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INNOVATIVE DEVELOPMENT OF UKRAINE

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ABSTRACT

It is determined that in economic science there is no single approach to the interpretation of the concept of 'innovation'. It is suggested that taking into account the radical changes that are in the world economy today it is necessary to use the extended concept of innovation, which should be understood as the results of the development transformation, research, ideas and their combination into a radically new or improved technological, economic, social solution, the results of which can be applied in practice. The main indicators that determine the level of innovation development of a country or region and provide an opportunity to determine the impact on economic development are covered. The place of Ukraine in such ratings according to indicators of innovative development in 2017, 2018 and problems that cause their low level are defined.
The improvement directions of the innovative development level of the country are defined and the real steps taken by the government of the country to correct the negative trends through the introduction of digital transformation of the country's economy, the transition from raw material to high-tech production and the basis of innovative IT technologies and communications are shown.

Keywords: innovation, innovative development, strategy, digital economy
JEL code: O30

INTRODUCTION

The purpose of any developed society should be the construction of a progressive economy, and there the innovations themselves will make the basis of economic profit. In such conditions, only those countries in which enterprises will be able to create and implement new knowledge, technologies, apply them to the production of new goods or services for the needs of consumers will get competitive advantages that will allow them to develop successfully.

Taking into account written above, the objectives of the research are: (i) generalization of scientific approaches to the interpretation of the essence of the concept "innovation"; (ii) analysis of generalizing indicators of determining the innovative development level of the country and the main factors affecting them; (iii) identification of the main strategic directions for raising the level of innovative development in Ukraine through the introduction of a tactical action plan in this direction.

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THEORETICAL BACKGROUND

The reasons of the slowdown of innovative processes in Ukraine are discussed in articles by Ukrainian scientists P. Bubenko and V. Gusev (Bubenko and Gusev, 2009, 2016), the realities and possibilities of economic development of Ukraine in the context of the globalization challenges are in scientific works by V. Onishchenko (Onishchenko, 2015), V. Heyets (Heyets, 2014). However, there is no single approach to the definition and full description of the term «innovation» in the domestic and foreign economic works. Some scientists identified the innovation as a particular object or result of management or activity (Schumpeter, 1989). Other scholars consider it as a process that fills the economic content with a certain new idea, a new product, an invention (Twiss, 1989; Santo, 1990); some of them consider innovation as a set of technical and economic processes that leads to the emergence of radically new technologies and innovations when applied in practice (Todaro, 1997). Other researchers prove that innovation is a set of measures that ultimately leads to the emergence of new technologies, equipment, inventions (Fatkhutdinov, 1998). Modern specialists consider the innovative process as a component of innovation activity of reproduction: it determines the innovative development of the enterprise (Molodozhenya, 2016).

MATERIALS AND METHODS

In the course of this research, the following methodological approaches were used:

- an analysis of the theoretical basis for the definition of innovation that made it possible to distinguish the extended concept of innovation;
- the method of system analysis was used that allowed to analyse the level of innovative development and some issues of the socio-economic situation in Ukraine and evaluate the problems of introducing innovations in the country;
- a method of generalization and comparison that allowed to reflect the strategic directions of innovative development of the country;
- systematic structural analysis was applied that allowed to determine the interrelations between the components of the formation and implementation of the state innovative policy of the country.

RESULTS AND DISCUSSION

Taking into account the radical changes that are currently being made in the global economy, it is necessary to use the extended concept of innovation, which should be understood as the transformation result of development, research, ideas and their combination into a radically new or improved technological, economic, social solution the results of which can be used in practice both in the current activity and in the future.

There are some researches that prove the hypothesis of close relationship between socio-economic development and innovative development (WEF, 2014).

