs of improvement in this area as well. Still, the Bulgarian national innovation system is at an early stage in its development, which is clearly visible when its performance is compared to the average innovation levels across the European Union. In the first year of EU membership Bulgarian enterprises are expected to expand further their innovation activities, to upgrade their technological capacity, and to step up their R&D efforts.

The **entrepreneurship** and business environment in Bulgaria continues to improve in line with the overall growth of the Bulgarian economy. Lasting macroeconomic stability has provided conditions for company growth and the establishment of productive partnerships for innovation. Yet, certain microeconomic factors, such as high entry barriers, low competitiveness and unfair competition, high market concentration, low protection of property rights, etc. continue to hinder the development of the Bulgarian innovation system and, thus the competitiveness of Bulgarian enterprises in the EU. These

negative factors should be removed quickly for Bulgaria's EU membership to lead to expansion in innovative entrepreneurship.

Investment in innovation in Bulgaria depends primarily on knowledge transfer from the EU through foreign direct investment or import of investment goods. R&D expenditures in Bulgaria are relatively low (0.51% of GDP). The Bulgarian financial system undergoes rapid expansion, but its growth is still not diversified enough - there are no specific instruments for financing high-risk innovation projects. Investment in innovation will increase in the next few years, driven by EU funding and the growing robustness of the private sector.

Though the magnitude is difficult to measure, in the years of transition, alongside the depreciation of physical capital, **human capital** in Bulgaria has lost a substantial part of its quantity and quality. Secondary education and specialized R&D institutes were most severely affected. After 2002–2005, all elements of the Bulgarian educational product and employment, except in high-tech industries, have rebounded from their lowest levels. Nevertheless, overall Bulgarian human capital performance remains below the level of EU-10 and EU-25.

Information and communication technologies penetration in Bulgarian enterprises increases at a rising pace, but the available IT capacity is not yet fully utilized, especially in micro enterprises operating in the traditional sectors of the economy. The process of introducing ICT solutions in Bulgarian enterprises has so far been largely driven by the evolution in government/administrative requirements. The year 2007 is expected to witness a turning point in the development and growth of innovative online services and companies in Bulgaria.

An analysis of the resources allocated to Bulgaria for innovation through the Cohesion and Structural Funds and through the national budget for the period 2007–2013, shows that Bulgaria's national innovation policy will rely mainly on EU funds. In order to overcome the existing mismatch between R&D supply and demand in the Bulgarian innovation system the Bulgarian government needs to improve coordination between the executive agencies and units implementing the set of policies that determine the innovation environment in the country—innovation, entrepreneurship and SMEs, R&D, education and ICT policies. This would enable the country to take full advantage of all policies and supporting financial instruments of the EU in the field of innovation - the Cohesion and Structural Funds, the Seventh Framework Program for Research, Technological Development and Demonstration (FP 7) and the Competitiveness and Innovation Program (CIP).

The first years of Bulgaria's EU membership will be formative for the shape, character and functioning of the national innovation system, as well as for the competitiveness of the Bulgarian

economy in the long term. The varying pace of catching-up of some EU members from previous enlargements, such as Greece, Ireland, Portugal and Spain, reveal that the choice of government policies has been at least as important for the success of integration as the initial conditions. Bulgaria, as well as the other new member-states of 2004, will have access to much smaller pool of EU resources compared to those available to the countries of earlier enlargement waves. Therefore, as the challenge Bulgaria has to meet is bigger it needs to apply even greater care in setting national priorities and policies for development. *Innovation.bg 2007* offers a set of **conclusions and recommendations** that aim to contribute to drawing up a successful national innovation policy for growth in the European Union.

Conclusions

- The market component of the Bulgarian innovation system is at an early stage of development—Bulgarian enterprises have a low degree of innovativeness.
- The innovation and the R&D components of the Bulgarian national innovation system develop in structural isolation from each other—the links between them are weak.
- The Bulgarian national innovation system is shaped primarily by its integration in and funding from European innovation networks and the changes in Bulgaria's public innovation policy and financing.
- The major barriers to innovation in Bulgaria are the lack of appropriate sources of financing (in the short term) and the lack of qualified personnel (in the long term).
- The Bulgarian national innovation system has started to slowly improve its performance, giving a clear sign that the time for action in this area has come.

Recommendations

- The government should direct more political, administrative and financial resources towards formulating and implementing the national innovation policy.
- Coordination between strategic documents, policies, administrative and financial instruments shaping the national innovation system should be improved.
- Cohesion and Structural Funds' resources for innovation should be carefully directed towards more complex, longer-term projects (vs. direct financing for enterprises) at national and regional level and should be implemented in coordination with other European programs (FP 7, CIP).

The full text of the Innovation.bg 2007 report in English will be published in print in February 2007.

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