Improvement of financial instruments of innovative activities` stimulation

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Abstract— At the current stage of development of market relations, economic entities’ innovative activities are an essential factor for competitiveness. In this connection, this article reveals content of modern approaches to fiscal stimulus of innovative activities as it is the most effective method of financial provision of economic entities in foreign and national practice.

Keywords— Innovative development, financial instruments, innovative projects, model of tax incentives for innovation, methodology for assessing the effectiveness of an innovative project.

I. INTRODUCTION

According to international assessments, Russia takes only 49-th place out of 143 countries by the level of innovative activities. On the one hand, this is due to the objective reasons, in particular, the imposition of sanctions, slowing down of innovative development, which result in gapping with lead countries. On the other hand, the mechanism that must stimulate innovations is functioning not fully effectively now.

The priority area for development of innovative activities is identification and improvement of the form of its financial incentives [6].

The ability to perceive and implement innovative development for industrial sector development is the key to survival in acute competition, that is an urgent strategic task of the national economy [2]. The potential to solve this problem is focused on the efforts of research and development teams. An innovation form of economy provides a systemic use of scientific achievements in industry. This tool assumes that during the development of new technologies and innovative products, the enterprise is concentrated not only on its internal forces, that is, corporate units that provide knowledge-intensive technologies, but also vigorously attracts ideas and experts from the macro environment.

The aim of this article is to analyze the foreign and national experience of the innovative activities’ stimulation in conditions of insufficient financial provision for economic agents to increase the likelihood of projects effectively implemented in risky conditions.

II. LITERATURE REVIEW

The basic works in the area of stimulation of innovative activities’ management were a study of such foreign scholars as Schumpeter, Yakovets, and Drucker.

Awareness of the important role of innovative business and its need in regulatory and supportive measures have led to the introduction of the term «national innovation system» which is used in literature very often.

Meanwhile, the core of the concept of national innovation system started to develop in the 1980s almost simultaneously by scientists of different nations (Christopher Freeman, Bruce Lundvall, Richard Nelson).

Issues of innovative development were considered by Russian authors including A. Nechaev, G. Khokhlova, D. Okladnikova, E. Popova and other.

Process of initiation and innovation become known as innovative activities.

According to Russian Federation legislation, «innovative activities in the area of science and technology build on actions aimed at establishing and introduction of scientific and technical achievements and new products (goods, services), which are expressed in the objective form, including [9]:

-Experimental development, technological, project, research, licensing, patents, and other work;
-Implementation of technological upgrading and preparation of own production;
- Realization of testing, goods’ certification (works, services).

Therefore, in foreign and national literature, the term “innovation” means simultaneously a process of production and a concrete result of this process.

III. PROBLEM STATEMENT AND RESEARCH OBJECTIVE

According to «The strategy of innovative development of the Russian Federation until 2020», one of the indicative figures is percentage of businesses which implement at least 40 percent of technological innovation. [10].

Updating fixed assets is still an outstanding problem in conditions of national innovation system formation.

Analysis of the results of the survey of respondent-businesses in various regions of Russia shows that the most pressing issue and the main purpose of the investment is outdated technology’s replacement (48 per cent of the respondents).

![Diagram 1. Dynamics of entry rate, withdrawals and worn-out of capital stock. (11)](image)

A large share of respondents (37 per cent) noticed that average age of the machines and equipment in their organizations ranges in limits 10 years; 46 per cent of organizations specify the same time limit for age of the vehicle fleet; 11 per cent of organizations use machines and equipment over 20 years.

By the end of 2015, average age of the buildings had reached 13 years, for construction - 11 years, for machines and equipment - 8 years and for vehicle - 7 years.

Compared to buildings and construction, equipment, machines and vehicle are active parts of fixed assets, so they require replacement that is more frequent. Results of a survey indicating the reasons of core funds withdrawals are presented in Table I.

