

Public-Private Partnership as a Tool of Stimulation of Innovative and Investment Activity

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Abstract. The level of social and economic services for population in the most economically developed countries exceeds the existing level in Russia several times, and the level of innovative activity is higher, and the state of private business is more stable. The article discusses the role of a public-private partnership as an effective mechanism of financing and incentives of the country' innovative activity. Special attention is paid to the analysis of the factors, which influence the development of innovative activity investment system. The result of the research is the offered prospective forms of public-private partnership for infrastructural projects, contributing to increasing of investment cash-flows in innovative projects realization, including those of the building sector as a whole and housing and utilities in particular. In addition, the work proposed the algorithm of project efficiency estimation, based on public-private partnership as a tool of stimulation of the country's innovative component. Also, the authors described the decision-making stages about infrastructure project realization in the public-private partnership form, allowing to study the investment process more in closer detail, and to determine the level and opportunity of financial risk minimization on each stage of planning. The novelty of the submitted toolkit is the reflection of the relation sequence between the state and the business to develop innovative economy. Thus, the relevance has been substantiated and the main findings, which prove the efficiency of using of public-private partnership mechanisms in practice have been shaped.

1. Introduction

At present, one of the key and burning problem in the Russian Federation is creation of ways and mechanisms of the real sector development, its revitalization and rise as the economic growth base.

For the last decades many scientists have allocated innovations as the main factor of economic development, and also the business resource, creating demand for innovations and their oversupply [3,4].

Innovation activity of enterprises is explained by the economy regularities, which are distinctive for the market economy of innovative type development. Implementation of innovations (the set of activities to create and asquisite, master and distribute new or improved types of products, technologies, raw materials, management methods and etc.) by enterprises contributes to profit maximization, healthy market competition, and also is an important component of sustainable growth of the national economy.

2. Role of public-private partnership in the innovative activity development

The aim of this study is theoretical justification of effective interaction between the governmental agencies and the private business, based on public private partnership principles in the various industrial projects, aimed to an innovative activity increasing of subjects.

The decisive role in innovative activity efficiency is played by the financing methods [5]. Innovative activity financing is a process of cash provision and application, directed to design, development and organization of new types of products manufacture, creation and implementation of new techniques, technologies, services, works, elaboration and introduction of new organizational forms and methods of management.

An efficiently-functioning financing system of innovative activity is characterized by mobility of innovation implementation in various industries and spheres, and also by a high level of innovation potential using of public and private subjects of the innovative sphere[7]. In this way, a financing system can solve such important tasks as improvement of conditions of innovative projects realization, innovative potential and resource base development of innovative projects. All these are possible in favorable external environment creation, which should meet certain requirements.

The determining factors, affecting development of innovative activity investment system are:

- general factors: priority of state interests; market orientation; services regularity; competition; equality of economy subjects; interdisciplinary communication; international cooperation; science; involvement, systematization; purposefulness; development continuity; unity of educative, scientific and productive processes; transparency of operations; “full” state presence in operational activity, and etc.;

- organizational factors: information cooperation; separation of responsibilities between structural units; cooperation principles and responsibilities of public executives and employees of private sector; use of scientifically based methods; structural integrality of an organization; dynamism of management structure and others [11,13].

Active employment of public-private partnership mechanisms at present is observed almost in all industries of the national economy. The mechanisms of such partnership are one of the most prospective form of attracting business to assist in realization of major national and regional programs [9]. Public-private partnership mechanisms have not been widespread in innovative development sphere and innovative project realization. Public private partnership scheme application would allow to increase the potential volume of resources, which are required for the project realization, to diversify the project risks, to increase a concernment of the subjects in the project’s realization, and, in the end, to realize it completely successfully.

3. Public-private partnership as an effective mechanism of innovative activity financing

At present, public-private partnership being considered as foundation of innovative activity, as one of the most important tools the increase of the national innovative system efficiency, what contributes to investment stimulation, optimal use of material, technical, personnel and financing resources [18]. Such partnership is an institutional and organizational alliance between the state and private investors, created for socially significant projects and programs in wide range of industries, where resources, advantages and opportunities of every project participant mutually complement each other [6]. It is achieved by risk diversification and responsibility distribution between them according to financing provision of innovative project by each party. Such tool allows to shorten every stage of innovative project life cycle noticeably and complete it faster.

