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# **INNOVATION FACTOR OF INDUSTRIAL ENTERPRISES INVESTMENT CAPITAL FORMATION PROCESS**

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#### Abstract

The research is devoted to the aspects of investment activities efficiency determined by the innovation infrastructure. It is the basic component of the creative economy and the innovation potential of the society. The questions of developing of the innovative economy help to reveal future areas of economic growth and determine their potential. In conditions of increasing demand for innovative products, the quality of economic growth, expressed in the increase of investment resources and the development of high-tech industries, becomes very important. In the process of implementing industrial and investment policy, it is necessary to consider the allocation of investment resources. Implementation of National projects provides an opportunity for enterprises to improve production efficiency, implement joint projects in order to increase profits, improve business reputation, and enter the international arena. The authors of the article noted the actual problems that are necessary for resolving both public authorities and business leaders. The authors of this article analyzed different sources, examined indicators over a number of years; determined the factors that reduce the innovation activities of the enterprises in the industrial sector of the economy. The purpose of this article is to identify the main factors of interaction between investment activity and investment development to ensure the effective development of enterprises in the real sector of the economy.

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Keywords: Investment and innovation growth, innovative potential, investment resources, innovation growth pole, research and development, factors of decrease of innovation activities.



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# 1. Introduction

There is crucial order due to which government is able to support the formation of a new technological paradigm – it is to form an innovative potential by increasing funds available for investment for the effective development of real sector enterprises. The internal expenses criteria on developments and research in percentage to gross domestic product terms illustrates state attention to the science development problems and key element of the new technological paradigm formation. Currently, public funding (from the state) could be federal national projects and investment allocation funds programme.

Reimbursement of budget money is due to target direction of budget financing for competitive allocation of investment resources and grading of innovation projects. It's positive effect for potential investors is also considered. The expenditure items of the Federal budget for the next year reflect funds for providing state support for the implementation of investment and innovative projects of Russian enterprises.

In Russia short-term financing of innovation projects is applied for many reasons, lending agencies would rather prefer two years and less of projects recoupment period. For Russian businessmen it is an issue to get a long-term credit for innovation project realization. In order to reduce the amount of possible losses in crediting innovation (usually risky) activities, banks want to have collateral. The most important obstacle to innovation activities of the companies is the high uncertainty of the prospects of the sales markets development. Not significant correlations between innovative activities indicators and the volume of gross regional product (GRP) means an extremely low significance of innovations for the economic development.

According to the authors Bulavko, Tatarskih, Tuktarova, and Naugolnova (2019), scientific and technological developments that are created with the help of certain knowledge are a factor of long-term economic growth and a spring tide of prosperity. Spreading of such works is due to the development of high technology in the industrial sector (Bulavko, 2013).

High technology extensive use in industries demonstrates the necessity of scientific and technological projects development adapted from knowledge which is a long-term economic growth and a spring tide of prosperity factor. To improve the manufacturing output effectiveness it is important to develop the innovation activity mechanism, increase the technological innovation and scientific research budgeting for the imbalance correction.

According to Ivanter (2011), an important aspect of the achieving of this goal is the tasks of modernizing the Russian economy as a diversification of the domestic production transformed in accordance with changing external conditions on the basis of orientation towards innovation.

#### 2. Problem Statement

It is essential that technics, which increase investments and innovations in the real economy, are to be formed in the framework of new approaches. The development of technological structure determines the achievement of strategic goals of innovation development and stimulates the development of investment and innovation growth. According to the authors Ioda, Bulavko, Khmeleva, and Ioda (2013), innovation activity has mainly imitation character at the investment stage; engineering and applied sciences are more valuable to it than the fundamental ones. It is possible to solve this problem if an attractive environment for

research and development is created, in particular, by increasing the prestige of scientific activities and bringing the income of an effective researcher to a level higher than average income in the industry as well as creating a modern engineering base for investment and innovation growth, including both qualified specialists and modern equipment.

State intervention in innovation processes is necessary in order to create incentives for innovation that are not sufficiently generated by an imperfect institutional environment. These aspect state functions can be combined into four tasks groups:

Institutional environment doesn't fully generate innovation fillips, that is the reason for innovation activities government intervention.