<table>
<thead>
<tr>
<th>№</th>
<th>Withdrawal of core funding</th>
<th>Building s and constructions</th>
<th>Machines, equipment, means of transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Elimination (cancellations) for reasons:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1.</td>
<td>Physical deterioration</td>
<td>14</td>
<td>35</td>
</tr>
<tr>
<td>1.2.</td>
<td>Economical inefficiency of exploitation</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>1.3.</td>
<td>Natural disasters, catastrophes</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Almost every third organization (35 per cent) wrote off core funds because of physical wear. In addition, core funds are implemented on secondary market (in 19% of cases)

For the replacement of retiring core funds, about 70 per cent of organizations channeled contributions to acquiring new machines and equipment. 25 per cent of them acquired imported machines and 6 per cent of enterprises in the study acquired both imported and domestic core funds on the secondary market.

However, it is worth noting that the volume of purchasing fixed assets used by other organizations gradually decline.

In every third cases, financial resources are referred to modernization of core funding. For example, under machines’ terms of financial leasing, the equipment and the vehicle were acquired by 12 per cent of organizations in 2015.

At the same time, vehicles, complexes and technological installations are renewed most frequently as outlined by 37-46 per cent of the heads of organizations (Table II).

<table>
<thead>
<tr>
<th>№</th>
<th>Withdrawals of core funding</th>
<th>Factly in 2015</th>
<th>Planned in 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Buildings</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>2.</td>
<td>Constructions</td>
<td>23</td>
<td>30</td>
</tr>
<tr>
<td>3.</td>
<td>Machines and equipment:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1.</td>
<td>Complexes and technological lines</td>
<td>37</td>
<td>44</td>
</tr>
<tr>
<td>3.2</td>
<td>Individual installations</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td>4.</td>
<td>Vehicle</td>
<td>46</td>
<td>37</td>
</tr>
<tr>
<td>5.</td>
<td>Computing capabilities and means of mechanization and automation of engineer and management work</td>
<td>21</td>
<td>19</td>
</tr>
<tr>
<td>6.</td>
<td>Means of communication and connection</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>7.</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>No answer</td>
<td>86</td>
<td>63</td>
</tr>
</tbody>
</table>

The government took steps to solve the accumulated problems in the renewal’s area of fixed assets in particular through increasing the limits of state capital investment within Federal address investment programme and national programme for priority areas’ development of economy which have important social meaning. For example, to enhance the Russian manufacturing and technical capacity, authors placed a special focus on productive development of aerospace engineering, nanotechnology, composite materials, atomic and hydrogen power engineering, biomedical life support technologies and protection of humans and animals, certain areas of environmental management and ecology.

An important tool for improving the efficient functioning of the national innovation system is government incentives,
which should provide creating conditions for innovation, important element for organization the innovative activity specifically is innovative infrastructure that provide creating effective mechanisms for innovative development [3].

Depending on types of economic activities of organizations, forms of financing in Russia have particular modes of application. For example, maximum specific weight of the enterprises, which use financing in the form of leasing and long-term banking investments, was recorded among enterprises that produce and distribute gaseous fuel (37.8 and 8.9 per cent of organization, respectively).

The highest percentage of organizations that used their profit for financing of investment had been visible among the companies of pulp, wood pulp, paper, cardboard and manufactures thereof (63.6 per cent). The maximum share of enterprises that used depreciation deductions for financing of investment had been visible among the companies, which produce, transfer and distribute electricity (64.8 per cent). The highest percentage of organizations that are used as source of funding bank credit had been visible among the companies of steel industry (36.2 per cent).

However, analysis of investment in innovative activity by organizations revealed that at the current stage the most common decision of economic entities is funding available capacity (diag. 1).

A maximum share of enterprises which rationale for investment was connected with funding available capability, intensification and modernization of the production, differ in types of economic activity - steel industry (62.3 and 55.1 per cent, respectively).

The largest share of enterprises that identified as rationale of investment the increasing of existing production are seen in factories producing, transfer and distribution electricity (30.8 per cent of enterprises). A maximum share of enterprises which rationale for investment was connected with manufacture of new product are seen in chemical production (31.2 per cent of enterprises).