In the context of defining the essence of innovation and its impact on economic growth, international organizations developed the indexes that estimate the country's innovative potential, its development and potential growth opportunities. Such an index can be named, developed by the United Nations Conference on Trade, Innovation Capability Index (from English as index of innovative potential), which evaluates the totality of resources that are necessary for innovative development. A complex index ICI consists of subindexes such as research and development (R&D), human resources, patents, innovations and technologies, balance of payments (BoP) (WIPO, 2017).

An indicator that combines Innovation Input (calculations of conditions and resources valuation for innovative development) and Innovation Output (valuation of innovative activity results) is also the Global Innovation Index developed by the World Intellectual Property Organization and the International Business school INSEAD (WIPO, 2017).

According to the annual report about innovative development of the countries worldwide Global Innovation Index 2017 presented at UN headquarters with the support of the World Intellectual Property Organization by international reputable organizations and business schools, the most innovative countries in 2017 were: 1st place – Switzerland; 2nd – Sweden; 3rd – the Netherlands; 4th – The USA; 5th – the Great Britain.

In 2017 Ukraine took the highest position in the last 7 years – 50th place, being ahead of Thailand, in comparison with the previous 2016 increased by 6 points. In the group by the income level below average Ukraine occupied the 2nd place after Vietnam, Mongolia, Moldova, Armenia and India (WIPO, 2017).

In the report about the innovative development of the countries in the world Global Innovation Index 2018, Ukraine has taken the 43rd place ahead of Thailand, Vietnam, the Russian Federation, Moldova and Turkey, and has risen by 7 points in comparison with the previous 2017. Also, the country has taken the 1st place in the Global Innovation Index in the group according to the income level below average, and has taken the 1st place at the sub-index of innovative production and the rate of innovation efficiency (WIPO, 2018).

Such insignificant but still successes, however, are explained by the more balanced ratio of innovative result to innovative resources in 2017 and 2018, which led to a higher level of index than it was expected at the level of income in our country.

Evaluating the strengths and weaknesses of Ukraine in the Global Innovation Index, it can be noted that the country's traditional strength is human capital, which can be explained by the availability of higher education in Ukraine. However, under the quality evaluation we may lose the positions on this sub-index. The negative point is the low level of spending on science and research and the lack of motivation for scientists, which causes their migration beyond Ukraine. According to the State Statistics Service of Ukraine, for the last 2 years the number of scientists has decreased by almost 18%[4].

Today, more than 1/3 of the rural population of Ukraine does not have an access to broadband Internet. Half of Ukrainian schools and almost all establishments of health care are not connected to the World Wide Web. It is possible to change this situation for the better with the help of public-private partnership projects to achieve broadband Internet coverage of over 80% over a period of several years.

'Our ambitious plan is at least + 5% of GDP for 2021 due to the development of the digital economy' (Ministry of Economic Development and Trade, 2018).

To overcome such negative trends, the Government of Ukraine tries to introduce the digital economy through the development and implementation of the Conception of the Digital Economy Development and Society of Ukraine for 2018–2020. A plan for its implementation that The Ministry of Economy and Development has already approved and developed together with leading IT experts is confirmed.

The developed Conception stipulates the digital transformation of the country's economy, the transition from raw material to high-tech production and based on innovative IT technologies and communications.

Due to the introduction of the proposed Conception it is planned to give acceleration of the economy growth; realize high-tech initiatives, projects, digital initiatives and production; create new opportunities for business development and also to make the most of existing ones; to join the European digital community; stimulate digital transformations in system of education, medicine, ecology, cashless economy, infrastructure, transport, public safety, etc.

It is planned to achieve by economy stimulating and investment attracting, overcoming of the digital inequality, deepening of cooperation with the EU in the digital sphere and building of the country's innovative infrastructure and digital transformation. The additional growth of GDP is expected to grow by 2.5% in 2019, by 3% in 2020 and by 5% in 2021.

