

UDC 338.24

Innovation and industrial policy as the main tool for implementing the strategy of structural transformations in the industry

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Abstract

The article deals with innovation and industrial policy as the main tool for implementing the strategy of structural transformations in the industry. The results of the research have revealed common approaches to the implementation of industrial policy in different countries, the traditional tools of industrial policy: protectionism; support for the development of the sectors, organizations and territories that are the most important ones for the Russian economy; export stimulation; regulation of prices and tariffs for goods and services of natural monopolies. However, these tools are not considered to be effective

enough in terms of improving the competitiveness of the modern Russian economy. The article also analyses the international experience of implementation of industrial policy, reveals the features of modern requirements for the industrial policy in Russia, the priorities and directions of Russia's industrial policy, and demonstrates the need for using an innovative approach. The authors of the article suggest developing industrial policy based on the principles of innovation, which will create an irreversible progressive vector of development of the national economy. The mechanism for the implementation of industrial policy offers a comprehensive system of legal, economic, organizational and other measures to ensure the formation of a competitive industrial complex and its effective functioning.

For citation

Timoshenko P.N., Parakhina V.N. (2015) Innovation and industrial policy as the main tool for implementing the strategy of structural transformations in the industry. *Ekonomika: vchera, segodnya, zavtra* [Economics: Yesterday, Today and Tomorrow], 6-7, pp. 9-22.

Keywords

Industrial policy, innovation and industrial policy, structural transformations, import substitution, tools, goals, objectives.

Introduction

The authorities can use different instruments of industrial policy, but changes in international rules as well as the process of their continuous development set limits on the acceptable use of such mechanisms. The traditional instruments of industrial policy include the following:

– firstly, protectionism that ensures protection of Russian manufacturers against unfair competition from foreign competitors (protectionism is implemented with the help of such methods as tariff regulation and non-tariff, currency regulation). The disadvantage of protectionism lies in a lack of motivation of "protected" national enterprises and industries to increase their competitiveness and enhance development;

– secondly, support for the industries that are considered the most important for development of the economy of the Russian Federation (they are sometimes called the "locomotives of growth"), organizations and territories that the state regards as the most promising ones; support is provided by concluding public contracts, giving credits, and granting subsidies. The disadvantage lies in an increase in the possibilities and potential situations for corruption during distribution of state support; moreover, its inefficient use is a possibility that cannot be ruled out [Burak, 2009];

– thirdly, export promotion and stimulation by granting direct subsidies or through currency regulation. This may cause a crisis in currency regulation, a lack of stimulation for the development of enterprises that are oriented towards the domestic market;

– fourthly, regulation of prices and tariffs for goods and services produced by "natural" monopolies. The use of this method freezes the monopolistic positions of producers and leads to uncontrollable public spending or restrictions on national economic development.

Instruments of industrial policy implemented by the authorities, of course, are not limited to the means of regulation mentioned above. But even evaluation of the methods that have been mentioned allows us to consider them to be insufficiently effective at improving the competitiveness of the modern Russian economy. As a result, there arises a problem related to finding more effective and efficient methods of industrial policy that will allow of avoiding the negative consequences of traditional approaches.

The specificity of implementing industrial policy in different countries

International experience testifies that approaches to industrial policy implementation are ambiguous. The specificity of implementing industrial policy in different countries and its identification by the state impact growth rate can be characterized with the help of the system of the following features [Imamutdinov, 2007; Kokoshin, 2004, 112; Matvienko, 2007; Oganessian, 2007; Kuznetsova, 2005]:

– the absence of the direct intervention of the authorities in the processes of industrial development and some influence on the structural parameters of foreign direct investments (Switzerland, Malaysia);

– the intervention of the authorities in the activities of some industries, which depends on the particular situation, and general support for industrial development oriented towards the scientific and technical progress (the USA);

– indirect regulation of the economy without taking direct measures for influencing the industry and patronage towards some industries and strategically important technologically advanced enterprises (Great Britain);

– taking measures relating to direct state intervention in industrial development (including strong support for some industries through setting up and developing public and municipal enterprises) without transition to the government planning system (Canada, Brazil, Mexico, Germany, Sweden);

– strong support for industrialization through direct investments in the most significant industries and the use of state plans and government programs (South Korea, Taiwan);

– the system of government planning that ensures intervention in industry and the processes of its development, as well as the implementation of technical-technological policy with the use of resources from the private sector and in concert with it; determining the courses of development of the key enterprises and industrial complexes, setting directives for them, and giving free rein to other industries (Japan, Singapore);

– the system of planning of the processes of development of specific industries with the use of such instruments as an overall indicative plan for the whole economy, as well as the use of other means of managing industries such as creation of and support for successful public enterprises in the most significant industries (France).

