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## THE MAIN PRIORITIES OF UKRAINE'S INNOVATION DEVELOPMENT: DYNAMICS OF CHANGE

Ye. Beltyukov, Doctor of Economics, Professor

Odessa National Polytechnic University, Odessa, Ukraine

*Ye. Beltyukov. The main priorities of Ukraine's innovation development: dynamics of change. The article analyzes the state of innovation activity of Ukraine, provides the characteristic of innovation activity from the standpoint of innovation development's forming the potential. Proposals for further development of innovation activity of the country are offered.*

**Keywords:** innovation development, innovation activity, innovation policy

Innovative development is a determining characteristic of modern scientific, technical, industrial, socio-economic and all social processes. The fate of Ukraine depends on the acquisition of innovative mechanisms of development: will it move in the direction of entering into the number of developed countries, or will remain a stagnant country on the sidelines of scientific and technological and social progress. This is due to the general laws of social development, according to which in the world is the transition from predominantly reproductive to innovative type of development [1].

Hence, innovation is not only the key to dynamic development, well-being, personal success, but also a means to ensure the country's sovereignty, its competitiveness in the modern, over-complex world. It is these circumstances – against the backdrop of the fact that Ukraine, as indicators of the European Union innovation scoreboard, is an emerging innovator, has become the objective basis for the initiation of this study [1].

### Analysis of recent researches and publications

Scientific works of V.P. Aleksandrovoyi, Yu.M. Bazhala, V.M. Heyetsya, O.O. Lapko, P.H. Perervy, L.I. Fedulovoyi, S.V. Filippovoyi, O.M. Yastremskoyi and others are devoted to innovation development in Ukraine. Ukrainian and foreign scholars have explored ways to intensify innovation, both in the country as a whole and in individual enterprises. This is explained by the fact that in today's market conditions, associated with the dynamism and unpredictability of changes, the risk of competitiveness' loss is high, and innovation development should be considered as a factor in the economic security of the enterprise [2]. But, in our opinion, insufficient attention is paid to the issues of determining and accounting the tasks of the country's innovation development.

*The aim of the article is to reveal the peculiarities of innovative development and its impact on economic growth, ascertaining the role of innovation in the Ukrainian economy.*

### The main part

The main factor that makes a country in the global world uncompetitive is the slowing down of innovation activity. Mainly, this can be explained by the tendency towards the decay of innovation processes without proper investment support as a result of scientific and technological achievements' use of previous years. It should also be emphasized that a significant proportion of innovation, like investment, was carried out in sectors with a low innovation focus.

In recent decades, the problem of formation and implementation of innovation policy has attracted the attention not only of scientists, but also of business leaders and politicians. The impact of innovation on socio-economic development can lead to radical structural changes in the economy and society and will significantly affect the whole chain of value creation – from suppliers to final users. At the same time, innovation policy depends on different subsystems of the general socio-economic system, whose structural characteristics and management mechanisms influence the political processes and the corresponding results. This means that in any state it is necessary to develop a consistent, interdisciplinary flexible set of policy instruments in the field of innovation and related activities. Developed countries of the world actively use innovations in competition in world markets. Fast developing countries are gradually approaching, in particular some Asian states [1].

For the period 2015-2019, the plan of measures for the implementation of the Concept for the reform of public policy in the innovation sphere was approved [3]. Within the framework of the concept, the reform of the state order system for research and development work is underway; creation of favourable conditions for activation of innovation activity, introduction of innovations, functioning of innovation infrastructure; implementation of the results of scientific research, inventions and technologies, ensuring the realization of rights to intellectual property objects; formation of innovative culture.

Taking into account the above-mentioned, it can be argued that in Ukraine there is a continuous improvement of the legal foundations of innovation development and the normative basis of innovation activity of domestic enterprises.