The implementation of the Conception measures should provide:

- economy stimulating and investment attracting;
- the basis for the transformation of domestic industries into competitive and efficient ones due to their 'digitalization';
- solving of 'digital divide' problem, bringing 'digital' technologies closer to citizens as well as by providing citizens with access to broadband Internet, especially in villages and small cities;

[4] State Statistics Service of Ukraine website http://www.ukrstat.gov.ua [Accessed 02.05.2018].

- creating of new opportunities for human capital realization, innovative developing, creative and 'digital' industries and businesses;
- development of the export of 'digital' products and services (IT outsourcing) (Order of the Cabinet of Ministers of Ukraine, 2018).

Such measures should become the basis for the transition to the level of innovative countries and the transition to technologies of the 5th–6th technological patterns. So, an important task of the Ukrainian government is to develop medium and long-term strategies for innovative development. As the basis, you can take the successful experience of the United States and China that is already a part of the Top 25 innovative countries in the world. China has become a powerful competitor for developed countries of Western Europe and the United States in just 35 years. The Government of China, since the late 1970's of the twentieth century, has developed step-by-step tactical and strategic plans for 'innovative' perfection on a global scale. The quota of expenditure for the investigation and development in public and private investment is constantly growing – 2.0% of GDP in 2015 (Ukraine has 0.7% of GDP, South Korea has 4.3% of GDP).

Encouragement of scientific and technological progress has become one of the main priorities of US policy. The fundamental achievements in the field of knowledge are officially recognized as the basis of economic growth, as, according to the US estimates, USD 1 spent on R&D has USD 9 in GDP growth. At the same time, in order to improve the business climate, the representatives of scientific and technical and business circles recognize the importance for US corporations to write off the current costs of their own R&D and exclude them from the amount of corporate income taxable of companies, as well as to conduct the accelerating depreciation of their fixed assets – production assets (Figovsky, 2018).

Therefore, it is urgent for Ukraine to identify the priorities of economic development whether we will develop as raw material country or we will make an innovative breakthrough.

The first step for Ukraine should be the development of a tactical plan for 3 years (until 2020). It is based on:

- growth of research and development expenditure to 1.5% of GDP;
- formation of a national innovative system with a market mechanism and a sectoral innovative system for agriculture;
- creation of high-tech zones;
- stimulating of the development of world-class universities;
- formation of intellectual resources of neo-industrial modernization such as information and knowledge that play the role of 'collective brain' accumulating scientific and everyday knowledge of employees, intellectual property and accumulated experience, communication and organizational structure, information networks and the image of enterprises, intellectual abilities of people, together with the material and immaterial means created by them that are used in the process of intellectual work.

The second step is to develop a medium-term strategy by 2025 with the aim of:

- increasing of expenditure in research and development to 2.5% of GDP;
- Integration of the national innovative system into a global one;
- formation and development of sectoral national innovative systems in all sectors of economy and high-tech clusters;
- industry development of creative entrepreneurial potential realization.

The third step is a long-term strategy for innovative development up to 2030, based on:

- increasing of expenditure in research and development to 3.5% of GDP;
- development stimulating of world-class clusters;
- development and implementing of cognitive technologies for effective employment to increase the level of economic development and welfare of the population.

Generally, a group of innovative nature factors and a group of general economic and general social influence factors affect the country's innovative development. To the first group we refer the regulatory documentation on innovation issues, the financing level of scientific activity in general and innovative directions in particular, the effectiveness of existing

mechanisms for providing innovation, etc., to other groups we refer the dynamics of the main macroeconomic indicators, the level of education per capita, the socio-economic and political situation in the country, etc.

Therefore, for effective economic growth there is a need in the high level of efficiency in an effective system of innovative processes in the country and a mechanism of the innovations introduction, an innovative developed cooperation between country and business based on market mechanisms, openness to integration processes, the mobility growth of production factors, global exchange of knowledge due to which it becomes possible to use the resources of the world economy in general, to reduce expenditure on production of high-tech products and to increase competitiveness.

