3.4 DEVELOPMENT OF INNOVATION POLICY OF UKRAINE UNDER STRUCTURAL REFORMS

The main precondition for structural reforms in Ukraine, economic crisis recovery, long term economic growth, social stability, and welfare is a high level of science, technology, and active innovation policy, which includes academic training of scientists, implementation of programs of innovative business cooperation between enterprises and research institutions, active international cooperation in science and technology.

In most countries, policies affecting innovation are usually formed and implemented at the national level. The state innovation policy is primarily focused on social needs of society and thus takes into account the existing potential and the specific institutional structure of the country. According to analysts, in the nearest future the most significant indicator of the prospects for economic and social development of the advanced countries should be achieving innovation policy.

Ukraine has made only the first steps of the state policy in the sphere of innovations: separate institutions of innovation have been announced in technology parks, technology transfer centres, regional innovation centres. Developing its innovative infrastructure the state must take into account that there are national companies that taking as an example experience of the world leaders are able to create their own fully effective organized innovation systems. Big business has more opportunities to implement organizational resources, scientific and technological potential: in the presence of active business environment and the lack of internal systemic crisis corporate structures can be active and develop innovative industrial science. Today, the national economy faced with long-term systemic challenges: economic, political crises, military operations in the East, falling GDP, the decline in industrial production and global trends and internal barriers in the development. In terms of accelerating the pace of globalization, the number of non-technical innovations (organizational, marketing, management) increased, innovations become more accessible (distribution of innovation is initiated by the consumers themselves) "open innovations", technological and social networks created as a result of innovative activities are actively used.

During the present study the author used certain provisions and findings of scientists working in the field of innovation, such as F. Braudel, M. Weber, P. Drucker, and A. Toffler.

Among foreign scholars whose works are of most interest for the development of innovation system, the following names should be mentioned: J. Andrew R. Cowes, D. North, C. Perez, M. Porter, P. Samuelson, R. Solow, K. Freeman, and J. Schumpeter. The significance of their researches is to deepen the fundamental laws of economics, the theoretical and empirical disclosure of the impact of macroeconomic processes on economic growth, which is exclusively associated with innovations.

Economic aspects of formation of Ukrainian national innovation system, the state's and other subjects' role in this process, as well as current and future issues of research, technology and innovation policy in modern Ukraine are investigated in the works of V. Alexandrova, L. Antoniuk, G. Androschuk, Yu. Bazhal, B. Malytskyi, and L. Fedulova.

Researches of the aforementioned scientists reflect global trends in the development of innovative systems; they do not reflect either peculiarities of national economies or critical aspects. The above requires making appropriate sequence of actions to develop and use appropriate methods and tools of innovation policy, evaluation of possible interaction with other areas of public policy in the context of forming the prerequisites for an innovative model of economic development.

Laws and regulations on the formation and implementation of state innovation policy, statistical data of the Ministry of Finance of Ukraine, Ministry of Economic Development and Trade of Ukraine, the State Statistics Service of Ukraine, the relevant monographs, research papers of domestic and foreign scientists were used in the study of this issue.

In the study of the problem a combination of methods and approaches, allowing
implementation of conceptual integrity of the study were used. Dialectical, systemic and structural techniques were used in disclosing the problem of development of the innovation system of Ukraine in terms of structural reforms. Approaches to the formation and implementation of state regulation of the innovation system were summarized and systematized using comparative and factorial methods.

Innovation policy demonstrates the level of economic development of any country. In Ukraine, where the depreciation of tangible assets of individual enterprises is 80%, and a chronic lack of investment does not allow modernizing production, the innovative policy is declared to be one of the conditions of economic development. The outflow of capital during 2014-2016 (January-April) amounted to over 17.8 billion Euros, outflow of investments during the same period amounted to 12.4 billion Euros [226].