General approaches to the implementation of industrial policy in different countries

The specific features of the implementation of industrial policy in different countries and the instruments used by them reveal the general approaches determined by

the requirements of the market, development of competitive relations, competitive factors, technical advance and expediency of solving social problems. These general approaches include the following: prioritizing free market relations as a driving force for economic growth; counteraction to monopolism; creation and development of social institutions and infrastructure with a view to supporting socially vulnerable groups.

Taking into account the experience of industrially developed countries that have achieved high economic growth rates, one can come to the following conclusion: the implementation of an active industrial policy helps to solve a number of interdependent tasks. In many industrially developed countries the essence of industrial policy is defined as purposeful, systematic work undertaken with support from the state, including direct (administrative) regulation and indirect (financial and economic) regulation of the competitive socio-economic development of the industry on an innovative basis and removing those obstacles during this process which cannot be overcome naturally through market self-regulation mechanisms.

In modern conditions the main postulates of industrial policy related to the experience of the most developed countries in the world boil down to the following [Kuznetsova, 2005; Kokoshin, 2004]:

- recognizing the importance of the major transition to a nationwide industrial policy, the authorities, business and society (including scientific institutions) having equal rights during the formation and implementation of this policy;
- recognizing the need for a transition to policy ensuring no mere support for specific industrial sectors and industries, but the competitiveness of industrial enterprises;
- the need for combining a new industrial policy and a transition to a knowledge-based economy in which creation, distribution, and application of knowledge and information are considered to be the key factors that ensure balanced economic development;
- taking industrial policy measures in different industries with a view to achieving a synergistic effect and ensuring balanced development because selective assistance for the key industries has become costly in the conditions of limited budget funds.

The features of the modern requirements for industrial policy in Russia

Modern Russia is significantly lagging behind industrially developed countries in the key macroeconomic indicators, that is why industrial policy is intended to solve the task consisting of two indissolubly united parts: it must determine the strategy on domestic market expansion and promote the modernization of all spheres of the economic complex. The formation of the sector of high-tech industries that are supposed to become the basis for the growth of innovative economy due to government assistance and redistribution of resources that mining industries use is regarded as the uniting principle in this case.

The domestic industrial policy will soon prioritize high-tech industries that will become "locomotives" of the growth of innovative economy as a result of the changes mentioned above.

Different stages of the functioning and development of the national economy imply the realization of specific goals of industrial policy, the adoption of different approaches to the formation of its structural components. At the stage where the economy is showing the signs of recovery industrial policy is supposed to ensure the modernization of the sectoral structure of the industry, contribute to sustainable development at the stage of economic boom, and the stabilization stage should imply the promotion of the use of the potential of domestic industrial enterprises [Kondrat'ev, 2008, 127].

Industrial policy is considered to be the main instrument that ensures the implementation of the chosen strategy on the structural transformation of the industry; determining industries, complexes and enterprises that should be prioritized and supporting them are regarded as the basis for implementing this policy.

At the present stage of the country's development, the role of industrial policy as a hierarchical and purposeful system of mechanisms used for regulation of the activities of business entities in the market economy is increasing.

Although the pre-crisis period witnessed some revival of Russia's economy, a lot of key parameters of its functioning lag behind the indicators in economically developed countries. The level of competitiveness of Russian goods, works and services

remains low in the domestic and world markets. The process of the development of knowledge-intensive industries is insufficiently rapid. Only 10-12% of enterprises introduce innovation into the industrial process [Regiony Rossii..., 2009]. Products manufactured by the fuel and energy complex predominate in the list of the structural components of Russian exports, a share of goods produced by processing industries being insignificant. Import substitution mechanisms are not effective enough.

The negative impact of the world financial crisis on the domestic industry caused the relocation of economic activities from the manufacturing sector to the sector of circulation and redistribution of the social product. The share of its industrial component produced in the segments "mining operations", "manufacturing activities", "production and distribution of electricity, gas, and water" amounted only to about 30% of the GDP of Russia in 2010.

The main reasons for the insufficient productivity of the core sectors of the economy include the following: the high degree of wear and tear on fixed assets; the low level of labour productivity; unsatisfactory quality of products; a high capital output ratio; industrial and technological backwardness. These factors decrease the competitiveness of industries. Little attention is paid to the industrial components of the economic strategy on the development of specific territories and the whole country, which retains disproportions, does not ensure balanced interaction among enterprises from different sectors, which has a negative impact on economic growth.