According to the current legislation, innovation development in Ukraine is provided at the expense of financing from various sources. Sources of financial support for innovation activity are [3]:

- 1) funds of the State Budget of Ukraine;
- 2) funds of local budgets and the budget of the Autonomous Republic of Crimea;
- 3) own funds of specialized state and communal innovative financial and credit institutions;
- 4) own or borrowed funds of the subjects of innovation activity;
- 5) funds (investments) of individuals and legal entities;
- 6) other sources not prohibited by the legislation of Ukraine.

We will track the tendency of financing innovative activity in Ukraine in recent years and try to establish the availability of all of these sources. Here is an analysis of the sources of innovation financing (tab. 1).

Table 1. Sources of innovation financing

Year	Total cost, mln. UAH	Including at the expense of funds, mln. UAH			
		own	of the state budget	of foreign investors	other sources
2011	8045.5	4775.2	87	2411.4	771.9
2012	14333.9	7585.6	149.2	56.9	6542.2
2013	11480.6	7335.9	224.3	994.8	2925.6
2014	9562.6	6973.4	24.7	1253.2	1311.3
2015	7695.9	6540.3	344.1	138.7	672.8
2016	13813.7	13427	55.1	58.6	273

*Source: compiled by the authors according to the materials [3, 4-7]*

According to tab. 1, the main source of funding is the company's own funds, accounting for almost 97%. The advantage of attracting your own funds to involved and borrowed is the speed of attraction, its ease and efficiency. Compared to other sources of financing, the company does not pay interest bearing in any of its forms and other insurance interests. During the own funds' using, the risk of bankruptcy is significantly reduced. However, with frequent funding, there is a need to attract borrowed funds.

It is necessary to highlight the decline in the attraction of state budget funds, which now stands at almost 16%, and the reduction of investments of foreign investors – up to 0.4% of the total amount of expenditure per year. It should be noted that in general for the country and its economy, attraction of foreign investments has positive effects. Increasing competition and stimulating the development of medium and small businesses, accelerating the development of industries and regions, increasing employment and rising incomes, developing and creating innovative products and production technologies, changing standards for the production of new products [8].

Table 2. Implementation of innovations at industrial enterprises: quantitative characteristics

Year	Share of enterprises that introduced innovations, %	new technological processes and processes are introduced	incl. low-waste, resource-saving	The production of innovative types of products, * names, is mastered	of these, new types of technology	Share of realized innovative products in volume of industrial, %
2011	11.5	2043	479	2408	663	3.8
2012	12.8	2510	517	3238	897	3.8
2013	13.6	2188	554	3403	942	3.3
2014	13.6	1576	502	3138	809	3.3
2015	12.1	1743	447	3661	1314	2.5
2016	15.2	1217	458	3136	966	1.4

*Source: compiled by the authors according to the materials [4-7]*

As we see from table 2, the introduction of innovations in industrial enterprises in Ukraine, at first glance, shows satisfactory results. In particular, despite the decrease in the use of new technological processes, the number of resource-saving processes remains unchanged. The share of enterprises implementing innovations has a positive tendency to increase in 2016, but by 2013, the peak values of individual indicators, which emphasize the unsystematic nature of innovation activity of industrial enterprises, are observed. Since 2013, most indicators of innovation activity of industrial enterprises have not reached these peak values.

Attention to the level of innovation activity of industrial enterprises is explained by the fact that it is a manifestation of the realization of the potential of country's innovative development as a whole.

Innovation potential contains all the resources that are able to achieve the competitive advantages of an enterprise using innovations:

— material (logistical) – technical base and circulating assets of innovation activity;

- financial – a variety of funds necessary for the implementation of innovative processes (own, credit, budget, investment),
- personnel – employees who are capable of producing and effectively implementing new ideas;
- information – a set of different types of scientific information, computer systems, information security system, scientific and technical literature, scientific and technical documentation, etc.;
- organizational – the existing organizational culture, the concept of enterprise management organizational structure of management, the form of organization and management of innovation activities [9].