System analysis of revealed trends and development factors allowed us to come to the conclusion that Ukraine is now not able to ensure rapid development of technology and high-tech industries as the parameters of its innovation and technological development have long been outside the boundary intervals. Unfortunately, unequal external economic exchange, dependence on many external factors remains relevant for Ukraine; it is a supplier of natural raw materials and labour for multinational corporations and developed countries that concentrate global intellectual potential. So approved at the legislative level strategic priorities of the state still remain unfulfilled.

The analysis of the dynamics and structure of scientific and technical activity in Ukraine leads us to the conclusion that the companies at present and in the nearest future are not capable of mass highly scientific, technical, technological and innovative activities. In 2016 expenditures on research activities in Ukraine amounted to 0.16% of GDP [226]. Scientific potential of research centres reduced significantly, the volumes of R&D decreased. State enterprises practically do not introduce new technologies; private companies are more focused on the production of raw materials and their export. The current mechanism of regulation of scientific and technical activity of business entities not only avoid promoting expansion of innovative sources of financing for the development, but also prevent the attraction of off-budget funds and eliminate the possibility of forming special funds, including departmental ones and funds for funding research and development projects. Passive position of the entities regarding funding research and development and current state’s attitude to the problem are today the main reasons that private sector’s spending on research continue to decline.

Only certain elements of the national innovation system are created and run in Ukraine; innovative process cycles are weakly connected with each other, so the impact of scientific and technological activity remains low. One of the reasons for this situation is imperfect legislation and regulatory framework for the creation of high technologies and inadequate funding of the processes of commercialization of the latter.

Ukraine ranks on 7th place among the CIS countries in terms of GDP per capita [225]. According to the State Statistics Service in 2008 at the peak of its growth domestic GDP reached 74.2% of physical volume in 1990; according to forecasts of the Government of Ukraine it had to achieve the level of 1990 in 2015. However, due to the economic crisis in 2014-2015 the domestic GDP in 2015 was only 62.6% of the volume of 1990 [226]. These data make it possible to conclude that during the years of independence Ukraine not only made a breakthrough, but lost its economic potential.

Inconsistency of the state to develop and implement scientific, technological and innovative policies, lack of legislated system of incentives for innovation processes and support of high-tech industries have led to extremely negative structural changes in the economy, namely the decline of high-tech enterprises while strengthening and dominance of low-tech, raw industries. This is caused by lower demand for research and development and actual curtailment of innovation in the industry. Fixing these trends may lead to increased threats to national security, irreversible backlog of Ukraine from developed countries of the world and its transformation into a resource appendage of one or a group of leading countries.
The practice shows that the lack of a systematic approach formed, as well as scientifically based conceptual principles and defined structural goals of public scientific, technological and innovative policy is not offset by the increasing number of laws and regulations, numerous changes and additions to them. In addition, the low executive discipline of ministries and departments, lack of proper control of the executive authorities at all levels have caused significant failure of strategic programs, measures and proposals set out in the recommendations of the committee and parliamentary sessions. All this deepens the crisis of public administration of science and technology in Ukraine, enhances regulation of innovation processes by the state and prospective use of the state budget.

The following problems of formation of innovation policy in Ukraine have been clearly separated under the terms of the economic crisis and structural reforms:

- Violations during the transformational recession in the 90s of the last century of the innovative potential of society, which proved a catastrophic decline in income and, consequently, capital flows of the entities; decline of the development of major scientific and industrial complexes which still have not renewed their potential;
- Absence of effective mechanism for determining national innovation priorities in terms of crisis and structural reforms;
- Lack of developed market of forecasts of technological development, and formation of an excessive range of priorities, particularly in the traditional sectors of economy;
  - Lack of adequate funding of basic scientific researches;
  - Immaturity (lack of high-tech groups) of the machine-building industries;
  - Low level of real incomes, which affects narrowing of the base of credit resources, as well as domestic markets due to low consumption;
- Imperfection of the tax system, including incentives for the implementation of innovations;
- Insufficient development of the infrastructure of financial markets which is not conducive to enhance innovative activities;
- National reforms in the money market, which is manifested in the lack of money supply and high prices of credits;
- Too low monetization of the economy;
- Excessive centralization of the government institutions, which causes reproduction mechanism of corruption on a large scale;
- Lack of an effective strategy of innovative development and construction of the national innovation system;
- Lack of understanding of the economic substance of competition for increasing the proportion of consumers that have a decisive impact on the stock market development and consumption of durables high-tech products;
- Underdevelopment of the stock market;
- Misunderstanding the nature of innovation as a system process that is reflected in the large deformations of tools of its implementation and management, including the use of free economic zones, industrial parks, i.e. the tools of innovative processes management, not to enhance the innovation process, but rather to renew the traditional capital and the whole complex of relationships associated with it.

Directions and ways to improve the state innovation policy

In recent years the world faced significant increase of the role of innovation management of certain interdependent factors, which include the following:

- First, because of the increasing influence of science and technology on economic growth, the environment and human health involving population in the management of R&D becomes more relevant;
Second, the spread of a «new model of governance» gives a new impetus to the desire for transparency and efficiency in the innovation and research policy;

Third, the increasingly systemic nature of innovation necessitates coordinated interaction of different types of knowledge and generators of knowledge belonging both to different disciplines and different fields of fundamental and applied research [235].

The "new model of governance" refers to reforms in public sector management (started in the 80s of the twentieth century), aimed at improving its efficiency. This approach is based on the assumption that a greater degree of orientation of the public sector to the market will ensure higher efficiency of public spending and will not have negative consequences for other purposes and policies of the government.

Given the different models of the concept of national innovation systems two approaches to innovation management can be distinguished:

- An advanced approach involves the state's ability to coordinate a large number of direct and indirect measures that affect innovation processes. In this case, the goal is to organize advanced management system so that it could facilitate the interaction and coordination of the various aspects of the innovation potential;

- A narrow approach is to use the possibilities of public services (ministries, agencies) to manage the cycle of development and implementation of policies. In this context, the question arises whether these institutions are provided with sufficient financial, intellectual and other resources to carry out this activity.

Today it became clear that macroeconomic management has exhausted itself, and the only use of fiscal instruments does not allow the country to achieve industrial and economic growth [233]. At the preliminary stage these tools have been effective, but they now require adequate public technology policy.

The essence of this policy is that the state not only simply creates the conditions for companies that make decisions in the market conditions, but rather that priority technologies and technology platforms are determined that are supported by the target method.

In February 2016 at the Economic Forum in Davos, the main attention was paid to the issue of the fourth industrial revolution. Industrial revolution is very necessary for Ukraine to ensure its economic growth.

Ukraine can make an economic breakthrough, completing the industrial revolution, and new forms of financial support for innovative businesses, the gradual formation of a system of tax incentives for innovation can play an important role here. A basic budget system reform and performance-based funding of science, institutionalization of public and private innovation funds, the development of public-private partnerships lays in the plane of financial security.

The development of science is the basis of innovative development. It is important to increase government expenditures on basic science; a system of financial incentives to increase performance of academic institutions should be introduced [220].

However, the reverse processes were held in Ukraine during 2014-2016. Financing of research, development and design works was reduced to a minimum. We cannot give an example of countries where there were similar processes.

During the last two years Ukrainian economy is in a deep crisis. The main reasons for this are entirely dependent on totally imperfect system of national economy management and military operations in the East.

After the economic crisis of 2008-2009 the economy has been successfully developing and nothing provided for economic crisis. An innovative system of Ukraine was successfully developing. The political crisis of 2013-2014 led to the fact that 124 billion dollars were taken from the country, thousands of highly qualified personnel migrated, and military actions in the East began [226].

