Investigating and Developing Methods for Stimulating Innovative and Investment Activities Applying Taxation Tools

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Abstract

Background/Objectives: In Russia considerable financial resources are required for transition to innovative development. The objective of this study is to develop taxation tools focused on stimulating innovative activities. **Methods**: Theoretical and methodological basis of the investigation is represented by the concepts suggested in the works on innovations belonging to domestic and foreign authors; legislative and regulatory documents that control innovative activities; articles in periodic press and official statistical data. The study makes use of methods and techniques as follows: statistical methods of grouping and generalization, methods of systemic and comparative analysis, synthesis and formalization. **Findings**: It has been justified that the higher level of innovative development determined by the global innovation index is a characteristic feature of the countries where the tax load on individuals is high and the tax load on legal bodies is low, especially, in terms of the insurance premiums payable to the funds that considerably affect the prime-cost of innovative products. The suggested proprietary algorithm helps stimulate operations of the innovatively active companies that practice expansion and the efficient use of their production capacities as a consequence of adjusting the tax rates within the framework of regional taxation system that results in lower tax load. The algorithm has been developed for calculating the costs for the business-process stages based on applying principal forms of innovation funding and facilitating the improvement of innovative activities in the companies due to engaging financial resources for the purposes of innovative project implementation. **Applications/ Improvements:** Theoretical significance of the study is represented by adjusting the tax rates to stimulate innovatively active companies. Practical significance is manifested by applying financial tools to implement innovative investment policies.

Keywords: Financial Resources, Innovations, Investments, Taxes, Operational Business-Processes

1. Introduction

Strategically sustainable progress of economic agents is associated with continuous and uninterrupted development and implementation of innovations. The process of integrating Russia in international economic environment stipulates that the key priorities in the development of the country should be represented by modernization and by the transition to innovative development model in all sectors of social life within the framework of the national investment policy. Considerable resources would be required to fulfill those high-priority tasks and this fact raises the issues of searching and selecting the most easily available financial sources to support the innovation

process implementation. Major obstacle for non-governmental investments in innovative activities of the economic agents is represented by the deficiency in own financial resources of the companies. High costs of the innovations, their long payback period, the uncertainty of the economic situation in the country, high credit interest rates are the most severe investment-related factors faced by the entrepreneurs that hamper the process of commercial investment-driven development. In this respect, the taxation tools for stimulating science, technology and implementation activities of businesses are of current importance and are recognized as prerequisites for establishing the efficient innovative environment. Investigations on modern conditions, trends and regularities of the innovative sector development make it possible to conclude that the effects produced by the tax incentives on innovative activities are of different nature.

Thus, the search for the new tax incentive mechanisms that would facilitate the development of the innovatively active businesses at the regional level and engage extra resources into innovative sector stipulates the current importance, the scientific and practical significance of the subject-matter of this study.

The investigations dedicated to studying the essence of innovations and innovative activities have been reflected in the works of domestic scientists[1-7] and in the studies of foreign writers[8–17].

The advisability of applying tax exemptions as a tool for stimulating innovative activities has been studied in[18–22], etc.

Besides, the issues of evaluating tax incentive efficiency have been described in [23–25], etc.

2. Concept Headings

The objective of this scientific study is to investigate and to develop the taxation tools focused on stimulating the innovative investment activities of economic agents.

Basic hypothesis of the scientific investigation includes the assumption that investigating and improving taxation mechanisms will create the required incentives for innovative and investment business activities.

In the process of developing this scientific study, the following methods and techniques have been applied: statistical methods of grouping and generalization, methods of systemic and comparative analysis, synthesis and formalization.

3. Results

Scientific novelty of the results of the investigation is represented by the establishment and theoretical justification of the new approaches to stimulating the innovative activity by means of tax mechanisms and includes the following:

- the justification has been provided to support the fact that the higher level of innovative development as per the global innovation index is characteristic for the economies where the individual taxes are high but the tax load on legal bodies is low, which is especially true for the insurance premiums paid to the funds that affect the prime-cost of innovative products;

- the authors suggest the algorithm that helps stimulating innovatively active businesses that undertake efforts to expand and to make their production facilities more efficient by adjusting the tax rates within the regional taxation system, thus reducing the overall tax load;

- the algorithm for calculating the business-process stage costs has been developed based on the existing principal forms of funding and aimed at improving the innovative activities in the companies by attracting finances for the purposes of the innovative projects.