1. Politics of longtermness and predictability implementation that reduces the uncertainty of the external environment for innovation;

2. Innovative activity impetus formation;

3. Administrative barriers extermination;

4. Technical control, public knowledge formation and distribution, production factors markets control.

The industrial policy development criteria (consisting of knowledge-intensive industries development, resource and technological potential formation) are determined by the government control of investment activities (Bulavko, Ivankina, Tuktarova, & Nurgalieva, 2019). Innovation activity and innovation processes intensity determine economic development level and pattern of any country economic growth at the regional level. Innovative processes effective deployment in the domestic economy has to be connected with scientific and innovative potential of Russian entities strengthening, scientific management orientation on social and economic problems of specific territories solution.

#### 3. Research Questions

Large business was one of the less involved innovative processes actors due to the lack of interest to such processes for almost 20 years. In Europe R&D company costs are 20% at the mean, in Russia these costs are 8% and less of technological innovation total expenditure. Patent and licenses procurement firms' charges are less than 2% (Kuznetsov, Kuzyk, Simachev, Tsukhlo, & Chulok, 2006). Intension costs on large enterprises innovations have increased in spite of R&D financing reduction. Costs of the 1 000 largest world's R&D corporations have decreased on 3.5% during last few years, although average intension increased from 3.46 to 3.75%. Largest world's corporations have been decreasing costs on their own research under the conditions of the market and sales falling.

The effective development of enterprises in the real sector of the economy contributes to the growth of industrial production. It requires an increase in investments, the development of high-tech industries, the construction of new enterprises, the updating of existing production, and the shift of investment preference towards innovative enterprises. Industrial enterprises can independently implement investment projects or be a competitive advantage when interacting with foreign investors in the production of automotive components, electrical and cable products, chemical, food industry, construction industry and the development of pharmaceutical industry. Further development of the digital economy and means of communication as well as the formation of network structures will lead to a high level of competitiveness.

The advantages of the interaction mechanism described above: economic growth (increasing of the industrial production index), attracting of investment resources and cooperation with the scientific the business communities make it possible to talk about the achieved synergistic effect and the possibilities of reflecting the presented results in further studies.

## 4. Purpose of the Study

The purpose of this research work is to identify the main factors of interaction between investment activity and investment development in order to ensure sustainable economic growth and effective development of enterprises in the real economy sector. The following tasks contribute to the achievement of this goal:

- To develop mechanisms for regulating investment processes;
- To justify the need for interaction between state regulation of the investment sphere and innovative development of enterprises;
- To identify opportunities for priority areas of economic growth through state investment programs.

## 5. Research Methods

Describing the level and depth of scientific and practical development of modern problems innovation factor of industrial enterprises investment capital formation process, it is necessary to rely on the existing theoretical basis of research. In the process of the research there were used horizontal and vertical analysis methods, method of relative indicators and data comparison method. Methods of comparative, stochastic analysis, quantitative, qualitative, empirical and theoretical methods were applied.

#### 6. Findings

Among the scientists studying the problems of formation of investment potential of industrial enterprises, there can be mentioned Djankov and Hoekman (2000), Bergstrand and Egger (2007), Appiah, Possumah, Ahmat, and Sanusi (2018) and etc.

Li, Guo, and Li (2001) in their paper mainly dealt with the motivation of enterprises investment regions transfer. They gave the index system and the weighted ideal value analysis method for valuing the development potential capacity of enterprises investment regions. Westlund and Nilsson (2005) developed the method of measuring investment in social capital and studied possible connection between the investments of enterprises in social capital and their economic growth.

Zakharin (2008) studied state and the enterprises investments financing by means of their own sources as well as the peculiarities of self-financing realization in the investment activities of enterprises.

Dymchenko and Iliashenko (2014) provided synergistic conception realization in public utility corporations investment management and its reasons; utilities corporations' investment synergy effect and algorithm of investment attractiveness have been developed; substantiated the need to implement a synergistic concept in the management of investments of utilities; the nature of the effect of investment synergy for utilities is determined and an algorithm of investment attractiveness is developed

Considering China renewable energy sector, Yu, Guo, Le-Nguyen, Barnes and Zhang (2016) tried to understand the impact of state subsidies on research activities of enterprises (R&D), and their investment behavior.

