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DEVELOPMENT OF FINANCING MECHANISMS FOR PUBLIC-PRIVATE PARTNERSHIP PROJECTS IN THE CORPORATION'S INVESTMENT ACTIVITIES

Specialty 5.2.4 Finance

Abstract
Of the dissertation for the degree of Candidate of Economic Sciences

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Relevance of the research topic

In recent years, the Russian Federation has seen an increasing growth in demand for the use of public-private partnership (PPP) instruments in the process of implementing infrastructure projects. In 2022, in Russia there were at least 3,724 projects at different stages of implementation, carried out in various forms of PPP, with a total investment volume of about 5.4 trillion rubles, more than 70% (3.9 trillion rubles) of which were funds from private investors. In the process of these indicators assessment over time, an increase of 79% in the volume of private investments was revealed over the past 3 years. Such investment amount, along with the continuing upward trend, indicate the prioritization of the development of such relations as part of the further infrastructure modernization in the Russian Federation. It is also noteworthy that a similar trend is observed internationally, which has been repeatedly noted in the studies devoted to the assessment of the demand for the use of PPP mechanisms within the framework of infrastructure development around the globe.

This problem acquires particular significance due to the fact that the development of the PPP practice in Russia occurs unevenly in the regional context. Therefore, in order to maintain and develop PPP mechanisms, as well as their more "uniform" application in the market, it is recommended to use such measures to stimulate and support investors as tax breaks for private partners, interest rate subsidies as part of attracting financing, methodological and organizational assistance from the public sector in implementation of infrastructure projects, etc. Along with the above, it is also worth noting that the openness of information about the need for infrastructure development, which can potentially be met through public-private partnership projects' implementation, can also contribute to the further development of this area.

The results of Russian PPP projects' sphere assessment demonstrate the need for further improvement of PPP mechanisms to maintain and modernize infrastructure for the purpose of continuous socio-economic development. To achieve positive results in this area, it is necessary to eliminate existing shortcomings in the investment strategy and continue PPP mechanisms' improvement in the context of their use for infrastructure projects' implementation, both from the point of view of government regulation and from the position of practice-oriented methodological support. The first step of such improvement is to include of public-private partnership instruments in documents containing target areas for infrastructure development in the Russian Federation, as well as in state and municipal programs. In addition, it is important to continue encouraging private investors to participate in PPP projects by providing various benefits, methodological and organizational assistance.

In this regard, the problem of preliminary analysis of such projects in investment activities of corporations acting as private partners acquires particular relevance. They are the ones who carry out the process of structuring PPP projects and have the most active interaction with all potential stakeholders. The dissertation research demonstrates that one of the most significant aspects of such structuring is the process of attracting funding for the project involving a comprehensive analysis of its risks and effectiveness, as well as assessing the interaction of the involved participants in order to respect their interests and fulfill conditions that are often atypical. When conducting such an assessment, the need arises to solve the following problem - to optimize the financing structure and cash flows of the project, taking into account the fulfillment of the specified conditions and restrictions. The main goal of such optimization is to achieve the so-called «balance of interests» of all project participants, which is often a complicated task. In turn, the success of project's implementation directly depends on achieving the designated balance of interests, which further emphasizes the importance of research into the development of public-private partnership projects financing mechanisms.

Research topic coverage

Currently, a specific theoretical basis has been developed in the context of considering issues of public-private partnership. Certain problems addressed in this work have been considered by a number of Russian and foreign researchers.

Theoretical aspects and conceptual features of public-private partnership are described in the studies of such researchers as Alaev A. A., Babkin I. A., Bakhmatova A. K., Belyakova Yu. M., Borisova O. V., Vaslavskaya I. Yu., Zaernyuk V. M., Varnavsky V. G., Gagarin P. A., Zavyalova E. B., Kabashkina V. A., Klinova M. V., Kovrigina S. V., Kokhanovskaya I. I., Kryukova E. L., Mironova S. M., Miroshnikova S. N., Mokina

S. K., Petrikova E. M., Pospelova S. V., Rykova I. N., Utkina V. S., Shurinova E. V., Yescombe E. R., Yudina A. A., etc.

Features of infrastructure projects implementation carried out through the use of PPP mechanisms, within the framework of a practice-oriented approach, are disclosed in works of the following scientists: Adjuni A. M., Barinova A. E., Belozertseva A. A., Brusser P. A., Ermakova S. E., Zinina O. V., Ivanova A. O., Kalendzhyana S. O., Kireeva E. V., Kozhenko Y. V., Lapina A. E., Makarova I. N., Mogucheva N. S., Savelyeva L. A., etc.