The main problem, in our opinion, is not so much in the absence of developments, but in the shortcomings of the process of their commercialization. The statistics indirectly confirm this. Thus, in the context of a significant reduction in the share of scientific work performed in GDP from 1.36% in 1996 to 0.70% in 2016, there is also a significant increase in the share of foreign investors' funds relative to the total amount of costs for innovation activities from 7.6% in 2000 to 12% in 2016. And if we consider that the funds for scientific work in the analyzed period, more than half spent on development, it can be argued that foreign investors have invested in projects at a stage close to the introduction in production. That is, increasing the effectiveness of the stage of commercialization of innovations, the expansion of product diversification is directly related to the dissemination of information about innovations that are developing, the creation of knowledge base in a particular industry and is a priority.

The absence of an extensive national network for supporting innovation and technology transfer is a factor that hinders the development of the organization's knowledge systems due to the lack of complete information on completed developments in certain industries or those that are in the final stage, which adversely affects the level of diffusion of innovations and the efficiency of enterprises' innovation activity.

From the standpoint of forming the potential of innovation development, one can provide the following characteristic of innovation activity (in% to all enterprises with technological innovations) [10]:

- in the field of informatization – the share of enterprises engaged in this activity increased from 21.7% to 31.8%;
- in the field of training and personnel training – 27.5% of enterprises conducted training for innovation;
- in the sphere of formation of the scientific and technological component – 32.2% of enterprises engaged in research work, of which 67% performed them on their own;
- in the sphere of formation of production-technological component – 74.7% were engaged in the purchase of machinery and equipment;
- in order to form the system of knowledge of the organization – 11.5% were engaged in acquiring external knowledge;
- in the area of forming a market component – 22.4% were engaged in market introduction of innovations.

Although innovation is conducive to the country's economic growth, Ukraine must first of all stimulate the growth of the share of research and technical development in GDP. As the experience of foreign countries shows, this can be achieved by creating favourable conditions for the financing of NDT from the means of the entrepreneurial sector. Given the short-term needs for economic growth, it is also desirable to focus on NDTs, especially in high-tech sectors of the economy.

Therefore, in order to improve the efficiency of using budget funds in the NDT, the state also needs to diversify the distribution of funds by sector of activity and by type of work performed. At present, the share of budget funds aimed at implementing public-sector NDTs far exceeds the share of such expenditures for the needs of other sectors. In turn, the public sector is almost entirely focused on fundamental and somewhat less-applied research [11].

At the same time, it is necessary to develop closer cooperation between sectors. For example, encourage public sector research executives from the private sector or higher education sector. In general, strengthening the interaction between the state, business and universities has a strategic importance for the development of our country, because cooperation between them is currently very weak [11].

To sum up, the urgent need for NDT is to identify public policy priorities that would include both additional government funding for certain branches of science and tax incentives for businesses in these sectors, and emphasis on ways to enhance interactions between different sectors of activity.

Timely domestic scientists and public authorities developed the "Strategy of Ukraine's Innovation Development for 2010-2020 under the Globalization Challenges" (further – Strategy), taking into account the key provisions laid out in the "Strategy of Ukraine's Innovation Development for 2009-2018 and for the period by 2039". This Strategy is a comprehensive model of Ukraine's innovation development based on well-defined strategic priorities and key actions. The main objective of the Strategy is to have a concrete quantitative definition: to ensure, within the specified time (by 2020), that the impact of innovations on the economic growth of Ukraine is 1.5-2 times higher than in the present time. The Strategy contains the following main priorities [12]:

- adaptation of the innovation system of Ukraine to the conditions of globalization and increase its competitiveness;
- reorientation of the system of innovations' production to market demand and consumer;
- creation of attractive conditions for creators of innovations, stimulation of entrepreneurship's innovative activity;

— systematic approach in the management of innovative development, informatization of society.