The claim that the reformers came to power proved false. Reformers created the system of economic management of the country which is not able to realize the opportunities
of economic growth. Instead of forming motives of socially useful economic activities the governmental policy makes businessmen to aim at the appropriation of others’ property and the redistribution of the earlier created wealth, but not at manufacturing.

Monopolies and big businesses joined with state and local governments. The main directions of their activity became external borrowing, but not real structural reforms. In the end, it eliminates the possibility of the formation of intellectual management style and, accordingly, the transition to an innovative development path.

In 2014 decline in GDP was 7.6%.
In 2015, GDP decline was 12.6% [227].

The decrease of industrial production in 2014 was 24.6%, in 2015 - 28.2%. The inflation rate in 2014 was 36%; in 2015 - 46%, for three months of 2016 - 32%. The external debt in 2014 amounted to 1 trillion and 200 billion UAH, in 2015 - 1.5 trillion UAH [228].

Almost all industries are unprofitable except agriculture, where in 2015 the growth was 12.6%, but changes to the Tax Code of Ukraine led to a significant deterioration in the agricultural sector [226].

Small-scale agricultural production cannot enter foreign markets and as a result the intermediaries gain all profits without investing a penny of money in the production and processing of agricultural products. This is not about innovation way of development at all.

The International Monetary Fund which is a key creditor of Ukraine dictates the terms and conditions for the Ukrainian economy.

Top managers are often focused on beautiful phrases and aggressive PR, and they forget that policy development is impossible without scientifically grounded decisions, qualified management, responsible and creatively active bureaucracy. The ineffectiveness of the economic management system existing in Ukraine and coordination of bureaucracy are incompatible with the requirements of innovation economy. An innovative economy needs highly qualified and transparent regulation that requires from state officials and managers creativity and conscientious attitude to business [218].

Through structural reforms Ukraine should solve the following main problems:
- Modernization and priority development of Ukrainian economy on the basis of a new technological structure;
- Transition to the society of knowledge;
- EU integration.

A chaos of the market freed from the state regulation has destroyed a lot of effectively working business organizations that produced complex products, such as "Pivdenmash", PA "Antonov" and others, which led to a sharp simplification of economic activity, which grew into simple and short process chains for the production and export of raw materials on the one hand, and import of finished products on the other hand. In terms of technological development, the ability to produce goods with high added value, the complexity of the economy and efficiency the Ukrainian economy was thrown back for decades.

To enter the path of innovative development Ukraine requires to introduce in governance mechanisms a competition and selection of personnel on the basis of objective results achieved by them. Without this there cannot be a competent responsible leadership.

The second step should be modernization of high-tech fields of industry and agricultural complex on the base of forefront technological and competitive ground.

Under this condition the country must have two important strategies: technological re-
equipment of the sectors of national industry and innovation development.

As international experience shows a further development of the crisis should be determined by a combination of two processes: the destruction of previous economic structures and the emergence of new ones.

New structures should be of innovative nature [224]. An important step of structural reforms should be creating faster conditions for the growth of new innovative industries.
Prerequisites for entry into a new path of innovation development

To go ahead on the path of innovative development the state should create conditions under which:

- Every company that has capabilities in development of new technologies in the promising areas of economic growth, would receive subsidies for a long-term credit;
- Any R&D team that creates new technologies could get financing on implementation of their projects;
- Researchers working in key areas of formation of a new technological structure, and higher educational institutions that train specialists of the corresponding profile would receive adequate funding for the new implementation of its creative and educational potential;
- Each firm that develops new technologies could receive access to loans for research and development activities and state-regulated markets for their products;
- Consumers would be interested in purchasing new high-tech domestic products;
- Entities would have easy access to scientific and technical information and could see the prospects of their business and in time develop advanced technologies. The key task of the Ukrainian economy is to develop basic industries of a new technological structure and rapid entry of Ukrainian economy into a new long wave of growth. To do this, Ukraine should develop IT technology, biotechnology, based on the achievements of molecular biology and genetic engineering, nanotechnology, artificial intelligence systems, global information networks and integrated high-speed transport systems. The following areas being media of new technological order, which have the main demand for its products, should be added here: space technologies, production of construction materials with desired properties, aviation industry, and solar energy.

