

PROBLEMS OF FORMATION OF ECONOMY IN RUSSIA

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Abstract: This article examines various roadblocks rising in the way of innovative economy formation in modern Russia. It also suggests potential integrated solutions to these problems.

Key words: innovations, innovative economy, research parks, technologies, innovation infrastructure.

Country's near-term development policy has been identified as forming knowledge-based or innovative economy. What are the problems obstructing innovative economy? What are their possible solutions?

Development of science is an important factor having influence on development of production, defense, medical science, education, construction, etc. Technologies used in all areas of human activities define quality of delivered services and produce, their net value, and enterprises' profit, thus setting the population's standard of living, GDP volume, and its structure. Innovative economy considers scientific achievement to be the basis of production.

During the Soviet era all major scientific research and development was focused on Defense and Space, which was the core of rivalry between the USSR and USA. It also revolved around development of fundamental (basic) science, quality higher education, high quality level of health care, whereas scientific achievements were insufficiently applied in the country's economy. Technologies based on scientific studies would be adopted at one or two enterprises and were not at all of mass proportions (Технопарки в России [сайт]. URL <http://www.raexpert.ru/researches/technopark/part3/>).

In 1990 the first research park was founded in Tomsk and named "Tomsk Science and Technology Park". Over a period of three years the number of such parks grew up to 43 and currently equals 80 (Институциональные проблемы освоения инноваций [сайт]. URL <http://institutiones.com/innovations/1507-osvoenie-innovacij.html>). Primarily parks of this sort are created on university campuses to serve as a platform for small innovation businesses. Nevertheless only 30 of them managed to obtain a State Accreditation Certificate. Many research parks do not pursue their direct activities, but rent out commercial spaces to various organizations regardless of their scope of business. Underdeveloped innovation infrastructure is one of the major roadblocks rising in the way of innovative economy (Арсеньева, 2008: 57).

Only a few countries can be considered innovative according to the rating provided collectively by News agency Bloomberg. South Korea topped the list. This is what seven of the leading innovative countries are:

1. South Korea
2. Sweden
3. USA
4. Japan
5. Germany
6. Denmark
7. Singapore

Russia was rated 18 therein (Самые инновационные страны в 2014 году [сайт]. URL <http://prian.ru/news/27002.html>).

Formation of innovative economy was started in the 1950s. At that time the first Research Park was built on the edge of Stanford University campus, it later laid foundation for the present-day Silicon Valley. To date there are more than 160 research parks in the USA. However America is losing ground to Asian countries, particularly to Japan, China and Singapore. What fuels concerns is

cutbacks in fundamental research financing, declining popularity of technical education and science. Apart from that, China and Japan are ahead of the USA in information and nanotechnologies, power economy, bioengineering and the like.

Currently the leading export line item of Russia is natural resources. Economy based on energy exports will fail to be competitive in the future. If we do not take active measures now, a mere raw-material exports role in the post-industrial developed countries will be reserved for Russia. Our country is faced with a challenge – to find a new path to support economic development and innovative economy formation.

As per Russia, innovative economy is an opportunity to make a transition from exports of energy to export of science-intensive products. The adoption of innovation in production industries will be instrumental in improving the output quality, reducing cost and winning new markets as well as producing fundamentally new goods and establishing new sales markets. Energy saving solutions and export restructuring in favor of innovation will enable Russia to break away from oil dependence. Industry is not the only sector in need of innovative reforms, medical science needs new enabling and available technologies, the same applies to services and education.

As per data by the Federal Government Statistical Service, the number of patents issued in 2013 exceeded 50, 000, however the major part of scientific developments are sold to foreign countries (Иновационная экономика на смену нефтяной игле [сайт]. URL http://www.ruseconomy.ru/nomer19_200506/ec13.html).

It is due to enterprises being unprepared for introducing innovations, revising manufacturing technologies and dealing with associated risks. Many developed products did not find market acceptance in Russia, but proved marketable abroad. In addition to the above, there is an urgent need to adopt innovations at Russian enterprises, since plant and equipment are worn out, technologies outdated, labor safety extremely poor, which, in turn, worsens the quality of goods thus making them non-competitive both domestically and internationally.

The process of innovative economy formation faces a range of obstacles:

- underdeveloped innovative infrastructure
- enterprises are unprepared (and some unable due to unsound financial conditions) to introduce innovations
- lack of skilled personnel at all levels from workers to top managers
- insufficient cooperation between higher education institutions and enterprises
- underfunded science efforts
- shortage of finance facilities needed for innovative projects and small innovative businesses.

It is necessary to find solutions to the aforementioned problems. Economy is an integral system which makes the formation of the new economy a complex matter.

At this juncture much emphasis is on building and developing research parks in our country which, in fact, may boost up innovative infrastructure; however what is really needed is common information and innovation space to be open on the one hand and fairly secure on the other hand.

Many higher education institutions possess significant scientific and innovative potential. Innovation-based on-campus platforms can be an opportunity for innovative potential and infrastructure development.

In addition, innovations only matter if applied in economy and yield tangible returns. Higher education institutions and enterprises need to cooperate. It may call for different options:

1. On-campus innovation center may sign up an order with an enterprise; develop an item (technology, material). A given innovation may be financed and further adopted by the enterprise; the institution will receive monetary remuneration.

It is noteworthy that the enterprise must finance the development at various stages, since the institution may have no financial resources to carry out a high cost research or purchase specialized equipment. If the adoption of innovation proves successful, the innovation center is financially rewarded and the enterprise gets multiple returns.

2. Higher education institutions may develop innovation, and then offer it to enterprises. It may be associated with a risk of not finding market acceptance for the new product.

Large-scale enterprises and transnational corporations could build their own innovative platforms, with or without resorting to help of outsource services. This will ensure a higher degree of information security by contrast with innovations provided by third-party contractors.

The sufficient number of skilled personnel can be achieved by due financing of schools and higher education institutions, furthering educational and scientific projects, improving personnel skill at enterprises' training units.

Enterprises are not prepared to introduce innovations due to their habit of surviving the day and scarcely ever implementing a 5-10 year look-ahead for their developments. Government support could be helpful too, including tax benefits for introduction of more environmentally friendly and resource and energy-saving technologies. There is a need for various government-initiated programs spurring development and adoption of innovations on the one hand and enabling enterprises making innovations part of their industrial processes to have benefits, financial support, etc.

Financing basic sciences must become our government's priority. Innovation economy cannot further develop without it. Applied sciences stay closer to production operation, however a breakthrough in basic sciences equals a breakthrough in applied sciences, which, in turn, means new technologies and equipment are adopted in economy, education and medical science.

Provided basic sciences are the government's priority, then applied research may well be financed by large businesses through direct investments as well as a variety of foundations, programs and projects.

Finance facilities needed for innovative businesses are not too varied; it is mostly venture capital funds. Nevertheless, state-guaranteed orders could become an additional facility of that sort. State-initiated biddings for different developments, for instance medical equipment and its subsequent usage in public medical treatment facilities could be federally funded and further offered to purchase by private clinics.

There are various ways to overcome roadblocks rising in the way of innovative economy formation. The future development course of our country depends both on government policy and small and medium-size businesses being interested in developing and introducing innovations. This will signify the transition of economy to a new level.

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