CONCLUSIONS

In consequence of the analysis of the theoretical aspects of the world economy innovative development it may be noted that at the present stage the defining of the primary role of innovation as a source of socio-economic development takes place; innovations are the source of economic growth, encourage the global problems solving of the modern world economy; and methodology construction of economic development innovative research should be based on consideration of the following components: a sector policy and international economic component and the formation of intellectual resources of neo-industrial modernization; creative industry of entrepreneurial potential realization; cognitive technologies of effective employment for increasing the level of economic development and welfare of the population. The following author's researches in this area will be devoted to specifically examination of current experience in the world economy of innovative development and the distinction of general features.

REFERENCES

1. Bubenko, P., Gusev, V. (2009). Why are innovation processes in Ukraine inhibited? Economy of Ukraine, 6, pp. 30-38.
2. Bubenko, P., Gusev, V. (2016). We continue to talk about innovative development. Economy of Ukraine, 7, pp. 82-92.
3. Fatkhutdinov, R.A. (1998). Strategicheskiy menedzhment [Strategic Management]. Intel-Sintez Business School, Moskva.
4. Figovsky, O. (2018). Proryivnyie tehnologii – osnova ekonomiki shestogo tehnologicheskogo uklada. [Breakthrough technologies – the basis of the economy of the sixth technological order]. Retrieved from: http://iee.org.ua/ua/publication/295/[Accesed 12.05.2018].
5. Heyets, V.M. (2014). Institutional Condition of Innovation Processes in Industrial Development of Ukraine. Economy of Ukraine, 12, pp. 4-27.
6. Ministry of Economic Development and Trade (2018). Ukraina perekhodyt na tsyfrovu ekonomiku ta suspilstvo. Shcho tse oznachaie? [Ukraine moves on to the digital economy and society. What does it mean?]. Retrieved from: https://tsn.ua/groshi/ukrayina-perehoditna-cifrovu-ekonomiku-ta-suspilstvo-scho-ce-oznachaye-1087940.html [Accessed 08.05.2018].
7. Molodozhenya. M.S. (2016). Innovatsiini proekty pidpryiemstv torhivli [Innovative projects of trade enterprises]. Economy of Ukraine, 4, pp. 92-103.
8. Onishchenko, V.P. (2015). Realities and Possibilities of Economic Stabilization and Development of Ukraine. Economy of Ukraine, 7, pp. 4-15.
9. Order of the Cabinet of Ministers of Ukraine of 17 January 2018 on approval of the concept for the development of the digital economy and society of Ukraine for 2018–2020 and approval of the plan of measures for its implementation. Journal of Laws 2018 No 67.
10. Santo, B. (1990). Innovatsiya kak sredstvo ekonomicheskogo razvitiya [Innovation as a means of economic development]. Sazonov. Moskva.
11. Schumpeter, J.A. (1989). Essays on entrepreneurs, innovations, business cycles, and the evolution of capitalism. Transactions Publishers, Piscataway Township, NJ.
12. Todaro, M.P. (1997). Ekonomicheskoye razvitiye [Economic development]. UNITY, Moskva.
13. Twiss, B. (1989). Management of scientific and technical innovations [Upravleniye nauchno-tekhnicheskimi novovvedeniyami]. The Economy, Moskva.
14. UNCTAD (2006). World Investment Report 2005. Transnational Corporations and the Internationalization of R&D. Geneva.
15. WEF (2014). The Global Competitiveness Report 2014–2015. World Economic Forum, Geneva.

16. WIPO (2017). The Global Innovation Index 2017. Innovation Feeding the World. Cornell University, INSEAD, WIPO. Retrieved from: http://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2017.pdf [Accessed 12.05.2018].
17. WIPO (2018). Global Innovation Index 2018. Energizing the World with Innovation. Cornell University, INSEAD, WIPO. Retrieved from: http://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2018.pdf [Accessed 15.05.2018].