The formation of a new technological structure will be accompanied by intellectualization of production, the transition to a continuous innovation process in most industries and continuing education in most professions [230].

Ukraine will make a breakthrough if it makes a shift from mass production economy to a knowledge economy, from consumer society to the development society, on which scientific, technological and intellectual potential will have an important impact, as well as the requirements for quality of life and environmental comfort.

Today readiness for constant changes is the essence of economic innovation behaviour and thinking. To create a really favourable innovation climate in the country and in every organizational formation we require widespread basic knowledge on innovative processes. This increases the level of perception of innovations in the social and economic aspects, providing confidence in the government innovation programs, and motivation of the employees.

The strategy of innovative development of Ukraine is important in terms of structural reforms. The creativity concept, which should be considered as being composed of the idea generation process; the results of the creative process; personality traits of an individual which promote generation of new ideas; environment that promotes new ideas and behaviour plays an important role here. The questions that are now studied in the sphere of creativity are multifaceted: they include search for answers on how one nation can be more creative than the other and could it really be so; how to keep children's desire for creativity and ingenuity in adulthood; why the school system does not develop the innovative thinking outside the box.

A factor of institutional and financial opportunities for innovation summarizes the impact of levers of monetary and fiscal regulation of an innovation sector, and provided effective use it can have a positive impact in the transition from fiscal targeting to stimulus mechanisms of economic growth [235].

State support for innovative activities should be realized in the following areas:

- Identifying long-term strategy of technological development, innovation priorities, and development of innovative programs;
- State's participation in the financing of priority innovation projects;
• Promotion of innovative structures' development such as technology parks, technology incubators, innovation centres, innovation data banks;
• Organization of trainings for innovative managers;
• Promoting international cooperation in the field of innovation and technologies transfer, protection of intellectual property;
• Priority support of innovative activities aimed at final scientific and technical products.

An important difference between Ukraine and the countries of the Organisation for Economic Co-operation and Development (OECD) is a framework of scientific and research sector with is characterized by catchy prevalence of state-owned research institutes and design bureaus. Herewith the number of academic and industrial research institutes is almost two times more than the number of educational research organizations involved in research activities (universities, institutes). For most developed countries inverse relationship is typical, where most of the researches are carried out by educational research organizations and laboratories belonging to private industrial companies.

In Ukraine the bulk of the financing costs for research and development (60% of total expenditures) constitute state budget funds. This figure is the lowest among the countries of the world by 0.16% of GDP [226].

To ensure the effectiveness of innovative development of Ukraine's economy in the future it is necessary to streamline the existing system of laws and supplement it with a number of documents that would regulate and ensure all components of innovation policy: creation of innovative infrastructure, development of technology transfer, venture funding, establishing a national innovation system, development of high-tech manufacturing, integration of science, education and production, innovative regional development; formation of innovation (technological) clusters.

Today only some elements of the national innovation system have been created and are working in Ukraine; innovative process cycles are weakly connected with each other, so the impact of innovation activity remains low.

One of the reasons for this state is imperfect legislation and regulatory framework for the establishment of high technologies and insufficient funding of their commercialization processes.

In terms of structural reforms it is necessary to develop a strategy for socio-economic development, which should consist of the following priorities: economic development on innovation basis; accordingly under the strategy there must be developed a scientific policy, scientific and technological, innovative, innovative and industrial policy, regulating and specifying the course of state in the chosen direction.

In the current environment there should be revived a national innovation system as a set of various institutions which in their interaction can ensure the development and transfer of technologies and create a framework for public policy that affects innovation processes [236].