Burdina, Kaloshina, and Chizhik (2017) gave the author's interpretation of the investment potential concept; also they analyzed the mechanisms for assessing the investment potential of enterprises with focus on the companies' investment projects. Strokovych and Mykolenko (2018) analyzed the existing theoretical approaches to assessing the financial and investment potential of enterprises. They formed the list of indicators of the financial and investment enterprise potential in the context of the proposed assessment groups.

The authors of this article analyzed various sources, examined indicators over a number of years and determined the factors that reduce the innovation activities of the enterprises in the industrial sector of the economy: weakening of financial standing, underfunding from its own company, uncertainty of sale markets development prospect, fund raising difficulties, lack of innovations state support, innovative products cutbacks in state purchases. Thus, the crisis caused a number of negative effects as well as positive structural changes concerning innovation activities. The positive factors include:

1. Increasing motivation for the introduction of energy and resource-efficient technologies in the context of tightening financial restrictions;

2. Changing the structure of demand for enterprise products in support of new, developed products;

3. New opportunities for innovative and active enterprises, enterprises with a significant share of new products; these advantages are primarily associated with the withdrawal of inefficient competitors from the market.

To implement main directions of production and investment politics using investment-driven development, to increase a buoyancy of the economy, to investment promotion of Russian economy innovative sectors, to maintain positive and reduce negative effects (factors) the authors introduced the term «innovative growth pole».

- 1. Uncertainty reduction concerning growth prospects, stability increase of economic activities control:
- Predictability of business activities conditions increase (rate and tax predictability);
- Activation of state institutions in direct investment support, especially innovative projects.
- 2. Innovative and active, vertically integrated (with the big percent of new goods) positive effects maintaining of corporations:
- High quality demands to the corporation (equipment renewal speed, R&D cost component) when providing state support
- The establishment by the state of higher demands for new properties and quality of production.
- 3. Maintenance and strengthening of motivation of companies to resource-saving and energyefficient technologies introducing.

The current motivation for companies to implement these technologies may decrease slightly with the improvement of their financial situation. It is important in the near future to embody the state measures, focusing in the long term, to complement market mechanisms forced to upgrade (resource-intensive

equipment tax rates increase, such technologies use prohibitions, norms and standards demands strengthening, product characteristics restriction for public procurement ).

4. It is critical to introduce measures that are relatively "neutral" for the scale of the enterprise in order to stimulate innovation (for example, the introduction of property tax benefits for the introduction of new efficient equipment, the duty on entry reduction on the high-tech equipment import).

Associated with direct budget financing (public procurement, federal targeted programs, subsidies and incentives), usual means for stimulating innovative activity have a positive impact on a wide range of businesses activities, as companies get a better access to different innovation support forms. Wider possibilities of building a system of state priorities for technological development, measurability of direct impact on the economy are factors that specify such politics attractiveness. This approach has some predictable shortcomings - replacing market demand with state demand, risks associated with government participation in decision making, decision making in the "manual control" mode, and susceptibility to budget expenditures. Furthermore, the ability of the economy to rapidly spread innovation could be limited by the excessive concentration of innovation in a narrow segment of large entities.

Strengthening measures of favorable conditions formation to create and grow of enterprises associated with the highly processed products production and the high-tech services provision should be supported with the help of the innovation focus strengthening and the activities of development institutions expanding. Having in consideration the interaction of scientific and production companies, implementation of additional measures to encourage the creation and development of successful research and production support measures, implementation of which is provided by the enterprise and with scientific organizations partnership are the most essential. Economic and institutional support of approaches to the long-term and large-scale investments in innovative sectors of the economy and its combination ability.

Realization of big investment projects is a crucial instrument of innovation stimulation, it is also important to create conducive conditions for the innovations implementation.

5. The accelerated development of system of flexible tools innovative activities support, various funds supporting scientific, technical and innovative activities.

6. Providing the most important factors of aggressive growth:

- Increasing the susceptibility of the economy to innovation by expanding the range of innovative and active enterprises;
- Favorable conditions for the creation of new innovative companies and their growth;
- Implementation of the inventive potential through the development of conditions for innovative entrepreneurship.