The novelty of the method is that it proves the possibility to stimulate innovative activity of the economic agents all over the country by contrast to the existing pattern of the incentives used only for the companies that are located in free economic zones in order to ensure the inflow of investments.

4. Discussion

The study will analyze the dependencies between different indicators of taxation and the levels of innovative development in different countries of the world, including Russia. The levels of innovative development of the economies described in terms of the global innovation index are shown in Figure 1[26].

The innovative development of the territories should take several steps. First of all, the indicators should be selected to evaluate the existing level of the innovative
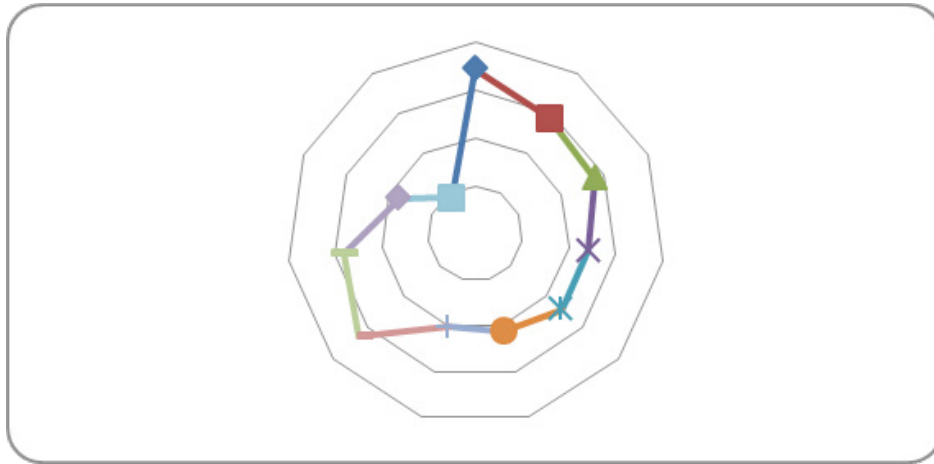
Figure 1. Level of innovative development of countries according to Global Innovation Index, 2013.

development of the territory. For this purpose, the authors used the available scientific studies[26–28].

The next step is to classify the territories by the levels of their innovative development. Some researchers believe that the basic typology can be represented by a generalized classification based on the innovative sociological qualitative evaluations[28]. The authors of this study apply the classification that is based on determining average

values for each indicator of the innovative development of the territory.

To meet all financial needs of a company and to solve the problem of funding innovative activity, the basic forms of funding innovative projects have to be selected in the first place that would correspond to the stages of the operational business-process in the company and
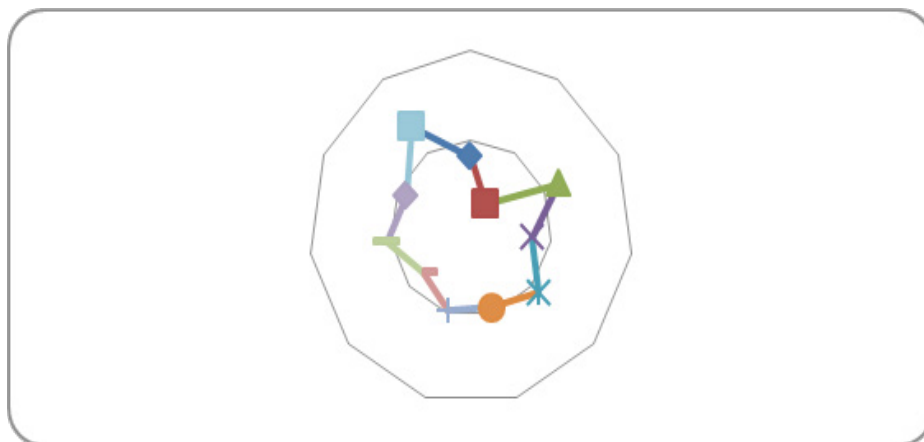

Figure 2. Level of tax load on legal bodies, in terms of corporate income tax, VAT, employer insurance premiums, 2013.

then the costs for using those forms of funding will have to be calculated.

It should be noted that the highest levels of innovative development are observed in such countries as Singapore, the Republic of Korea, Hong Kong and Japan. Let us analyze the levels of the tax load on legal bodies by different types of taxes (Figure 2)[29].

The graphs prove the fact that the highest levels of innovative development are characteristic for the economies where the tax load on the companies is low in terms of such types of taxes as profit tax, VAT, employer insurance premiums[30].