Only within such a system (NIS) it is possible to build effective system of management of scientific and technological innovation processes (namely the process aimed at obtaining outcomes, but not an activity, which reflects a specific set of functions) [234].

Today, when the world is divided according to the main markets, including high-tech markets, Ukraine faces alternative strategic tasks associated with the opportunities to use their scientific achievements:
1) To mobilize existing consumer technologies and revive complete internal market;
2) To ensure the implementation of breakthrough technologies and recover lost foreign markets of high technology products;
3) To integrate with technical and scientific complexes in the processing chain of the production process.

In this context it is important to determine the main directions of modern public industrial and innovation policy (Figure 3.4.1).
The main directions of state innovation policy

| The restructuring in the industrial sector | Taking into account the priority of particular industries | Creating a modern innovation infrastructure | Stimulation of research and development | Making the transition from the low and medium technology and knowledge-intensive industries | Improving the state investment policy | Consistency in conducting regional industrial policy | Improvement of the monetary and fiscal policy |

**Figure 3.4.1: The main lines of industrial and innovation policy in Ukraine**
*Source: developed by author*

These directions are interrelated and complementary. In particular, the restructuring of the industrial sector is very important for the national economy and involves the development of priority industries, government incentives and high-tech knowledge-intensive production, full and effective use of scientific and technical developments.

For example, it is possible to identify some general trends in the EU countries to address barriers and constraints: creating between departmental agencies that develop policy and monitor its implementation; merger or cooperation of the agencies; implementing systems to coordinate the activities of ministries or institutions responsible for implementation of policies at the national level; implementation of measures in order to make the policy more transparent for those using the results of research and development [221].

In recent years we notice a trend towards the introduction of mechanisms of state-private partnership. The presence of different types of infrastructure services and improvement of their quality in energy supply, water supply, transport, health and education are vital conditions for economic development and decent sustenance of its citizens [219]. Lack of financial funds for public investment in infrastructure necessitates application of a new approach in a public-private partnership in which the state moves away from the traditional role of a single infrastructure services provider.

In this context, in the sphere of innovation activities many countries have built effective mechanisms for public-private partnership, allowing quickly transforming an innovative idea into a product, service or technology [237]. The basis of the infrastructure is the systems for risks division. Chief executive or integrator of an innovative project deals only with production, sales logistics, and the rest is transferred to the outsourcing small high-tech companies. The foundation of public-private partnership in scientific and technological sphere lies in this global trend towards the division of risks and responsibilities between the creators of high technology products. A key component of this partnership is the right of all elements of the innovation chain and continuously created new knowledge (technology).

As defined by the Committee on scientific and technological policy of the Organization for Economic Cooperation and Development, a public-private partnership in scientific, technological and innovative spheres is legally equal contractual relationship for a fixed or indefinite period between the legal entities of public and private sector [237]. Also noteworthy is the following definition: "public-private partnership in the innovation sphere is institutional and organizational alliance between government and business to implement
socially important projects and programs in a wide range of industries and areas of research" [219]. Under the terms of economic crisis and military conflict in the East of Ukraine the state should actively promote public-private partnership, the development of which will allow achieving two goals:

- To transfer of state property to private partner for better management, to attract investments and to perform works (to provide services) with which the private company will cope better than public authorities;
- To support priority sectors of the economy through the private financing of infrastructure or some important projects from the budget funds to increase the investment attractiveness of projects in priority sectors of the economy to private investors and to promote innovation projects.

Studying the realities of domestic governance, we can name the following obstacles to implementing public-private partnership in scientific, technological and innovative sphere: 1) lack of relevant experience of effective cooperation between the state and private business in scientific, technological and innovative sphere; 2) imbalance and imperfection of Ukrainian legislation in all areas of the national economy; 3) different target characteristics of interaction between the scientific and research and business sectors: business orientation on short-term goals, while institutions are more likely to research aimed at obtaining new knowledge. Until we address the issue of public procurements and ensure creation of special government agencies that were able to convert the budget into technologies, so long technological barriers to the commercialization of knowledge will not be eliminated. Therefore, the establishment of foundations for establishment of a public-private partnership in scientific and technological, and innovation and financial support of innovative development of economy is out of the question.