This kind of partnership allows to separate functions of innovative project participants according to the main aim of their activities, in other words, the state solves the problems of social and economic development, and the private business increases efficiency of productive and economic activity [1, 2]. Wherein the state’s risks are reduced by distribution them between the private partner and the power, and also interaction of local government with business representatives is strengthened, new forms and mechanisms of activity appear, increase of private investment volume in innovative business projects including socially significant is stimulated ones [19,20].

In general, according to its content, partnership of the state and the business sector could be determined as a legal mechanism of interests' reconciliation and provision of the state and the business equality within the framework of the economic project realization, which are aimed at public administration goals [15]. Speaking about public private partnership in the innovative project realization, it is also a mechanism, which coordinates the interests of the power and the private business within the framework of innovation creation and development project, the main aim of which is a development of production and economic activity of the subject, industry or region, that affects favorably economy development of country as whole. That is, there are not only the governmental goals as a participant of project achieved, but also the business representatives' goals, which are naturally different. Private sector goals are not measured only by the volume of one-time profit, what can be achieved when a usual state order is performed, but by fundamental indicators of investment activity. It should be noted that the applied forms of public-private partnership in one area or another depend on open the state is for direct investment, and as far as the state's readiness to transfer assets (for example, land, infrastructure) to investors or national companies.

3.1. Perspective forms of public-private partnership for infrastructural projects

An infrastructural project in the Russia Federation can be realized in two ways, which are schematically depicted on figure 1. The main distinguishing feature of public-private partnership (that can be applied in the forms of a life cycle contract and concession agreement) from a traditional governmental order is obligatory financing of the object creation by the private partner, wherein the public partner has the right to compensate part of the costs of the agreement object creation, and also to carry out full or partial cost financing, arising when the agreement object is put into operation and/or maintenance [8].

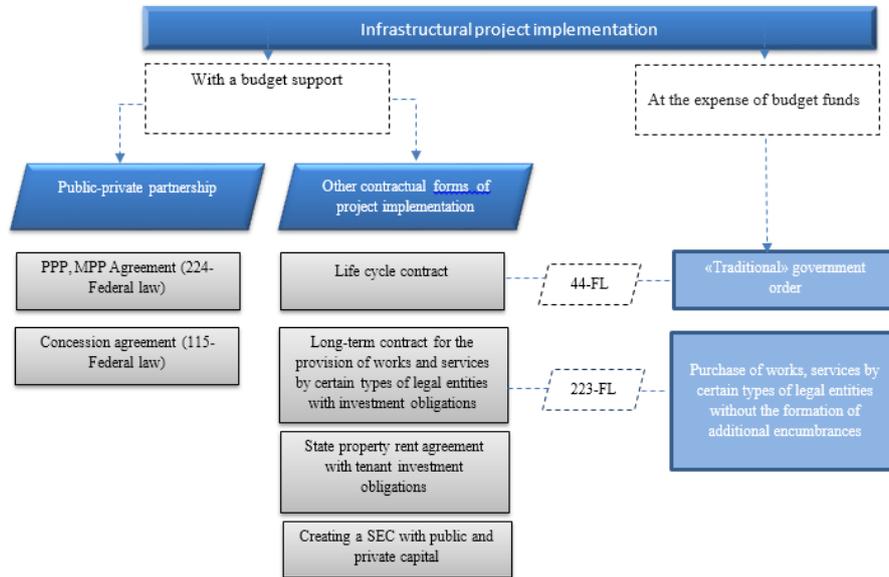


Figure 1. The way of the infrastructural project realization.

The important advantage of public-private partnership is participation of private partners on the operation stage of infrastructural objects, when the investment return is performed [8]. With this approach the private investor is interested in high quality of the construction object, in achievement if adjusted operational indicators, and in reducing of the operating costs level. It encourages him to use latest science and technology breakthrough in design and construction of object for achievement of his maximum economy efficiency.

Modern and prospective forms of public-private partnership (life cycle contract or concession

agreement) mean long-term investment refunding up to 50 years, what requires current technologies to increase economy efficiency. In connection with it, it is necessary to proceed a feasibility study and forecast investment return, and also to implement the latest science and technology breakthroughs when it is necessary on the planning stage of the infrastructural project. It leads to appropriate estimation of a project innovativeness in two stages – figure 2.