Today, the number of innovation-focused companies grow progressively; thereat, so do their needs for the long-term investments for boosting production capacity, for purchasing state-of-the-art equipment and for implementing the cutting-age technological innovations[31].

The taxation-based stimulation of innovatively active economic agents should be understood as a complex of activities focused on heightening the interest of the innovatively active businesses in the efficient operation of their production facilities in the process of performing socially useful or other encouraged activities by providing the prospective of tax incentives as the tools for stimulating innovative development[32].

Thereat, the tax-based stimulation of the innovatively active companies within the framework of the regional taxation system implies adjusting the rates of property tax, vehicle tax, profit tax subject to be transferred to the budgets of the subjects of the Russian Federation, applying the correcting factor that reflects the wealth and the financial conditions in the developing innovative enterprise[33].

Figure 3 graphically illustrates the process of adjusting the rates of company property tax, vehicle tax and profit tax subject to be transferred to the budgets of the subjects of the Russian Federation. Under the accounting period marked with (1), within the framework of the regional taxation system, the relevant taxes are calculated based on the current rates according to the Tax Code and stipulated by the laws of the subjects of the Russian Federation. Under the period that follows the accounting period and is marked with (2), the economic agent calculates the quotient of return on assets applying the value of the total earnings before income tax and residual value of capital-fixed assets. Depending on growth or decline of the quotient of the return on assets and applying the

methodology described below the rates of property tax, vehicle tax and profit tax are recalculated[34].

Nowadays, the amount of innovatively active companies grows together with their needs for the long-term investments for increasing output, for purchasing modern equipment and for implementing innovative technological processes[27].

To meet the financial needs of businesses and to solve the problem of financing innovations, it is necessary, in the first place, to select the basic forms of funding innovative projects corresponding to the stages of the operational business-process in the company and to estimate the costs required for maintaining these forms of funding[28].

Figure 4 shows the innovative algorithm for calculating the costs for the stages of the operational business-process applying basic forms of funding innovations (operational leasing, overdraft facilities, customs and revolving loan, factoring with advanced non-recourse payment, international forfeiting, sales franchising with territorial franchise, installment payment letter of credit followed by funding, import revolving leasing and investment tax credit)[35].

This algorithm makes it possible for the company to calculate the costs for each stage of the operational business-process associated with the basic forms of funding and enables it to select the form of funding that would be most efficient from economic perspective and would correspond to the stage of the operational activity of the innovative enterprise[36].

The role and the implications of innovations in modern economy in this country are quite significant. This aspect is principal for determining the necessity of applying complex approach to identifying major directions, forms and methods for developing the economic potential of the company that performs innovative activities; this can be realized within the framework of the concept of developing and improving the financial and organizational mechanisms of the operational business-processes in the innovative projects of the company[37].

