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CHALLENGES OF STATE REGULATION
OF INNOVATIVE MODERNIZATION OF UKRAINIAN INDUSTRY

Annotation

This article explores problems of state regulation of the innovation processes in the Ukrainian industry and suggests the ways to accelerate innovation activity.

Keywords: investment, innovation, innovation policy, investment and innovation activity.

Анотація

У статті досліджено проблеми державного регулювання інноваційних процесів української промисловості та запропоновано шляхи активізації інноваційної діяльності.

Ключові слова: інвестиція, інновація, інноваційна політика, інвестиційна та інноваційна діяльність.

Аннотация

В статье исследованы проблемы государственного регулирования инновационных процессов

в украинской промышленности и предложены пути активизации инновационной деятельности.

Ключевые слова: инвестиция, инновация, инновационная политика, инвестиционная и инновационная деятельность -

Results

World experience of the development of leading countries shows that the dynamic growth of expenditure on innovative technologies provides increasing and maintaining of their competitive potential.

Restoring economic growth, on what the government and directly the manufacturing circles make emphasis on, is now impossible without the active mastery of innovative path of development. Frankly speaking, ensuring the transition to actual innovative type of the development is an indispensable condition for maintaining the economic and political sovereignty of our country. It is acknowledged that the economy, which is characterized by the extremely high levels of resource and energy costs of production that is the characteristic of Ukraine, even without the influence of other external factors is doomed to the gradual exhaustion of reserves of extensive growth and to further increase of economic depression's threats. Therefore, the implementation of synergetic effect of innovative development becomes the only possible way for Ukraine to reduce the technological and economic gap with the developed countries. Implementation of the strategy of innovative development should be considered as compulsory stage of realization of intentions to achieve the European standards of social and economic development in Ukraine. So much is said about this and for such a long time at

Introduction

A characteristic feature of the current state of the world economy is the widespread introduction of newest scientific and technical achievements into production. In the conditions of the global financial and economic crisis the competitive are those industries that are based on the implementation and the use of innovative technologies. At present Ukraine's reserves of growth through not innovative path of development are exhausted. It is therefore necessary to outline the main problems and difficulties that are characteristic of innovation sphere of Ukrainian economy and to develop measures to address them.

Analysis of recent research

Works of many domestic scientists – economists: A. I. Amosha [1], V. M. Geyts [4,5], A. A. Lapko [7], B. A. Malitskiy [8], O. I. Volkov [3], L. I. Fedulova [10] and others are devoted to the development of theoretical and practical aspects of the management of scientific – technical sphere, acceleration of innovation processes and innovative development.

Statement of research objectives

The aim of this article is the study of state of innovation activity in the Ukrainian industry, the separation of the main problems that hinder its development, as well as finding ways to address them.

all levels of government but, unfortunately, so little is being done.

Model of development that was based on growth at the expense of non-renewable natural resources and not timely modernized resource costs, aging industrial and technological base was practiced for decades in Ukraine as during the Soviet period, as by inertia during independence. This has led to the fact that the economy appeared on the penultimate place – at the level of the Third World countries in terms of competitiveness.

Works of many domestic scientists – economists: A. I. Amosha [1], V. M. Geys [4,5], A. A. Lapko [7], B. A. Malitskiy [8], O. I. Volkov [3], L. I. Fedulova [10] and others are devoted to the development of theoretical and practical aspects of the management of scientific - technical sphere, acceleration of innovation processes and innovative development.

Considering current trends of scientific – technological and innovation process, L. I. Fedulova stresses that «... under conditions of Ukrainian reality there is not only a lack of attention to the need to develop real mechanisms for the formation of economic system based on innovative factors, but also the lack of organizational resources at all levels of management of scientific – technological and innovative process» [7]. V. Heyets emphasizes the importance of government support of innovation sphere. He notes that «... research, education, innovation activities of enterprises, development of scientific – research infrastructures are the areas with large external effects. Concentrating material resources on prospective areas, the state will promote progressive technological change in the framework of the national economy». [3] It should be noted that the differentiation of the level of economic development of regions and industries, innovative potential of certain areas, their different investment attractiveness cause actuality of research of scientific – innovation sector in terms of specific regions and industries.

