Prospects for implementing the principles of innovation policy in Ukraine

Vladyslav Bendiuh¹, Bohdana Komarysta²

Department of Cybernetics of Chemical Technology Processes, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine, Kyiv, Peremohy avenue, 37, E-mail: ¹vladys77@gmail.com, ²angel2nika@gmail.com

Innovation is an integral part of economic activity and scientific, technical and industrial development. To implement innovation, it is necessary to form an innovative policy of the state. An integral part of stimulating innovation is the level of investment in the relevant sectors of the economy.

Keywords - innovations, innovative technologies, innovation policy.

Introduction

Since the late 20th century, the close combination of the scientific and industrial and economic activities has led to the emergence of innovations with signs of systemicity that required the regulation of systemic innovations at the state level. The aim of regulation should be to support the environment to stimulate the creation, dissemination and implementation of innovations in the industry. In developed countries, at the national level, there are specialized institutions for stimulating innovation, which is intended to strengthen the scientific and technical base and enhance the competitiveness of the national economy.

Principles of innovation policy

According to J. Schumpeter, the definition of innovation includes the use of new technology, technological processes or new market supply of production; introduction of products with new properties; use of new raw materials; changes in the organization of production and its logistical support; the emergence of new markets. In turn, innovations can be classified according to the following features: for the subject-content structure; by appointment; by factors of social production; by the level of development and distribution; for novelty; in the areas of development and application; originally; on the innovative potential; by stages of life cycle and duration. From the above, innovation is now an integral part of any kind of activity in modern society, but first and foremost, innovation must be an integral part of the economic activity and the scientific and technical, and, accordingly, industrial development of the country, and formulate an innovative policy.

In accordance with national priorities defined at the state level, a wide range of tools and methods are used to stimulate innovation activity. Such methods include the correction of patent and tax legislation; control over technology spread; introduction of a system of contractual relations; application of methods of supporting inter-organizational cooperation; stimulating innovation in small business, etc. [1]. An integral part of stimulating innovation is the level of investment in economic activity. The breakdown of the level of investment in perspective industries of the Ukrainian economy according to the data of the State Statistics Service of Ukraine in the period from 2010 to 2017 is shown in Table 1.

The growth of investments into the Ukrainian economy after the expected fall in 2013-2014 is traced. Along with the growth of the total volume of capital investments into the Ukrainian economy, the volume of investments in hryvnias increased in comparison with 2010: in the industry by 2.6 times; in agriculture 5.9 times; in the IT sphere 5.9 times. When calculating the volume of investments in dollar equivalent, considering the inflation rate, the total volume of investments in the Ukrainian economy decreased by 1.35 times. The growth of investments in the dollar equivalent is observed only in agriculture - an increase of 1.75 times.
and in the IT sphere - an increase of 1.76 times. But the main thing is that there is a positive
dynamic, which testifies to the gradual recovery of the economy.

Table 1

|                          | 2010        | 2011        | 2012        | 2013        | 2014        | 2015        | 2016        | 2017        |
|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Industry                 | 55384.4     | 78725.8     | 91598.4     | 97574.1     | 86242       | 87656       | 117753.6    | 143300      |
| Agriculture              | 10817.7     | 16140.9     | 18564.2     | 18175       | 18388.1     | 29309.7     | 49660       | 63400.7     |
| IT sphere                | 347.5       | 580.2       | 621.2       | 634.5       | 670.3       | 1134.3      | 2124.9      | 2050.6      |
| Scientific research and  | 549.7       | 717.9       | 548.8       | 599.2       | 375.4       | 518.2       | 758.3       | 1110.2      |
| development              |             |             |             |             |             |             |             |             |
| Education                | 1818.4      | 2090.7      | 1463.5      | 1030.5      | 820.9       | 1540.1      | 2257.3      | 3492.5      |
| Total (mln. UAH)         | 180575.5    | 241286      | 273256      | 249873.4    | 219419.9    | 273116.4    | 359216.1    | 448461.5    |

In 2017, there was a rather low level of investment in the perspective directions of
development of the Ukrainian economy, namely, in agriculture - 14.14% of total investments,
and in the IT sphere - 0.46%! As of 2017, we see an inappropriate investment in key industries
that should ensure the global growth of innovation in the national economy: investment in
research is 0.25%; Investing in education is only 0.78%. The highest level of investment fell in
the industry. The chemical industry together with the metallurgical industry is the key areas
of the entire Ukrainian industry. One of the promising directions for introducing innovations in the
chemical industry may be the use of biological resources in chemical production [2]. The
transition to domestic renewable resources will reduce the dependence of the Ukrainian economy
on imported raw materials - oil and gas. This direction of development of the chemical industry
will also improve the situation with the ecological safety of chemical production, increase the
safety of chemical products in general, both in its use and at the end of the life cycle [3].

Conclusion

The development and implementation of innovations should be the key to the development
of the Ukrainian economy because only innovations can provide Ukraine with a proper place in
the global economy. Otherwise, we expect an increase in the lagging behind the leading
countries and the final descent into the group of third world countries. It is necessary to develop
state programs of stimulating innovations considering the best world models. An important
component is to promote the attraction of both domestic and foreign investments. This requires
changes in legislation, the tax system and the increase of public investment in education and
research. One of the promising directions is also the use of biotechnology in the chemical
industry, which will enable the practical implementation of the theoretical foundations of
macroeconomic regulation of environmentally-directed innovation development.

References

[1] Yu.V. Poliakova. “Innovatsiina aktyvnist promyslovykh pidpryiemstv Ukrainy” Visnyk
Dnipropetrovskoho universytetu. Ser.: Menedzhment innovatsii, 2012, vol. 20, no. 1, pp. 74-82.
[Online serial]. Available: [http://nbuv.gov.ua/UJRN/vdumi_2012_20_1_12](http://nbuv.gov.ua/UJRN/vdumi_2012_20_1_12).
[2] P.H. Pererva, “Formuvannia stratehii rozvytku pidpryiemstv khimichnoi promyslovosti”,
Visnyk NTU “KhPI”, 2013, no. 21 (994), pp. 112-119.
[3] V.I. Bendiu, B.M. Komarysta, “Zhyttievyi tsyl produktu ta otsiniuvannia enerhetychnykh
vytrat”, Visnyk NTU “KhPI”, 2018, no. 39 (1315), pp. 4–11.