The first stage includes quality assessments of proposed project of public-private partnership. On this stage the base information about the project and the program of its realization is formed. The composition of an information base contains the following main elements:

- 1.The description of the problems that should be solved in the result of public-private partnership realization.
- 2.The information about the partnership object with indication of its main characteristics.
- 3.The projected aims and results of public-private partnership, and also ways to achieve them.
- 4.The information about the participants of public-private partnership, their basic rights and responsibilities, interaction order.
- 5.The forms of the specified partnership realization.
- 6.The estimation of the preliminary economy efficiency of partnership for private sector.

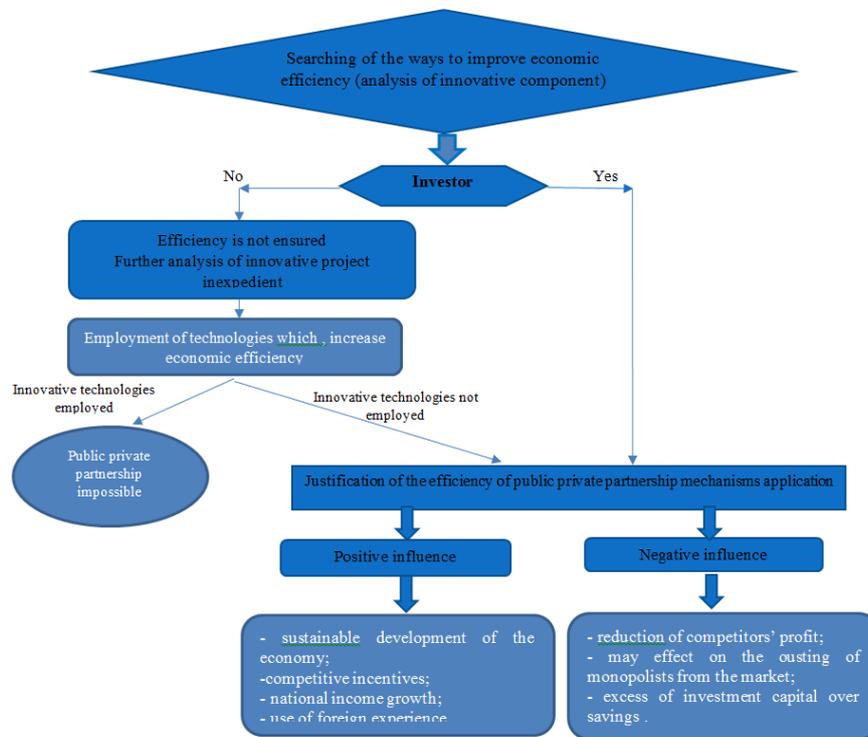


Figure 2. The decision making algorithm about realization of innovative infrastructural project with public-private partnership form.

The second stage includes the design of technical and economic justification of the innovative project, which should convincingly show that the proposed project is more attractive for investor in contradistinction to the project of public sector.

Wherein the following factors should be taken into account:

1. Specific results, which are planned to achieve with realization of this project, must be known and agreed with interested participants, and they also must be exactly determined and fitted for measuring and monitoring;
2. Technological and other corresponding aspects are fairly stable, that is the contract does not have to be constantly adopted to changing environmental conditions;

3.Private sector has potentially better ability or skills, than government sector for innovative project realization and providing necessary services;

4.High level of competition is expect when bids are submissioned for realization of public-private partnership project.

In this way, the quality indicators include: involvement of private investors, strategic importance of the project, presence of positive social effects, impossibility of project realization without governmental support, experts' positive conclusion.

The novelty of the presented decision making algorithm compared to the previously studied is the fact that the authors systemized positive and negative factors influencing efficient development of public-private partnership in the modern conditions of innovative economic development.

4. Conclusion

Development of the optimal algorithm of efficient implementation of public-private partnership tools is one of the most important conditions of successful innovative project realization and the key factor, influencing indicators of economic, budgetary and financing efficiency, financial yield, project credit rating and others.