At present Ukraine has chosen for itself an innovative way of economic development. Therefore, much more attention should be paid to the question of forming an effective innovation policy, because the rapid development in the future will be determined by the level of innovative activity and its financial support.

Growth of competitiveness of production should be carried out through the rapid development of high tech and industrial types of products and innovation and technological modernization

based on introduction of modern achievements of native and international science and technology.

The Law «On investment activity» rather laconically and clearly defines investments and the ways of financing investment activity. It also defines innovative activity as a form of investment activity, which is undertaken in order to implement the achievements of scientific and technological progress in production and social sphere. Law of Ukraine «On innovation activity» interprets innovative activity as an activity aimed at using and the commercializing scientific research and developments and leads to the issue of new competitive products and services to the market. Thus, the concept of innovative activity specifies the direction of investment activity particularly in the scientific sphere, which leads to the creation of new innovative products that generate income or social effect and increase the competitiveness of businesses, industries and the economy as a whole.

As mentioned in the same Law, state regulation of innovation activities is carried out as follows:

- identification and support of priority areas of innovation activities on state, sectoral, regional and local levels;

- formation and implementation of national, sectoral, regional and local innovation programs;

- creation of legal framework and economic mechanisms to support and stimulate innovative activity;

- protection of rights and interests of subjects of innovative activity;

- financial support of implementation of innovative projects;

- stimulation of commercial banks and other financial and credit institutions that lend the implementation of innovative projects;

- establishment of preferential taxation of subjects of innovation activities;

- support of the operation and development of modern innovation infrastructure.

Innovative activity includes:

- production and dissemination of new types of equipment and technology;

- progressive intersectoral structural changes;

- implementation of long-term scientific and technical programs with the large term cost recovery;

- funding of fundamental researches to make qualitative changes in the state of productive forces;

development and implementation of new resource-saving technologies designed to improve social and environmental situation.

State innovation policy is a complex of legal, organizational, economic and other measures of the state aimed at creating appropriate conditions for the development of innovative processes in the economy, encouraging the implementation of the results of innovative activity in production.

The main purpose of the state innovation policy is the creation of appropriate conditions for effective reproduction, development and use of scientific and technological potential of the country; ensure the introduction of modern environmentally friendly, safe, energy- and resource saving technologies, production and sales of new types of competitive products.

According to the Law of Ukraine «On innovation activity» enterprise is recognized as innovative enterprise (business combination) of any form of ownership, if more than 70 percent of its production volume (in monetary terms) for the reporting tax period is the innovative products and (or) an innovative production. Innovative projects are subjects to state expertise, classification and mandatory registration. Term of consideration of the project and its examination may take up to 6 months; the registration is valid for 3 years and it does not oblige state to funding. All of this delays implementation of the results of innovative activity in the economy and creates additional documentary burden on business and investors.

It is established that among four groups of sources of financing industrial enterprises' innovative activity (own funds, funds from the state budget, foreign investors funds and other sources), own funds of enterprises have been covering the largest share for many years. The reasons of this are the lack of adequate funds in the state budget and inefficient state policy to support innovation activity of enterprises.

There are the following problems that hinder the development of innovation activity of domestic enterprises today in Ukraine:

inconsistency of legislative acts;

the lack of correlation between monetary, budgetary and financial policies and politics of economic growth;

the lack of scientific and methodological basis for the formation of scientific and technological sphere;

the lack of consistency in the state's actions on realization of innovative potential of the national economy;

public administration of innovative activity is carried out without clearly defined grounds; set out strategy of scientific and technological development and innovation, consistent and balanced internal and external policy; absence of an effective system of priorities of scientific and technological sphere's development;

state management of innovation activities is provided on a sectoral basis;

no coordination of actions of the subjects of innovative activity;

lack of financial resources to ensure the research and implementation of innovative developments;

imperfection of the system of intellectual property rights;

innovative sphere of our country has not become truly attractive for domestic and foreign investors.

Hence, to create the systemic mechanism for stimulating innovation activity there is a need to explore the world experience of stimulation of innovation activity and adapt it to local conditions of economic development, and implement it in the industry.

Legal framework for innovation should be improved, which will create conditions for realization of innovative ideas. It is advisable to develop market infrastructure of innovation; to increase the motivation of developers to exercise innovative activity; to strive to achieve the level of innovative developments, corresponding with international standards or exceeding it. Today Ukraine has exhausted potential for economic growth by increasing production and export of resources. Therefore, the solution of issues hindering the development of innovation activity should be provided.

