

Global innovation gap and quality of education

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Abstract – global innovation gap is studied. The causes of innovation gap lie in the sphere of arrangement of innovation process in the national level, and first of all, in the conditions of national innovation system. Efficiency of national innovation system depends on congruence of interests of its components and existence of effectual collaborative mechanism. Problems in the Russian innovation system are analyzed and the role of higher professional education in the efficient innovative development is outlined.

Keywords – global innovational gap, innovation indexes, innovative process, science-education-business cooperation, research-and-development

I. INTRODUCTION

Nowadays there is a global innovation gap in the world economy, basically meaning existence of a complex of fundamental disparities in innovation-driven growth of various countries. Global innovation gap is a result of a variety of objective phenomena and processes in different countries and regions. To research the nature of the innovation gap it is necessary to study specific problems in innovative development of countries and to search solution approaches. Today global innovation gap is becoming a social disparity growth driver, source of contradictions between mature economies and developing countries, and disproportions in involvement of the world economy.

II. PROBLEM STATEMENT. HIGHER EDUCATION IN THE NATIONAL INNOVATIVE DEVELOPMENT

According to analytical report “Global Innovation Index 2012” Russia has the 51st innovation index in the list of 141 countries. In the sphere of innovations there were defined the following regional leaders: Switzerland in Europe, USA in North America, Singapore in South-East Asia and Pacific countries, Israel in North Africa and West Asia, Chile in Latin America and the Caribbean, India in Central and South Asia, and Mauritius in Africa south of Sahara. The report also states that BRIC countries (Brasil, Russia, India and China) should continue to invest in innovation development to disclose fully their potential. Speaking about such factors as key knowledge and technological development, China is inferior only Switzerland, Sweden, Singapore and Finland; however, together with India has weaknesses in its innovative infrastructure. Among BRIC countries Russia is on the second

place after China (34th place), and among CIS countries it is second after Moldova (49th place). It is stated in the report that Russia’s strengths are human resources (43th place), business development (43th place), and knowledge development (32nd place). Poor institutions (93rd place), internal commerce developmental quotients (87) and results of creative activity (84) keep down innovative development [1].

According to the given research there is a new innovational dynamic coming to live in the world, in spite of keeping a profound and stable global innovation gap between countries and regions. The most prominent innovation gap exists between countries with different level of economic development. On the average countries with high level of income per capita leave countries with lower income behind by any innovational indexes. Profound inequality in the sphere of innovations is continuing to persist also between different geographical regions.

Researches based on the analysis procedure of the countries’ innovation-driven growth “European innovation scoreboard” [2], showed that Russia belongs to the group of countries where expenditures for innovations exceed the average level among the investigated countries, and results of innovative activity are significantly in arrearages of universe mean. Therefore development of intelligent potential in the given group of countries does not transform into production of innovative goods, advanced technologies, etc. We may observe a considerable gap between the level of science and education and results of economic activity. Disproportion between the intellectual resource level of the country and the level of innovative development is one of the factors that retard Russia’s transition to innovative economy.

Russia has a significant positive experience in creating various integrated institutions, also actively adopted abroad - institutes for scientific research, basic laboratories at the universities, etc. However during the age of reforms Russia has practically lost its competitive strengths, concerning high research and educational potential. Formal separation of science and education, that reveals itself in their institutional, administrative, legal and financial insulation greatly impaired the authority of Russian science.

Cluster development index in Russia is also two times lower than in the world leading mature economies. Researches

displayed that GDP expenses for scientific researches and developments closely correlate with quality index of Russian research institutes. Thus, this index in Russia was 49,93 in 2010, while in the USA it is 82,53, and in Germany – 81,13.

Research of integration processes revealed that two-side integration prevails in Russia: universities and research centers integrate with each other in fundamental spheres of scientific and educational activity. Business representatives prefer science in the field of research and universities in education.

To eliminate innovation gap Russia should develop three-side cooperation between science, education and business via trilateral treaties, joint research centers, laboratories, collaboration within the framework of research and educational entity, emphasizing the leading partner, priorities and areas of activities.

Only three-way partnership of these institutions may have multiplier effect and lead Russian economy to innovative development.

National innovational system (with institutions of higher profession education as its core) must become an institutional basis for integration in science, education and business. Innovational process within the framework of scientific and research system is a chain of interrelated linked elements: fundamental researches – applied researches – development – customization – commercialization – diffusion. Customization and commercialization become possible due to technology transfer. Movement from scientific idea towards specific engineering novation and, finally, innovation, is determined by efficiency of innovational system. Weakness in each link of this chain disrupts the innovative process.

Experience of the leading countries gives evidence that universities intensify their contribution to development of innovations and economic growth. Government financing of university researches is more and more frequently aimed at specific socio-economic purposes and becomes dependent on final results; the role of contractual funding is grows up. Although in the OECD countries universities still carry out the main part of basic researches (50% of the total amount of researches and development in the given sector), in some countries increases the proportion of industrial funding university researches: 8 – 14% (Canada, Belgium, Hungary, Germany) and even 15 – 23% (Korea, Turkey). In China it amounts up 37%. Innovative orientation of universities is provided also by training highly qualified scientists and engineers, increasing participation of teaching staff and postgraduates in researches and developments for industry.

However the latest investigation showed that during the years of reformation the quality of Russian education considerably decreased. Only Moscow State University named after M.Lomonosov is constantly included into the top hundred of the world universities. Although state funding for the higher education became much lower, the amount of institutions of higher education and number of students grow. Such extensive outgrowth of higher educational institutions,

although gives evidence of prestige of higher education, can hardly make one happy, because goes together with educational quality fall-off.

There are the following factors of low rating of Russian universities:

1. Weak practical relevance of researches. Researches and implementations are the main areas for western universities. E.g., In Great Britain of USA university funding depends on efficiency of researches and not on the number of students.
2. Little funding. In comparison, Harvard University has funding of \$2 thousand million per year, which allows the most up-to-date infrastructure.
3. No education in English. Programs in English achieve 3 goals: additional funding due to international students, wide labor possibilities for graduates, higher university prestige due to invitation of international professors.
4. Inflexible educational programs. Labor market develops rapidly, new professions appear. The leading educational institutions quickly respond the demands and introduce new courses, but Russian university curriculums are brought up to date very slowly.
5. Insufficient practical training of graduates. In the leading universities practitioners deliver lectures, in Russia teaching staff is not usually engaged in practical activity.
6. Poor infrastructure and service. Modern university of international renown should be comfortable for students: have good dormitories, sports centers, public nutrition, etc.

It is not possible to overcome innovative retardation in Russia without massive improvement of quality of education, its practical orientation and stronger integration with science and business.

III. CONCLUSION

Thus, balance in the institutional structure elements, accord in expenses and benefits from innovative activity are the pre-requisites of efficient development of national innovational system and transition to whole new economic level. Higher education is the core of innovative performance. Its effectiveness forms correspondent quality of brain capital as a determinant of national development and overcoming the innovation gap with developed countries.

REFERENCES

- [1] «The Global Innovation Index 2012». <http://www.globalinnovationindex.org>.
- [2] European innovation scoreboard 2009. Comparative analysis of innovation performance. January. 2009. URL: <http://www.Proinno-europe.eu/metrics>.