Therefore, the financial and organizational mechanisms of the operational business- process have to be developed for the innovative projects of the company that should be founded on applying the process approach to managing the innovation-focused company and to applying different forms of funding the innovative activity of the company[38].
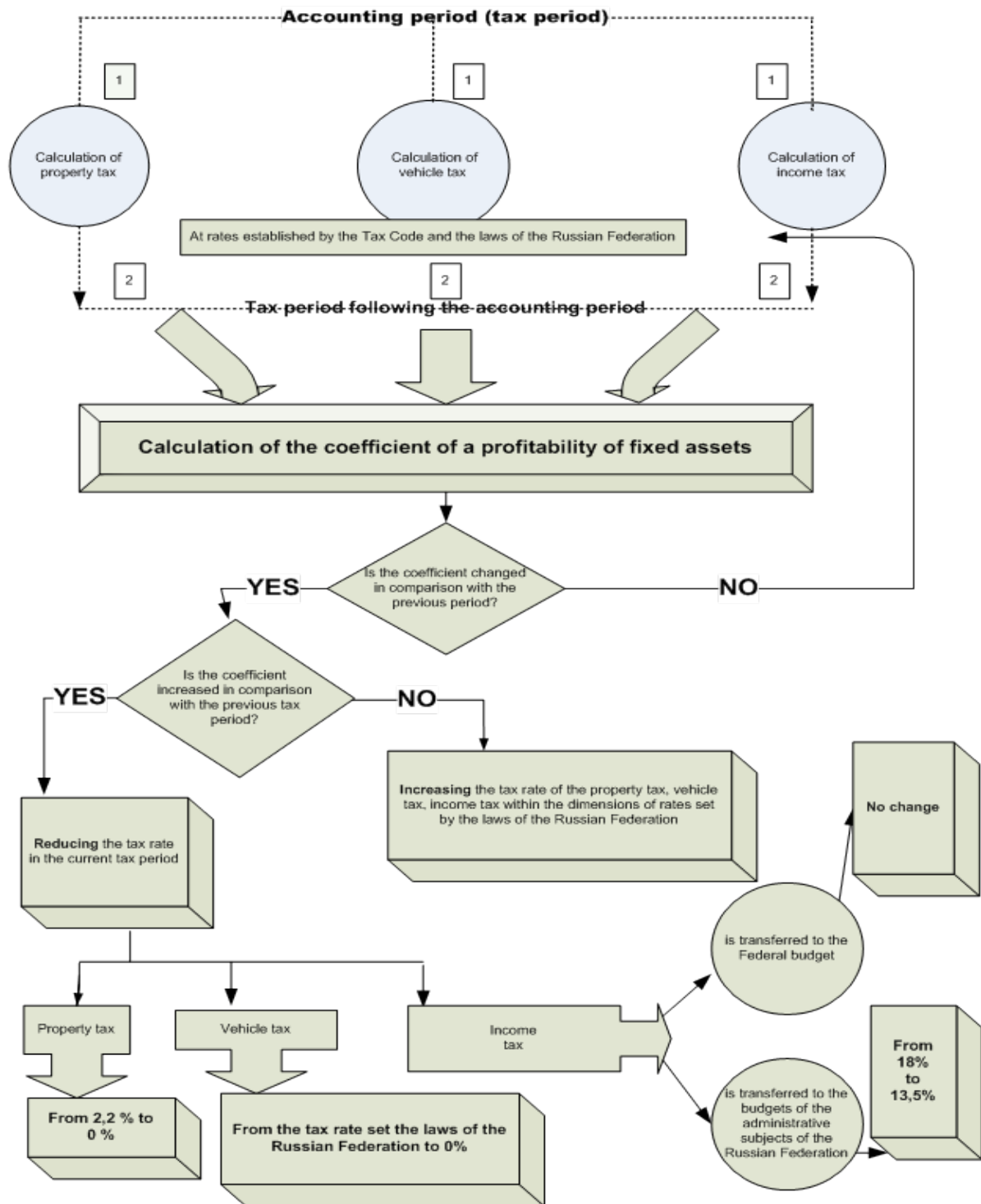
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Figure 3. Algorithm for adjusting tax rates of regional taxes in i-period for innovatively active economic agents.
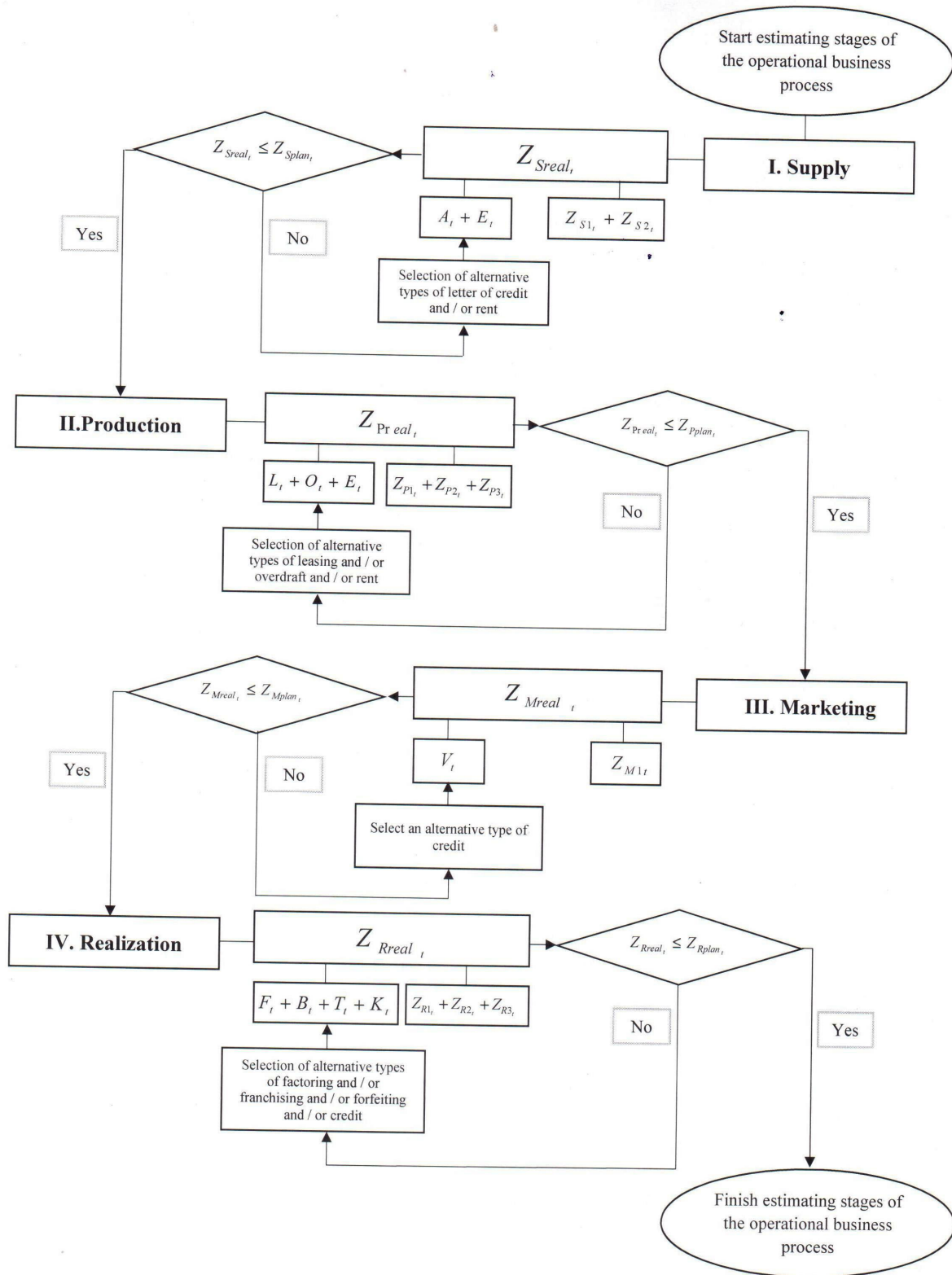
Figure 4. Algorithm for calculating costs for operational business-process applying basic forms of innovation funding.