Principal combination of the above measures will make it possible to determine how important is innovation activity in Ukraine to quickly overcome the economic crisis and ensure effective development.

Thus, increasing the competitiveness of the national economy needs a gradual change in its primarily raw materials export structure, reorientation of investment flows to the innovation sector, introduction of high technologies, formation foundations of innovative model of development and knowledge economy in Ukraine. A key strategic objective of forming innovative model of development of the Ukrainian economy should become

the use of modern innovative technologies as the only possible direction of the successful competitive struggle of national economic entities in the internal and foreign markets.

In the specified context of the importance of the industrial production's development in the country it seems important to analyze the world experience regarding state regulation of progressive changes in the sectoral and technological structure of industry, selection of priority directions of state support for these processes in general, which is the main content of the state industrial policy.

The structure of industry, especially in its industrial and technological sections and in the context of organizational, legal and industrial relations under conditions of their progressiveness, is among the most determining strategic factors of development as industry and national economy, as society in general. Hence, the close interwoven connection of industrial, investment and innovation structural policies is manifested, which allows using a fairly wide definition of industrial policy as an integral part (link) of structural policy and subsystem of social and economic policy of the state [4].

Direct state regulation of innovative processes in different countries is carried out not equally, but it everywhere plays an important role in providing innovative development. Studying the experience of industrialized countries it is worth paying attention to the major structural elements among the fundamental principles state scientific-technical policy in innovation sphere.

These basic elements are the following three principles:

1) technology. This principle requires the identification and prioritization of scientific and technological development, based on which the technologies will be created. Typically, the areas selected are those, which already have some successes;

2) finance. This refers to financial aspect and supply of resources for development of technologies and introduction them into civil circulation;

3) infrastructure and its management.

These elements should constitute a single mechanism of commercialization. Lack of even one of them makes the whole structure unstable. The above principles, in our opinion, need to become a part of the national innovation system (policy).

Comparison of the national innovation system allows reaching a conclusion about its positive or

negative impact on economic development of the country. According to the data of the Organization for Economic Cooperation and Development (the OECD), an increase in funding of science by 1% of total GDP does not affect the processes of technology commercialization. Increasing the number of people with higher education for every 1,000 citizens also does not affect economic growth. However, it was established that increasing the number of young people working in engineering companies, has a positive effect on economic growth. This dependence is called mobility of human personnel.

Referring to the principle of finance, we note that in general in industrialized countries during the implementation of policy of innovative activity's stimulation in the industry with the financial means of direct government regulation the ever-increasing tendency of transition from state subsidization of industrial enterprises, which are developing new science-intensive products, to the mechanisms that increase the financial responsibility of industrialists for receiving and using scientific and technical results can be traced. The most common mechanisms in this area are:

a) government loans or government guarantees provided to commercial banks that provide access to credit resources;

b) state order for development, production and delivery of strategically important science-intensive products;

c) shared participation in the financing of research, which are ordered by industrial enterprises (usually 50%).

Non-financial mechanisms of direct state regulation include export and import quotas used to provide the necessary level of competition in the domestic markets of science-intensive products. [8, p. 435]

All industrialized countries of the world also actively use indirect methods of state regulation, especially the mechanisms of taxation and depreciation policies. Almost all approaches are based on providing some incentives (benefits), which are:

1) assigning R & D expenditures on current production costs of the enterprise (in the U.S., Italy, UK, Canada, Belgium, Sweden it is legally allowed to attribute all the costs of R & D on production costs);

2) postponement of taxes' payment for companies that invest in development and exploration of new high technology products before the receipt of income from their sale;

3) discount on income tax is proportional to the increase in spending on research and development.

Referring to the international experience, it is worth paying attention to the participation of bank capital in the development of infrastructure of innovative sector. Bank of innovation type was established in Poland back in 1990.