Therefore, now the most significant factors that deter expansion of domestically produced and innovative products’ output in Russia are insufficient funding not only for the acquisition of equipment but also for introduction of ongoing activities, availability of similar imported production and so on.

There are two opportunity to stimulate research and development in different countries: directly (funding from the budget) and indirectly (tax policies). System of benefits for companies leading research and development share some common features in all countries, in particular, focused on payment of single sum in the State budget - profit tax that suffers from all sorts of deduction. Implemented in numerous countries, profit tax can be based on total cost of companies’ research and development or on the increase in expenditures for research and development for several years (Austria, Hungary, Britain, Denmark and Czech Republic). Special preferential terms are for writing-off of core funds work in Ireland, Britain, France, and Germany. Innovative enterprises are entitled to write-off recurrent expenditure for research and development fully during the reporting period in which they were made. In some countries, it is possible to postpone losses on other tax periods (France and Germany) [1].

In foreign practice, there is wide application of instruments for financial incentives of innovative activity, which are presented in Table III.

<table>
<thead>
<tr>
<th>Instruments of financial instruments</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax research credit</td>
<td>USA, Japan, Mexico, South Korea, Italy, Canada, Norway, France, Spain, Portugal</td>
</tr>
<tr>
<td>Additional tax deductions for income tax</td>
<td>Great Britain, Belgium, Denmark, Australia, Austria, Hungary</td>
</tr>
<tr>
<td>Special preferential terms for core funding write-off</td>
<td>Ireland, Great Britain, France, Germany</td>
</tr>
<tr>
<td>Investment tax credit</td>
<td>USA</td>
</tr>
<tr>
<td>Reduced rates for VAT for products of innovative means</td>
<td>Germany, Great Britain, Sweden, Italy</td>
</tr>
<tr>
<td>Special tax incentives for small enterprises in NIOCR sphere</td>
<td>Australia, Great Britain, Hungary, Canada, Korea, Norway, Japan</td>
</tr>
</tbody>
</table>

In foreign practice, there are two main models for tax breaks the formation. The first model implies use of discount in the volume of incurred costs for innovate, when from the taxable income subtracted amount which exceed cost of research and development (Australia, Singapore). The second model is based on use of tax breaks’ incremental mechanism until the maximum ascertainable value (Taiwan, France). In this way, types and mechanisms of using fiscal stimulus’ instruments (the procedure for granting of tax credit, tax research loan, standards and time frame for core funds’ depreciation, VAT for innovative products) vary in different countries. However, general criterion for use is level of innovative activity of companies and a result of the introduction of research and development.
With regard to development of taxation stimulation of the small and medium innovative entrepreneurship work, than it consists in legislation adjustment and simplification procedure of administration of taxes and fees, notably:

- In development of mechanisms of customs regulation, regarding Russian innovative enterprises;

- In improving differentiated scale of insurance premiums tariff on entities of small and medium entrepreneurship, applying special fiscal regimes. At the same time level of insurance premiums tariff be useful to establish according to profile of main activity of taxpayer and to its valuation of fiscal regime. For example, could be decreased the level of total tariff for entities of small and medium entrepreneurship, involved in introduction of scientific and technical activity [7].

At the same time for problems of fiscal stimulation of innovative activity in Russia could be attributed such aspects.

Firstly, in improvement of fiscal mechanism should be taken to the account, as well as the low enterprises sensitivity to small fiscal benefits (for example, decreasing by 10-15%), therefore one needed hard economical stimuli.

Secondly, ongoing fiscal and customs politics does not stimulate export of knowledge-based production of domestic commodity producers and hindered the foreign investors that want to invest in technological renewal of Russian and collaborative enterprises.

Thirdly, rights of public region authorities are insufficient in conducting of independent tax policy, aimed at stimulation of enterprises in renewal of production and service delivery.

Fourthly, for Russian enterprises a different kind of attention in building of fiscal mechanisms and politics is needed. Within active mechanisms, enterprises feel insufficient interest in profit usage for investment.