Thus, analysis of essence of public-private partnership in this research led to the conclusion that its main part is a contract between the state and investors, with the obligatory condition a mutually beneficial cooperation (win-win solution). Such partnership plays an important role in attracting competition of private sector to legal monopoly in infrastructural development and services provision and also in merge of resources of both partners in order to meet governmental needs more effectively. The set goals in the modern world can be achieved only with a certain level of innovative activity of partnership subjects. Long – term nature of investment return in public-private partnership is makes the projects' participants estimate their expected benefit in detail and employ modern scientific and technical achievements when the project is designed.

It is also important to note, according to the authors' opinion, the main condition of the efficient development of modern innovative economy is its competitiveness, what also can be achieved by wide application of the public-private partnership mechanisms, and in this way, it must be considered as a complex social and economic phenomenon.

References

- [1] About investment activity in the Russian Federation, realizing as a capital investment Federal law 25.02.1999 39-FL
- [2] About public-private partnership, municipal-private partnership in the Russian Federation and amendment of certain legislative acts of the Russian Federation: Federal law 224-FL 01.07.2015
- [3] Airapetyan M S 2009 Foreign experience of public-private partnership application State power and local government **2** 35-42
- [4] Busch N E, Givens A D 2013 Achieving resilience in disaster management: The role of public-private partnerships *J. Strateg. Secur* **6** 1–19
- [5] De Los Ríos-Carmenado I, Ortuño M, Rivera M 2016 Private–Public Partnership as a Tool to Promote Entrepreneurship for Sustainable Development: WWP Torrearte Experience *Sustainability* **8** 199
- [6] Department of Finance and Personnel for Northern Ireland, Public Procurement Policy 2002 (Belfast, United Kingdom)
- [7] Essig M, Glas A H, Selviaridis K, Roehrich J K 2016 Performance-based contracting in business markets *Ind. Mark. Manag.* **59** 5–11
- [8] Gabdullina A I 2012 Estimation of the public-private partnership efficiency as the mechanism of on interaction of government and business in a region *Modern problem of science and education* **2**
- [9] Gorbachevskaya E Yu, Nikityuk L G, Timchuk O G 2018 The role of e-commerce in the

- development of digital economy By ed. Dr. Econ. sciences, prof. A V Babkina *SPb .: Polytech-press* 472-490
- [10] Istiak K, Serletis A 2018 Economic policy uncertainty and real output: Evidence from the G7 countries *Appl. Econ.* **50** 4222–4233
- [11] Kovaleva I V, Chernov M V 2017 Concept of state regulation of entrepreneurial activity *Bull. Altai State Agrar. Univ.* **12** 163–167
- [12] Marx A 2017 The Public-Private Distinction in Global Governance: How Relevant is it in the Case of Voluntary Sustainability Standards? *Chin. J. Glob. Gov.* **3** 1–26
- [13] Paleev D, Chernyaev M, Grigorieva E, Moseykin Y 2018 National Peculiarities of Russian Consumers' Perception of Energy-saving Technology *Anais Acad. Bras. Ciênc.* **90** 1875–1887
- [14] Public Private Partnerships: The Government's Approach https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/205112/pf2_infrastructure_new_approach_to_public_private_parnerships_051212.pdf
- [15] Public-Private Partnership Governance: Policy, Process and Structure <http://www.oecd.org/gov/regulatory-policy/Chap%206%20PPPs.pdf>
- [16] Public-Private Partnerships: From Start To Finish <http://www.utwente.nl/nig/research/conference/panel-13.pdf>
- [17] Recommendation of the Council on Principles for Public Governance of Public-Private Partnerships <http://www.oecd.org/governance/budgeting/PPP-Recommendation.pdf>
- [18] Volodin V M, Soldatova S S 2017 The specific forms on the innovative oriject financing in Russia *Proceedings of higher educational institutions Volga region Economics* **1(5)** 24-31
- [19] Wang Y, Zhao J Z 2014 Motivations, Obstacles and Resources *Public Perform. Manag. Rev.* **37** 679–704
- [20] Yang C.-L., Shieh M.-C., Huang C.-Y., Tung C.-P 2018 A Derivation of Factors Influencing the Successful Integration of Corporate Volunteers into Public Flood Disaster Inquiry and Notification Systems *Sustainability* **10** 1973