Many economists think that the present stage of the development of the world economy sees a change in dominant technological modes that shape modern industrial production. This process is always accompanied by structural crises in the economy. Russia's industry is undergoing this period. Until recently the fifth technological mode that was based on such key factor as the development of microelectronics and software was considered to be predominant, but it seems to have stopped developing. The economic crisis is viewed as the sign of the last life-cycle stage of the development of the predominant system and the beginning of structural transformations in the national economy on the basis of the sixth technological mode, whose formation and development will globally guide economic development over the next few decades. The key innovative sectors of a new mode does do not appear simultaneously, this is a long and contradictory process. In modern conditions the sixth technological mode only begins

developing; its key factors include nanotechnology, cell technologies and genetic engineering techniques based on the use of scanning electron and atomic force microscopes, as well as metrology systems corresponding to their peculiarities. The core of the mode consists of nanoelectronics, nanomaterials and nanostructured coatings, molecular photonics and nanophotonics, nanobiotechnology, nanosystems engineering, nanoequipment. Despite the crisis, their production growth rate does not decrease and amounts to 30-70% per year [Glaz'ev, 2009]. All the promising directions of industrial production mentioned above are regarded by the authorities as public policy priorities. Accompanying industries are supposed to develop simultaneously. The industries that were the key ones in the previous mode can be included in this group: rocket and space industry, electrical industry, aircraft industry, nuclear industry, machine-tool building, instrument-making, communication, and education. Innovative development will extend to public health service (the use of new technologies and diagnostic techniques) and agriculture (innovation in molecular biology and genetic engineering). The appearance of nanomaterials will allow of regarding chemical and metallurgical complexes, construction and motor-car construction as the country's leading industries.

The priorities and directions of Russia's industrial policy and the need for adopting an innovative approach

A successful and well-timed transition of the domestic industry to the sixth technological mode requires determining the priorities for the country's economic policy and adapting organizations' financial and economic activities to them. The main directions of the policy include the following:

- formation of a socially-oriented national innovative industrial policy, the authorities, business and society (including scientific institutions) having equal rights during the formation and implementation of this policy;
- replacing a sectoral approach to organization of economic complexes with stimulation of industries that are highly competitive in the world market;
- development of knowledge-intensive employment sectors where generation, distribution and application of new knowledge are considered to be the key conditions for balanced economic growth [Perekhodov, 2005];

- the expanding use of information alienated from the ultimate owner and transferred on a tangible medium as a means and object of labour;
- forbearance from selective financial assistance for specific industries and the use of the mechanism of direct and indirect tax regulation of reproductive capabilities of industrial enterprises.

All the things mentioned above make it expedient to introduce the new concept "innovation and industrial policy" for scientific use. Its content unveils a number of directions of and tools for the implementation of the strategy on the socio-economic development of the country that is based on a system of balanced interaction of bodies of state authority with scientific and non-government organizations, as well as with business entities with a view to making the country's industry based on the sixth technological mode competitive.

The transition of the domestic economy to a new technological mode requires the development of a methodological basis for the formation of an effective industrial policy because it is impossible to build an innovation-oriented economy and implement the public policy for qualitative economic growth without use of a well-founded system of evaluation of the socio-economic development of a country, its territories and industries that is entirely accordant to the priority directions of the development of the modern world economy [Pilipenko, 2005].