Based on the fact that innovative development is an integral part of macroeconomic, social, political and other modern processes, and taking into account the previous, in general, Ukraine's negative experience in attempts to move realistically on the innovative way of economic development, as well as the accumulation of profound systemic negative consequences from conducting neo-liberal economic reforms that have become insurmountable obstacles to the adoption of an innovative model of Ukraine's development, the main prerequisites for the successful achievement of the Strategy goals are:

- a change in conceptual foundations that determine at present the role and practical functions of the state in a market economy;
- structural restructuring of the economy, first of all industry;
- overcoming the crisis economic inequality of the population;
- restoration of public confidence in the state and power [12].

In our opinion, the transition to an innovative model of economic development requires the implementation of three main tasks, namely:

- development of a competitive business sector and its ability to concentrate and redistribute funds in priority areas;
- observance of state priorities of education, science, technology and technology development;
- integration into the global innovation sphere, the global trade in science-intensive products, as well as intellectual property.

The state strategy aimed at ensuring the innovative development of Ukraine should be aimed at the following tasks:

- direct implementation of measures at the national and regional level, which in turn will contribute to improving the qualitative characteristics of the domestic scientific and technological potential, strengthening the process of mastering scientific knowledge and new technologies, and the full development of human capital;
- encouragement by the subjects of the national economy of innovation activity and investments of innovative direction with the aim of increasing the supply of innovative products, technologies and knowledge;
- encouraging the demand of the subjects of the national economy for innovative products, technologies, knowledge, creating favourable conditions for the introduction of innovations into production activities and population.

Consequently, Ukraine's innovative development should be based on:

- the implementation of a targeted state industrial and investment policy aimed at activating innovations as a priority component of the overall strategy of social and economic development of the state, ensuring the unity of structural and innovation policy;
- creation of favourable institutional conditions for innovation in the country: legal support of innovative activity of enterprises; introduction of an effective privileged regime for the implementation of innovation activities; improvement of financing mechanisms for innovation activity;
- application of national market's protection means, production and capital, encouraging their development, stimulating the innovation orientation of the latter;
- consistent increase of aggregate demand, improvement of the infrastructure of markets with the increase of the share of complex, science-intensive products in personal and industrial consumption;
- creating conditions for the domestic enterprises to implement the offensive strategy in foreign markets, supporting constructive competition in the domestic market, which will encourage enterprises to innovate;
- diversification of organizational forms of national economy's functioning, ensuring cooperation between small, medium and large enterprises, support of leading large enterprises and associations able to implement national innovation priorities, development of scientific and production cooperation, venture business, industrial and financial integration, in particular number – internationally;
- ensuring the close integration of production, finance, science, education in order to promote the progressive development of the scientific and technological sphere;
- conversion of "shadow" capitals and the involvement of the "shadow" sector in the sphere of legal circulation of financial resources, investment and expansion of the enterprise's own resources for innovation;
- the priority development of human capital as the basis of the future post-industrial society [13].

Thus, the modernization of the Ukrainian economy on the basis of innovative development of the masses should be ensured by the comprehensive application of all available instruments of economic policy and the prevention of conflict between their influences and the solution of strategic and current tasks. Under these conditions, an innovative strategy that, by definition, contributes to raising the level of profitability of national enterprises can become a real space for multi-faceted cooperation between the state and business [13].

### Conclusions

Consequently, a special significance in the context of globalization is finding a compromise between state interests and the interests of transnational corporations, without whose investments it is difficult to rapidly modernize domestic industry, but at

the same time it is important not to allow the formation of external technological dependence, as shown by the experience of individual countries that could not withstand the onset of TNCs, which is already observed in Ukraine in certain types of activities.

Mechanisms for implementing innovation policy in Ukraine tend to suffer due to insufficient attention of state authorities to innovation policy. Legislation on innovation support in many cases has a lower priority than some other state regulations. This leads to the blocking of innovative initiatives. Such an unfavourable development has created a gap between science, education and economics. Legislative support needs to be improved and inter-co-ordination between the main legislative acts of Ukraine regulating activity in the innovation sphere should be strengthened.

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