Explanation:

Stage I. Supply (Procurement). Total costs Z_{Sreal_t} at the first stage of operational business-process consist of the sum of the costs for applying the letter of credit form of funding A_t and the sum of the costs for applying operational leasing E_t, and also the sum of the costs for the sub-stages of the operational business-process "Supply" $\left(Z_{S1_t}, Z_{S2_t}\right)$.

Thereat, if the real amount of costs Z_{Sreal_t} is less or equal to the planned amount Z_{Splan_t}, then these forms of funding are acceptable and are used at the stage of "Supply". Otherwise, return to selecting alternative types of the letter of credit and / or rent.

Stage II. Production. Total costs Z_{Peal_t} at the second stage of operational business-process consist of the sum of the costs for import revolving leasing L_t, the amount of costs for overdraft facilities O_t and the amount of costs for operational leasing E_t, and also the amount of costs for the sub-stages of the operational business-process of "Production" $\left(Z_{P1_t}, Z_{P2_t}, Z_{P3_t}\right)$.

Thereat, if the real amount of costs Z_{Peal_t} is less or equal to the planned amount Z_{Pplan_t}, then these forms of funding are acceptable and are used at the stage of "Production". Otherwise, return to selecting alternative types of rent and / or leasing and / or overdraft.

Stage III. Marketing. Total costs Z_{Mreal_t} at the third stage of operational business-process consist of the sum of the costs for revolving credit V_t and the amount of costs for the sub-stage of the operational business-process of "Marketing" Z_{M1_t}.

Thereat, if the real amount of costs Z_{Mreal_t} is less or equal to the planned amount Z_{Mplan_t}, then these forms of funding are acceptable and are used at the stage of "Marketing". Otherwise, return to selecting alternative type of credit.

Stage IV. Realization (Sales). Total costs Z_{Rreal_t} at the fourth stage of operational business-process consist of the sum of the costs for factoring with advanced non-recourse payment F_t, the amount of costs for the sales franchising with territorial franchise K_t, the amount of costs for international forfeiting B_t and customs credit T_t, and also the amount of costs for the sub-stages of the operational business-process of "Realization" $\left(Z_{R1_t}, Z_{R2_t}, Z_{R3_t}\right)$.

Thereat, if the real amount of costs Z_{Rreal_t} is less or equal to the planned amount Z_{Rplan_t}, then these forms of funding are acceptable and are used at the stage of "Realization". Otherwise, return to selecting alternative type of factoring and / or franchising and / or forfeiting and / or credit.