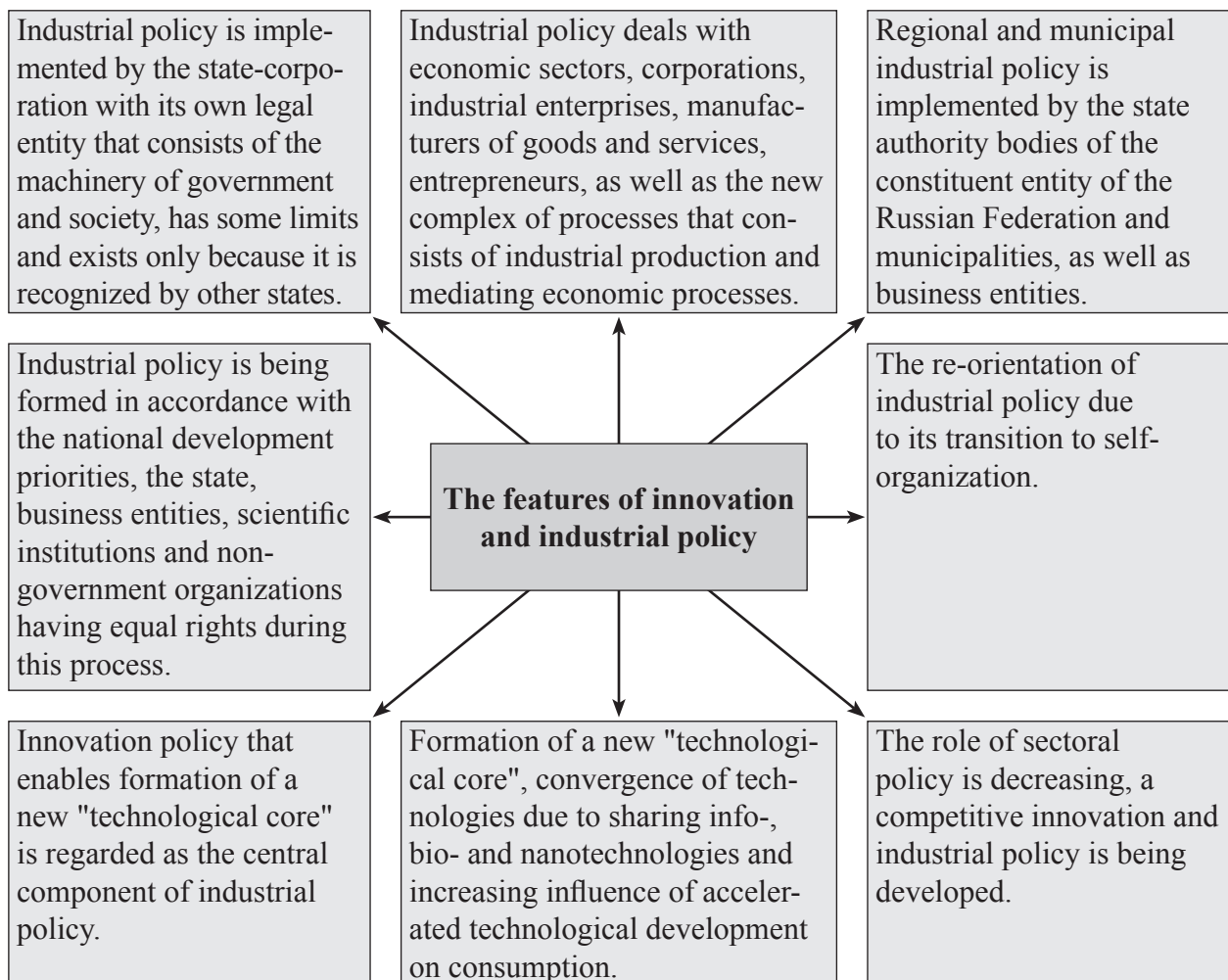
These conditions determine the need for choosing the strategic directions in the implementation of a modern and effective industrial policy aimed at promoting the development of industries, territories and specific projects that can exert positive influence on other sectors of the economy, contribute to turning them into new sources of added value, create extra demand and lead to an increase in supply of domestic goods and services, economic diversification and rapid modernization of fixed assets.

Thus industrial policy as the central component of the country's general economy policy should be coordinated in the first place with the implementation of innovative, investment and structural transformation of industrial production. Industrial policy is intended to contribute to creating new markets and developing them, ensuring competitive industrial production, improving the profitability of enterprises, ensuring their leading position in the market for industrial goods and services.

The modern industrial policy in Russia has repeatedly changed development priorities and in the current situation must be formed with due regard to understanding of the role of our economy in a rapidly changing world; realistic goals must be set. The policy must have mechanisms and features related to innovative development (see the figure).

Conclusion

The domestic industry faces a number of serious problems, the share of technologically obsolete production methods remains significant, and there exists the need for ensuring its innovative development. Therefore, industrial policy should remain an independent category of macroeconomic regulation as a policy ensuring state patronage towards strategically important sectors of high-tech industries.



The features of innovation and industrial policy

At the present stage of the structural transformation of the country's reproductive complex there is a need for the implementation of an innovation-based industrial policy that will ensure progressive irreversible development of the national economy. Innovation and industrial policy should form a constituent part of the strategy on the socio-economic development of the country, this strategy being based on a system of interaction of bodies of state authority with scientific and non-government organizations, as well as with business entities with a view to making the country's industry based on the sixth technological mode competitive. The mechanism for the implementation of industrial policy proposes a comprehensive system of legal, economic, organizational and other measures aimed at building a competitive industrial complex and ensuring its effective functioning.

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Инновационно-индустриальная политика как основной инструмент реализации стратегии структурных преобразований промышленности

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Аннотация

В статье обоснована необходимость формирования инновационно-индустриальной политики для реализации стратегии структурных преобразований промышленности в целях активизации процессов импортозамещения в современных нестабильных условиях функционирования российской экономики.

Для цитирования в научных исследованиях

Тимошенко П.Н., Парахина В.Н. Инновационно-индустриальная политика как основной инструмент реализации стратегии структурных преобразований промышленности // Экономика: вчера, сегодня, завтра. 2015. № 6-7. С. 9-22.

Ключевые слова

Промышленная политика, инновационно-индустриальная политика, структурные преобразования, импортозамещение, инструменты, цели, задачи.

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