Low fiscal rates have a big stimulating impact on the investment activity in private sector and much less in governmental.

To date usage of tax breaks for stimulation of innovative activity in Russia is weak since:

- there is no comprehensiveness in the fiscal stimulation system of measures;

- there is lack of benefits directed to innovative activity stimulation;

- system of fiscal administration is bureaucratic, etc.

In summarizing the consideration of financial stimulation of innovative activity forms, it is worth noticing that under limitation of one’s financial resources and complexity with fundraising use of tax breaks could become an effective tool.

Solution could provide the establishment of a complex approach to formation of budgetary and fiscal politics regarding innovative type enterprises, including full release from all the kinds of taxation and payment for the period of its development.

IV. METHODOLOGY DESCRIPTION

The government has to stimulate the innovative activity, ranging from basic research to implementation of research to production considering limited resources and government priorities.

Fiscal stimulation instruments applicable in world practice are identified by tax legislation just in a small amount and the current system of domestic enterprises taxation is not conducive to implementation of innovation.

<table>
<thead>
<tr>
<th>Fiscal stimulation instruments</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit tax</td>
<td>Date to expenditure deduction on NIOCR in determining tax base for profit tax of organizations is reduced to 1 year.</td>
</tr>
<tr>
<td></td>
<td>Limit on cancellation of expenditure on NIOCR inconclusive positive results is repealed.</td>
</tr>
<tr>
<td></td>
<td>Norm of expenditure on NIOCR that are performed in deductions for formation of technological development Russian foundation and other sectoral foundations is increased to 1.5% from proceeds.</td>
</tr>
<tr>
<td></td>
<td>Step-up coefficient that allows one to take into account 1.5 times more cost on NIOCR than it was in fact taken place in expenditure of income tax; at the same time, the list of more than 120 areas of research to which deduction are taken with increase coefficient is approved.</td>
</tr>
<tr>
<td>Value-added tax (VAT)</td>
<td>Benefits on VAT for special economic zones residents are applied.</td>
</tr>
<tr>
<td></td>
<td>VAT exemption, transfer of exclusive rights and rights based on license agreement for inventions, industrial designs, computer programs, know-how.</td>
</tr>
<tr>
<td></td>
<td>Exemption from VAT and customs duties on import of process equipment, which have no analogue in the Russian Federation.</td>
</tr>
<tr>
<td></td>
<td>Limits on date of VAT deduction which is repaid to suppliers and contractors in capital construction, are cancelled.</td>
</tr>
<tr>
<td></td>
<td>VAT reparation opportunity is introduced in simple declaration for major taxpayers or with submitting bank guarantee.</td>
</tr>
<tr>
<td>Amortization policy</td>
<td>An opportunity of accelerated amortization of core funding through “amortization bonus” – immediate cancellation on expenditure up to 10% (30% for 3-7 amortization groups) from the historical cost of core funding is entered.</td>
</tr>
<tr>
<td></td>
<td>An opportunity of applying the accelerated method of amortization assessment which allows one to attribute expenditure up to 50% of core funding historical cost during first quarter of its useful life is afforded.</td>
</tr>
<tr>
<td></td>
<td>Step-up coefficient that allows one to take into account 1.5 times more cost on NIOCR than it was in fact takes place in expenditure of income tax; at the same time, the list of more than 120 areas of research to which deduction are taken with the increased coefficient is approved.</td>
</tr>
</tbody>
</table>
For the last time, a number of priority measures of development of fiscal stimulation of innovative activity in Russia are established. For instance, the average level of taxation in manufacturing spheres amounted from 70 to 120%.

In this regard, usage of foreign experience in investment tax credits could be perspective for Russia, since it is directed to core funding modernization.

Basic requirements for getting a fiscal credit are identified by some criteria, such as: creditors represented by federal (regional, local) tax authorities. Basis for the provision of tax credits for borrowers is implementation and conduction of NIOCR, implementation of innovative activity, implementation of very special (governmental) order, etc. Specificity of credit term is identified by the period from 3 to 10 years with the interest rate from 1/2 to 3/4 from Russian Bank rates.