The high risks of implementing extremely large-scale projects within the framework of traditional development schemes are determined by the objective market development prospects uncertainty, however an integrated support system to ensure the growth of a successful innovative company is not currently formed by existing development institutions.

In this regard, it is indispensable:

Mobility and flexibility of the innovation support system increasing;

- Reducing barriers of supporting for small and medium innovative companies;
- Strengthening of support at the innovation cycle early phases;
- Expansion of successful high-tech companies capitalization instruments.

When developing and implementing investment policy in the field of innovation, the features of the innovation policy in the globalization conditions should be:

1. The need for the development of cooperation (intercorporate, intersectoral, interstate), the formation of technological alliances is due to the payback period of research and development increase, at the same time global competition shortens the product life cycle and imposes strict time limits;

2. It is difficult for large companies to lead in global markets due to the complexity of production technologies; it urges them to specialization and collaboration;

3. Ways of acquiring and disseminating of knowledge, channels for expanding the use of technologies, and technological expansion as a whole due to better regulation of the economic sector

4. The global character of the economy based on innovations does not allow to get the added value on a national scale;

5. The increase of the number of states using a wide range of incentive mechanisms. Innovation activity are connected with long-term planning horizon and high uncertainty of current development results, we can assure that uncertainty in public policy exacerbates the "natural" level of uncertainty in innovations and can be considered as a serious innovation barrier.

Concurrently, involved in the activities of innovative and industrial enterprises markets control production factors does not burden the enterprise. Among the production factors that are regulated by the state in technological innovations, technical regulation and the level of standardization in the product market and technical standards changes take a special place, according to the study results. Usually, the standardization level is higher, and enterprises are less prone to innovation, when the more mature technology is used in the enterprise. The reason is that in such markets the ability to follow standards and maintain consistent product quality is generally valued.

The Russian companies are subject to technical regulation - both domestic and international; and in the world the standards are set not only by the state regulatory bodies, but also- to an increasing degree by large corporations, consortia and business groups, which often start the so-called standard wars. The main goal of these wars is the right to incorporate their intellectual property into an appropriate standard and to receive significant royalties in the future. In conditions of technological lag, which is typical for most industries of Russia, the adoption of quality standards is fairly considered a measure of disciplining of the domestic market and the increasing of the competitiveness of Russian goods. It is proposed, in addition to the country's nature and raw materials potential, to introduce a new resource base in the form of the results of scientific and technological developments, high-tech products; and on this basis to diversify the structure and increase the quality of growth as well as the efficiency of the investment resources use. Creation of effective growth potential for the Russian economy is possible due to accelerated development of the scientific and educational complex and high-tech industrial sectors. The projected for Russia economic growth is higher than the projected growth rate of the world GDP – 3.7-4% per year. This fact makes it possible to reduce the developed countries lag upon social and economic indications, to strengthen the country's global economic positions. Large capital investments in the scientific and educational complex

development, update of the material and technical industry base, creation of new high-tech industries will be required for such readjustment.

## 7. Conclusion

Taking into consideration all the above-mentioned, to ensure the innovation and investment development of the Russian industry in the framework of the realization of the industrial and investment policy, it is possible to use the following methods of regulation of the innovation development:

• Improving science governance by the research structures flexibility increasing and closer collaboration between industry, state scientific centers, and universities;

• The long-term technical progress guarantee through the government science budgeting and the inter-firm cooperation stimulation at the research stage;

 Effectiveness of R&D financial support improving, removal of barriers to creation of an market financing mechanism of innovative processes, assistance in private venture funds formation;

 Contribution in private venture funds organization, obstacle removal during innovative processes financing market mechanism creation, R&D financial support improving effectiveness;

 Improving the development and support of innovative programs, competition in the market of new technologies stimulating, mechanisms of technological expansion strengthening;

 Reducing bureaucratic, informational and financial barriers and technological entrepreneurship supporting, formation and growth of new technology companies by stimulating the development of managerial and innovative options contribution;

 Supporting processes of formation of new areas of economic growth, carrying out regular institutional reforms aimed at stimulation of flexible technological update and the appearance of new manufacturers.

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