In the process of stimulating innovative activities one of the key parts is played by the taxation system that is called upon to create the conditions of demand for innovative products, for upgrading the economy. Thereat, the taxation system should not create barriers for the proposed innovations, that means, in practice, that the taxpayers should be free to perform the activities aimed at introducing the results of scientific investigations and the results of research and development works into technological processes thus improving the labor efficiency[39]. For this purpose, the taxation mechanism should be adjusted taking into account modern needs

of the innovative activities of the companies. As the tax load becomes lower due to finding more rational ways for reducing the tax liabilities, the companies obtain additional opportunities for maximizing the profitability of their financial and economic activities and for further successful development of the production processes. In the course of the tax planning the company develops a certain pattern according to which it intends to perform its financial and economic activities.

Thereat, principle task of the company is to apply and to group correctly the instruments of tax planning in order to establish the system that would make it possible to fulfill the tasks of the tax planning in the best possible manner[40].

From economical perspective, the advantage of the tools for the tax planning is preeminently represented by the fact that the state and the local authorities should forbore from exempting a part of the funds that are supposed to come as taxes from scientific and innovative organizations into the local budgets. These funds should remain at the disposal of the abovementioned organizations for the purposes of research and development, for implementing innovations, for expansion or for upgrading the production facilities, etc. This would produce an effect of the indirect financial support provided to them[41].

Thus, within the framework of tax legal relations, the "stress is shifted" from the fiscal function of taxes to the stimulation function by means of applying the relevant taxation tools.

Application of financial and investment tools also makes it possible to affect the performance indicators of the innovative activities of the companies. For example, using franchising in the operations of the innovatively active companies helps reducing the expenses and the time required for creating innovative products, works, services. Due to the use of the short-term credits, factoring helps increasing the sales of the innovative products. The novelty of this system is that it reflects the complex effects of applying the tax-based stimulation tools to innovative activities combined with the effects of the financial and investment tools produced on the innovative activities of the companies[42].

As a result of the undertaken analysis, it has been established that, first, the higher level of innovative development described by the global innovation index is observed in the countries where the tax load on individuals is high and the tax load on the companies is low, especially, as regards the insurance premiums that are paid to the funds that considerably affect the initial costs of innovative products[43].

Second, high level of taxation of the legal bodies in terms of profit tax, VAT and employer insurance premiums results in lower index of the production activity of the companies.

Third, high level of direct investments in the economy of the country does not represent a determining factor for increasing the level of innovative development, as the major effect is produced by the share of taxes in the profits of the companies[44].

5. Conclusion

Innovative activity is, as a rule, characterized by the high degree of uncertainty and risk; therefore, the important principles of its implementation should be represented by the multiplicity of the funding sources, flexibility and adaptability toward the changing environment of the investment processes, which would facilitate implementing the innovations in a fast and efficient manner and ensure their growing payback commercialization. This suggests that the innovation financial support system should be formed based on the optimal combination of budgetary and non-budgetary component elements. Thereat, special attention should be paid to mobilization of the internal sources for the purposes of funding the innovative sector in this country.

Today, the state represented by different institutions, representatives of private sector (pension funds, insurance companies, credit organizations) have in their possession the most powerful financial opportunities that prove not to be involved in the innovation process; however, they are in position to affect considerably the strengthening of the innovative aspects in the course of implementing the investment policy and to help turning innovations into one of the most important factors of the economic growth.

The abovementioned arguments precondition the deficiency in the domestic innovative financial tools, slow and insufficient transfer of practices from different foreign countries.

The principle conclusions and suggestions developed within the framework of this study aim to make certain contribution to developing the issues of interac-

tions between innovative companies and venture funds through application of derivatives.

In all, it should be noted that the identified dependencies between the levels of the innovative development of the countries and their taxation systems make it possible for the state and local authorities to regulate simultaneously the level of the tax load on the companies and on the individuals, thus increasing the total amount of taxes that come to the budgets of different levels and improving the index of the production activity that would facilitate improving the level of the innovative development of this country.

Besides, implementing the suggested tools for improving the efficiency of operations of the innovatively active economic agents across all types of the financial policy taking into account the amendments introduced to the relevant legislative regulations will make it possible to create favorable investment climate for the innovative process based on the optimized mechanisms of taxation; based on the improved tools for amortization; concessional lending; wider spectrum of applications of tax credits and preferential customs policies in the sphere of export-import operations; enhanced forms of leasing-based funding; increased number of funding sources engaging social and economic institutions[45].

6. References

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