In order to develop practical usage of financial stimulation of innovative activity, there is a need for development of a more effective mechanism of public authorities, taxpayers and commercial banks interaction on receiving investment tax credit.

For development of this mechanism, it is necessary:

Firstly, to lift the active restrictions in the amount of relevant tax. This could be directed to getting the investment tax credit, as well as time limits for the credit submission. Payments on this credit should be implemented within all amount of tax on which the credit got.

Secondly, time limits for the investment tax credit submission would be useful to determine an attitude to time limits that is fixed in arrangement with the credit organization that has a right to review the credit’s purposes and conditions of its submissions.

Thirdly, it is necessary to significantly increase the sphere of investment tax credit usage. In order to it could be given to organizations of material productions spheres for the implementation of investment to innovations or scientific research. But, certainly, it should provide the defined conditions for its submissions.

The potential loan taker should have own financial resources (at least 10% of evaluated cost of project). Also a potential investor should have provision in the amount of at least 20-30% from investment project cost in the form of bank credits or other investors guarantee.

These financial recourses are needed to continued confirmation of this projects payback, since tax authorities should conduct the evaluation of investment project. At that, the maximum amount of investment tax credit should be fixed in legislation.

In advanced foreign countries investment tax credit has fairly common enterprises approach for investment project realization of both new and in part of modernization of active capacity.

Expansion of investment tax credits usage in Russia is particularly relevant for companies that are moving to resource-saving technologies, that are implementing technological innovations that are developing production capacity in depressed regions that are making effective import substitution, which is particularly relevant in Russian conditions.

Refusing investment tax credit means refusing from implementation politics of the stimulation of the innovative activity by the government.

Such scheme of collaboration is best suited at the present time since it contributes to a decrease of risk from all participants of innovative activity. Especially, there are problems that restrict the usage of tax credit in the “pure state”, first of all, due to absence of the application of investment tax credit and the lack of precise methodological recommendations, according to which the opportunity of its submission should be determined. In such recommendations, it is needed to take into account such constituents as: profitability of economical area, in which the borrower works, individual features of kind of organization activity, financial state, risk factor and efficiency of investments.

The efficiency of investment tax credit usage could be defined on a basis of traditional algorithm and widely used indicators.

Discount rate (Cost of Capital, CC) usually is similar to required rate of return. It could be calculated as:

\[ CC = WACC = xCd + yCe, \]

where

\( WACC \) (Weight Average Cost of Capital) \( – \) weighted average cost of capital; \( x \) – share of borrowed funds in company financing; \( y \) – share of own capital; \( Cd \) (cost of debt) \( \cdot Ce \) (cost of equity).

Calculation of net impact (Net Present Value –NTV) is based on comparison of original investments with total amount of discounted net cash receipts that are generated during projected date of project realization [4].

NTV could be presented by formula 2:
where $R_n$ (revenues of period) - incomes of the period (sales proceeds); $C_n$ (costs of period) - expenses of the period; $I$ (investments) - investments; $t$ - number of periods; $i$ (interest rate) - discount rate.

Payback period – number of years needed for full original cost recovery.

Algorithm of calculation PP depends on uniformity of distribution the projected income from investment. In the allocation of income for years uniformly, the payback period is calculated by division of one-time costs on year income amount resulting from it.

Whether income is uniformed uneven, the payback period is defined by direct calculation of number of years during of which the investment would be repaid by income generation.

Payback period (for equal annual return) is calculated by formula 3.

$$PP = \frac{I}{ln_a},$$

where $I$ (investments) - investments

$ln$ (annual income) - annual profit.

This formula is applied to projects, realization of which involves equal profit.

There is a method of calculation of the Internal Rate of Return (IRR). Under the profitability, norm or internal norm of investment profitability is represented by the value of discounting coefficient, by which the project fully pays off.