The main objective of this bank was financing the restructuring process of Polish enterprises as well as privatization, crediting of investment projects, providing guarantees, forming the credit consortia. Vigorous activity in the capital market, in particular, guarantee of emission of enterprises' shares was another important feature of the bank. Such bank was established in Russia in 1999. The main feature of the Russian Development Bank (RBR) is long-term crediting of the real sector of economy. The RBR sees the purpose of its activities in the practical assistance of implementation of the state investment policy by crediting the enterprises of priority industries. The RBR emphasizes its activity primarily on projects of innovative character, financing import substitute industries and modernization of capital assets of enterprises. Today the RBR is one of the largest banks in the Russian Federation. We believe that the experience of our neighbors in this area will be useful for local bankers.

Experience of Russia causes an interest in building an innovative sector of economy. Note that the International Science and Technology Center has been operating in the Russian Federation already for over 10 years. This center has funded more than 1800 research and development projects worth about 500 million dollars USA during this time. Prior to 2003, the founders of the center, the governments of the USA, Japan, European Union and Russia assumed that financing of the center would be carried out from funds received from commercialization of technologies created by Russian scientists of the military-industrial complex. However, this problem has not yet been resolved completely, although foreign lawyers and experts in the field of commercialization created perfectly organized infrastructure for commercialization in this Center, including the system of training of project managers. Thus, the importance of the «third principle», namely management, was proved again.

Today about fifty Innovation Technology Centers are created in 11 regions of Russia, which are primarily supported by the Ministry of In-

dustry and Science of Russia. Over thousands of small scientific and technological enterprises, using ITC infrastructure for their development, work within their structure. If five years ago, according to the Foundation of assistance to the innovative development, small businesses expressed almost no interest in the use of IP in their activities, now more than 50% of these companies have started actively applying them. By the way, this may indicate that they need new scientific ideas to create new products and services to be available on the market.

In international practice, the so-called cluster (cluster is a class of related elements of the statistical set) is a progressive industrial-innovative association of enterprises. Cluster is an association of companies interconnected technologically and economically in order to release high technology products of the world level. Integration of companies is a general trend that can be traced in the global economy, but the question of unification becomes more urgent in the area of attracting high technologies to civilian use. It is clear that systematic research and development require large investments. That is why an isolated business is unable to constantly maintain innovative status in modern hard competitive environment.

Italy has the most developed cluster system. Here a powerful ramified cluster model of the economy has been created over the past 50 years. Model of network system is formed in the country. It contains support mechanism between clusters, which is based on the study of innovation, cooperation and institutional linkages between enterprises of the network. Austria, having examined first the patent opportunities of each region, has built almost all the innovation sector of economy on cluster model. Former countries of the SEV also actively use cluster models for the development of innovative economy. Developed cluster systems operate in Hungary, Poland and Romania. For example, the cluster, which is engaged in biotechnology, computerization, electronics and telecommunications, employs about 60 companies in Gdansk (Poland). The cluster that creates aircrafts (A340, A380) operates in Europe. Finland's economy is completely clustered.

The company VTG (the UK) has made a quite significant contribution to the development of the system of commercialization of scientific and technical developments at the international level. The company offers a full range of possible services of attraction of scientific and technical de-

velopments to the economic turnover. The main objective of the VTG is the identification of the commercial moment in new technologies and its effective implementation.

World economic history shows that although the market plays an important role in stimulating innovation activity and selecting scientific and technical products adequate to the needs of society, by itself it can not provide a comprehensive solution of problems related to the dynamic development of innovative systems. Government regulation is necessary. The existence of well thought through public policy, within which specific measures are implemented to support and encourage those stages of the innovation process, for which market incentives are not enough, is also necessary. The emergence of promising markets, sales of high technology products, creation of new jobs, increased budget revenues through broadening the tax base should become main results of these measures.

It is clear that the shortcomings of the market are characteristic of not only the national economic systems. Problems, including innovative ones, of one country have their continuation also on the

international level. In this regard, the generation of international innovation policy, which would take into account global tendencies of development of scientific-technical sphere and at the same time tolerantly treat the national market formations, is important.

Conclusions

Summarizing the results of the study of international experience in regulation of innovative processes, it is worth noting the very real possibility of using certain achievements in the national practice of use of the IP in economic turnover. It is clear that the development of intellectual property market is a complex and long process. Thus, the concept of knowledge-based economy is relatively new even for the countries with developed market relations in which difficult and controversial stage of development of market economy in general preceded the formation of knowledge-based economy. Ukraine has yet to pass a difficult path to complete formation of innovative economy. On this path the international experience can become a useful material for creation of own original model of economic development of the country.

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