Секція: Актуальні проблеми соціально-економічного розвитку України

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TECHNOLOGY TRANSFER STRATEGY WITHIN THE GLOBAL INNOVATION SYSTEM[1]

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Today, the main policy issues countries are occurrence the global innovation system for the use of its potential and achieve long-term economic growth through innovation, the creation of a center of education, research and development of world-level foreign direct investment in priority areas, and public-private partnerships. Already in the report of the World Economic Forum's «Global Competitiveness 2000» competitiveness in the system of world economic relations is one of the three main factors that determine the competitiveness of the economy.

Global competition leads to a significant reduction in product life cycle, while increasing technological integration promotes appreciation of innovation and improvement of their riskiness. Companies to put high-end features (for example, development, R&D) to the international level. At the same time innovation in companies are becoming more open, cooperation with foreign partners (suppliers, customers, universities, etc.). This has an impact on the formation of innovation policy on a global scale, taking into account the important role of corporate innovation in the rate of economic growth. The authors note that globalization process led to the discovery of the innovation process, and thus, the active strategic use of the outside world capacity to strength the national innovation capacity.

But globalization of innovations has not only the commercial side. Paragraph 197 of final outcome document from Rio+20 underlines the role of global innovation system for sustainable development and states «We recognize that traditional knowledge, innovations and practices of indigenous peoples and local communities make an important contribution to the conservation and sustainable use of biodiversity, and their wider application can support social well-being and sustainable livelihoods» [2].

Effective innovation policy relies on more than just science policy and the promotion of high-tech product development. It also must focus on improving productivity across the board in all economic sectors. Countries with the best

innovation strategies coordinate their policies toward skills, scientific research, information and communications technologies (ICTs), tax, trade, intellectual property, government procurement, standards, and regulations in an integrated approach designed to drive economic growth through innovation.

The lead firms recognize how their products create potential value and they negotiate over its division with their partners. A successful firm understands that the creation of value through innovation is not a zero-sum game, and profits are needed all along the supply chain to sustain innovation by all participants from different countries.

So in practical cases all forms of technology transfer complete each other, especially in international projects, interstate agreements on industrial and investment cooperation etc. Also we will use global value chains concept, which reflects the international nature of modern tech products, based on global competition logic, and allows to evaluate the imitative and innovative capacity. For the reflection the cooperation nature we propose to consider the technological trajectories based strategies.

E.g. iPod offers an interesting case study in the internationalization of product design and implementation. For the fifth-generation video iPod, among the most costly components are those contributed by companies headquartered in Japan (Toshiba, which supplies the hard drive), Korea (Samsung Electronics, which supplies the flash memory), and the United States (Broadcom Corporation, which supplies the multimedia processor). These components are in turn manufactured around the globe – in China (hard drive), in Taiwan or Singapore (media processor), and in Korea (the memory) [3].

The level of integration of the national innovation system in the global can be estimated by analyzing the flow of innovation factors and the degree of increase innovation potential of international cooperation. We also need to assess the changes in the national innovation system (for example, due to the harmonization of standards and IP rights protection) and the relative changes in

the country's export & specialization (RCA) in the direction of its intellectualization.

One of approaches is presented in the report of Global Innovation Policy Index, which assesses these countries on their strength in seven policy areas [1]:

- open and non-discriminatory market access and FDI policies;
- science and R&D policies that spur innovation;
- openness to domestic competition and new firm entry;
- effective intellectual property rights protection policies;
- digital policies enabling the robust deployment of ICT platforms;
- open and transparent government procurement policies;
- openness to high-skill immigration.

In addition, analysis of international processes should be carried out on the basis of criteria of technology transfer as a major form of promotion of innovation. Thus, it is necessary to take into account the priority of high technology – NBIC technologies or NBIC-convergence (nano, bio, info and cogno), that will form future economy.

To maximize effects of international technology transfer participation we offer to consider it in the context of evolutionary software development and high-tech industries to overcome technological gap, which must be consistent with socio-economic development and export strategy:

– existing technological capacity audit (evaluation);
– export potential of competitive growth providing of finished goods and services with high added value audit, including through the application of high technologies product networks;
– formation of effective system of measures that promote high-tech processes and exports;
– integration into the international technology transfer system and innovation & technology cooperation across the international clusters and other forms of cooperation. E.g. cluster strategy states that the parties

shall seek to take advantages of knowledge spill-overs, especially at the early stages of industrial lifecycle.

According to this, today we can say about the fragmentation of the innovation system integrating Ukraine into the global processes. In the situation with Ukraine, gap of the current chains considering fragmentary character of technologies creates the following development model: analysis of the current potential of the innovation system through technological audit and resources concentration to solve tasks concerning investigation of some technologies set, taking into account criterion of terms and cost minimization, and maximization of key technologies in the sector availability.

But many countries now are actively using the potential of the global system. For example, Norway has managed to simultaneously create its own national innovation system and make it a part of the global. Norway has built its relationship with multinational corporations so that TNCs to localize their technology or transfer them to a Norwegian research organizations and universities. As a result, Norway increased its own shipbuilding companies. They grew strong sector IT-related technology to oil and gas production. The result was the integration of the traditional type industries and high technology.

So according to the above, the country should develop a national innovation-driven growth by the policy, and international development strategies of activation of the international innovation cooperation, which includes collaboration with leading international high-tech companies (including market leaders), international venture funds, small and medium innovation business, engaged in the scientific, innovation and business activity, fellow citizens abroad and their public organizations.

References

1. Atkinson R. D., Stephen J., & Luke A. (2012). The Global Innovation Policy Index, Washington, DC: Information Technology and

Innovation Foundation and the Kauffman Foundation.

2. Ely A. (2012). Harnessing diversity across the global innovation system: a key challenge post Rio+20, STEPS Centre.
3. Linden G., Kraemer K., & Dedrick J. (2007). Who Captures Value in a Global Innovation System? The Case of Apple's iPod, Personal Computing Industry Center, University of California, Irvine.
4. Kudrina O., Volodin D., Omelyanenko V. (2017). Conceptual principles of development resources security analysis. Marketing and Management of Innovations, 2, 280–287. DOI: 10.21272/mmi.2017.2-26
5. Krapyvny I. V., Omelyanenko V. A., Vernydub N. O. (2015). International innovation networks as new stage of innovation development. Economic Processes Management, 1. Available at: http://epm.fem.sumdu.edu.ua/download/2015_1/2015_1_17.pdf