The mean of this rate in project evaluation: IRR shows the maximum allowable relative level of expenditure that is connected with this project.

For instance, if project is financed fully using commercial bank loan, then value of IRR shows the top border of allowable level of bank percent, excess of which makes the project unprofitable.

Value of internal profitability norm is calculated by formula 4 and 5.

$$IRR = 1, \text{ in which } NPV = f(i) = f(IRR) = 0,$$

$$NPV(IRR) = \sum_{t=1}^{n} \frac{ln_a}{(1+IRR)^n} - I = 0$$

Therefore, the results of calculation of efficiency of tax stimulation of innovative activity provide the possibility for tax authorities to make reasonable decisions about the amount and forms of tax stimulation in relationship with the results of innovative activity. At the same time the evaluation of tax instruments efficiency presupposed the mainstreaming time and risk based on the discounted methods.

Innovative activity of organization is always connected with a high level of risk caused by uncertainty of future cash flow, appearance of new issuers and high-income financial instruments on stock market, etc.

In the world practice, there is a system of classification innovative investment projects according to risk area, among which there are projects aimed at:

- mandatory investment, when income is not included and risk from realization of project is minimal;
- reduction of expenses for preservation of market positions, renewal producing funds, reduction of cost, in that variant income is planned from 5.5% to 15%, risk marked from 40 to 60%;
- extension update, including extension of business, venture, innovative projects, in this case income is 15-25%, risk is from 60 to 100%.

In the world practice to analyze and evaluate investment, risks got an approbation in these methodologies [5]:

1. Methodology of correction the Risk Adjusted Discount Rate (RADR). Substance of this methodology aimed at introducing amendments for risk-free or minimal allowable discounting rate through adding for it bonus for risk (by the method of expert evaluation).

Based on corrected discounted rate NPV is calculated by the formula 6:

$$NPV_{RADR} = -I + \sum_{t=1}^{n} \frac{R_n - C_n}{(1+k)^t},$$

where $NPV_{RADR}$ - current project cost with taken into account risk;

$k$ – corrected discounted norm with taken into account risk.

2. Methodology of risk-free certain equivalent (CE) under which one implemented not discount rate but expected value of cash flow through using decrease coefficients for every period of project realization. As a result corrected $NPV_{CF}$ formula has such view:

$$NPV_{CF} = -I + \sum_{t=1}^{n} \frac{\alpha(R_n - C_n)}{(1+i)^t},$$

where $\alpha$ - coefficient of equivalent probability of getting cash flow, the higher risk of project in evaluation of direction, the closer to 0 amount of coefficient in equivalent probability.
changes of key input (cost, sales, cost of capital, fixed and variable expenditure).

Sensitivity analysis of the amount of every factor could deviate from expected value for certain percentage, assuming that other factors do not change. Sensitivity analysis helps to highlight projects with high degree of risk, caused by high variability of one or more key factors, and, therefore, allows calculating expected NPV of these high-risk projects.

4. Methodology of variation analysis, when several scripts of investment project development are modulating, for each of which performance indicators is modulating. For comparable projects is calculated the amount of average deviations $\sigma$ and mean value $\bar{x}$ and then on their basis – variation coefficient

$$CV = \frac{\sigma}{\bar{x}}$$

(8)

In comparison of risk amount of individual investment, projects should be a favored project for which the amount of variation coefficient is the lowest, which demonstrates the best balance between risk and profitability.

Defining the efficiency of applying different mechanisms of financial stimulation of innovative projects taking into account the risk based on usage of methodology, RADR is more comfortable on practice. This approach allows undertaking a comparative express-analysis based on calculating current present value of project under different conditions of financing, which is demonstrated in table V.

<table>
<thead>
<tr>
<th>Figure</th>
<th>Combinative financing through mechanism of bank and investment tax credit</th>
<th>Financing through mechanism of investment tax credit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Calculation at the discounting rate 23.2%</td>
<td>Calculation with taking into account providing INC, discounting rate 13%</td>
</tr>
</tbody>
</table>

In comparison of risk amount of individual investment, projects should be a favored project for which the amount of variation coefficient is the lowest, which demonstrates the best balance between risk and profitability.