Innovative development cannot be supported by the state budget funds only; basically it should be done by forming a demand for research and development of the non-governmental (private) sector [225]. The partnership of the private and public sectors should be a key component of the new innovation policy of Ukraine, because the right organization of this partnership ensures greater efficiency of investment in public researches, creating favourable conditions for sustainable innovation development, which is a strategic factor of economic growth.

In today's globalized world innovations play a key role and to build an efficient economy Ukraine should develop innovative policy under high competition, which increases in terms of implementation of the integration processes. It becomes obvious that the economy of the country cannot compete either in domestic or in the external environment, if it does not become innovative and thus more effectively responds to new challenges.

World experience shows that to shift the economic system to an innovative path of development, to build the economy based on knowledge and free from export or raw materials dependence, with high dynamics of economic growth, its radical restructuring, further development of energy efficiency and other advanced (breakthrough) technologies, essential increase of the volume of investment in innovation sphere is required [227]. In this context, in terms of general global economic and social challenges the international community defines a set of objectives in the field of sustainable development (OSD). These goals, which are formed by the UN along with a wide range of stakeholders, are designed to step up efforts worldwide through the implementation of specific tasks in the 2015-2030 toward reducing poverty, improving food security, healthcare, education and mitigation of the climate changes, and a number of other tasks in the economic, social and environmental spheres [233].

Ukraine adopted "Strategy of Sustainable Development of Ukraine till 2020", which defines the objectives, directions, and priorities of the country and indicators of achievement of the objectives of development. The goal of reforms is achievement of the European standards of living and decent place of Ukraine in the world. "The Strategy 2020" includes 62
reforms. They include eight reforms and two priority programs. There were defined 25 key indicators of successful development of the country and promotion of energy dependence on Ukraine in the world [228]. The main prerequisite for implementation of the Strategy is a social contract between the government, business, and civil society, where each side has its own area of responsibility. The strategy takes into account the innovative factor, but since 2014 nothing has been done to implement it.

The study found that the problem of formation and development of the national innovation system has a complex systemic nature. It cannot be solved only on the basis of a technocratic approach, but requires a systematic study using methods that are interdisciplinary in their nature, because innovative activities are not only the efforts related to the creation and application of new technological knowledge but also an objective condition of combination of production factors, the subject of which is an entrepreneur (a state, a company or an individual).

Despite numerous studies of theoretical and practical problems of the national innovation system, its individual elements, the national economics has not yet formed a holistic approach to defining the objectives, structure and orientation of the formation and development of the national innovation system from the standpoint of its impact on the stability of the process of economic growth, increasing the country's competitiveness. There are no deeply processed theoretical and methodological guidelines for the development of national innovation system, but a problem of study the effectiveness of newly-created domestic innovation institutions and structures remains.

Most work do not contain systematic study of the socio-economic conditions ensuring the effective functioning of the national innovation system, there is no comprehensive analysis of the relationship of the elements of the national innovation system and recommendations on tools to increase the efficiency of its formation. Finally, the issue of the existence of Ukrainian innovation system still remains controversial: in some studies a national innovation system is considered not as an important tool, but as a goal of innovation policy. Review of existing approaches and theoretical positions allowed us to prove the scientific position according to which the main factors of innovation development are innovation and institutional determinants (human capital, development institutions, administrative resources), which stipulates the need to adapt the existing theoretical models of economic development based on the integration of neoclassical and institutional theory and modern paradigms. Today old mechanisms of economic development are destroyed in Ukraine, so there are real conditions for creation of new mechanisms of enhancement of the process of building a national innovation system and its sub models and reasonable economic development.

REFERENCES


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