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<table>
<thead>
<tr>
<th>Investment amount, thousands of roubles</th>
<th>1500</th>
<th>1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPV, thousands of roubles</td>
<td>6073</td>
<td>10745</td>
</tr>
<tr>
<td>NPV, corrected with taking into account expected risk, thousands of roubles</td>
<td>36438</td>
<td>6447</td>
</tr>
<tr>
<td>Internal profitability norm (IRR),%</td>
<td>4495</td>
<td>3748</td>
</tr>
<tr>
<td>Discounted payback period, months</td>
<td>86</td>
<td>37</td>
</tr>
</tbody>
</table>

TABLE V. COMPARATIVE FIGURES OF ECONOMIC EFFICIENCY OF INNOVATIVE PROJECT USING DIFFERENT FINANCING VARIANTS TAKING INTO ACCOUNT RISK

Therefore, in Russian conditions big impact has the choice of discounting rate, based on defining weighted average cost of invested capital and its value in conditions of risk or uncertainty. Efficiency of applying the tax credit for innovative projects financing is clear:

- Firstly, the amount of weighted average cost of capital, invested into the project depends on the rate of refinancing Bank of Russia (under conditions of tax credit and in whole will have a tendency to decrease);
- Secondly, into the amount of expenditure for calculating the pure cash flow is included the amount of taxes, discounted probability of which is investment tax credit.

Despite efficiency of applying that mechanism of financing, there are problems in implementing it for Russian practice that are connected with innovative projects risk, instability of tax policy, excessive tax burden, growth of shadowy politics, complexity in applying tax stimulations for subject of small and medium business.

At the moment, primarily from the budget there is financing of current needs of relevant budget, and investment tax credit – as a residual.

In this regard, limitation of budgetary funds at this stage of economic development does not allow one to invest tax credit to provide the investment possibilities for innovative activity.

That is why, it is useful to regulate the procedure of collaboration of all participants of investment process, including commercial banks. At the same time, competent governmental authorities should have a power in prediction of amount of investments, which is needed to financing the investment activity and control of their usage.

Meanwhile, applying of tax stimulation of innovative activity is actual for domestic enterprises, which are developing the production capacity for output in order to increase its competitiveness and import substitution.

V. CONCLUSIONS.

Study allow authors to make such general conclusions and synthesis relating to financial stimulation of innovative activity development, notably:

1. Although the government worked for solution of renewal general finding problems, listed events could not be enough for overcoming technical backwardness and decreasing alleviation of moral aging of funds. That is why for increasing the producing and technical potential of domestic enterprises taking into account current economic situation, the best way is not only the change of obsolete equipment, but also its renewal based on advanced innovative technologies.

2. The key factor limiting growth of domestic producing and innovative output in Russia is lack of financing amount not only for purchasing the equipment, but also for implementation of such activity.

3. From a position of financial stimulation of innovative activity forms is should be marked that under the conditions of limitation own financial resources and complexity with...
involvement of credit resources the applying of tax breaks could be effective instrument for innovation implementation.

4. In the world practice, there are developed modalities of tax stimulation of innovative activity. But the genera criterion for their applying is the level of innovative activity of company and results of implementation NIOCR.

5. In order to development of practical applying the financial stimulation of innovative activity in Russia, there is a need to develop a more effective mechanism of collaboration of public authorities, taxpayers and commercial banks when getting the investment tax credit.

6. Analysis had demonstrated that in Russian conditions, the main impact is the choice in defining the weighted general rate of invested capital and its evaluation in conditions of uncertainty and risk. Efficiency of applying the investment tax credit for financing innovative projects is clear. Despite efficiency of applying such mechanism of financing, there are difficulties of its implementation and there is a need in combination with such financial instruments as bank credits for a decrease of the level of risk for every participant of the project.

References