Approaches to the financing structuring of investment projects implemented through the use of public-private partnership mechanisms are considered in the studies of the following researchers: Alabed A. N., Anfimova M. K. I., Arzhanik E. P., Belyakova Yu. M., Brusser P. A., Dubenko P. I., Kalinin N. V., Ofin V. P., Perro J-I, Petyukov S. E., Rykova I. N., Plotnikova E. S., Savchenko I. I., Charaeva M.V., etc. Such approaches include an analysis of tools for attracting financing, risks and efficiency assessment methods, as well as a description of the interaction between public and private partners in the process of PPP projects' implementation.

An analysis of the research topic coverage indicates that today there is still a need for fundamental research aimed at identifying ways to further develop the mechanisms of public-private partnerships, increase their efficiency, deepen theoretical knowledge and create a scientifically based methodology for structuring socially important projects through the joint efforts of the state and private sectors of the economy. In addition to all of the above, there is a lack of consistency between the theoretical foundations and practical methods of implementing public-private partnership projects along with contradictions within the existing regulatory framework. This discrepancy may be further sophisticated due to the formation of atypical conditions for the PPP projects' implementation, which complicates the process of interaction between the public and private sectors in this regard.

It should also be noted that the fact that existing studies have not sufficiently addressed the problem of optimizing the structure of cash flows of public-private partnership projects in the context of fulfilling the conditions of the main participants in such projects, which further emphasizes the relevance of this study.

The aim of the research is to develop theoretical, methodological, scientific and practical recommendations for improving the financial management system of a corporation-private partner when implementing projects of public-private partnership.

Achieving this aim involves setting and solving the following **research tasks:**

1. To analyze the current state of the institutional environment in the field of public-private partnerships in the Russian Federation, identify its problems and determine development trends;
2. To develop a model for optimizing the structure of a PPP project cash flows in order to achieve balanced compliance with the interests of the project's main participants;
3. To improve the methodology for analyzing the financing structure of PPP projects in order to increase the efficiency of the private partner corporation's financial management;
4. To formulate recommendations for improving the risk assessment system of international public-private partnership projects in order to improve the accuracy of such projects analysis.

The object of the research is the public-private partnership projects' financial mechanism. **The subject of the research** is the financial, organizational and managerial relations that arise between participants in PPP projects in the Russian Federation.

The methodological basis of the research is based on the analysis of modern methods of using PPP mechanisms in the investment projects implementation, as well as fundamental and applied scientific work carried out by Russian and foreign researchers in the field of investment analysis and financial management. To solve the set tasks, general scientific methods were used, as well as special methods of investment and financial analysis, financial modeling methods, and methods of economic and mathematical modeling. As part of the study, financial modeling of a PPP project was carried out using Microsoft Excel software.

The information base of the research consists of the regulatory framework governing the sphere of public-private partnerships in the Russian Federation, scientific works of Russian and foreign scientists in the field of research issues, analytical materials, information from the official websites of the Bank of Russia, the Ministry of Economic Development of the Russian Federation, the Federal State Statistics Service, materials of expert agencies and conferences.

Field of the research. The research topic and its content correspond to specialty 5.2.4 - Finance (economic sciences). Areas of research (according to the paragraphs of the specialty passport): 11. Budget income and expenses. Balancing budgets. Assessing the effectiveness of budget expenditures; 15. Corporate finance. Financial strategy of corporations. Financial management; 18. Project and venture financing.

The scientific novelty of the research lies in the development of a scientifically grounded methodological approach and practical recommendations for improving public-private partnership projects' financing mechanisms within the framework of the private partner corporation investment activities.

The main scientific findings of the research obtained by the author and submitted for defense are as follows:

1. The main problems of using public-private partnership mechanisms for the implementation of infrastructure projects in the Russian Federation are identified and structured in the context of the methodology for their assessment and application practice. The need for the further improvement of PPP institutional environment in the field of PPP within the framework of sustainable socio-economic development of the state is substantiated. Based on the empirical data analysis, the structure and dynamics of the Russian PPP market were determined, and current trends in the public-private partnerships development were identified. It has been proved that the above-described trends observed nowadays are a consequence of the PPP participants' interest in quick adaptation to the rapidly changing operating conditions of the Russian economy, which further emphasizes the significance of the identified problem of developing the institutional environment of PPP in the Russian Federation.

2. A model for optimizing cash flows in public-private partnership projects has been developed, which makes it possible to select rational financing conditions focused on balancing the interests of all the main participants in such projects while simultaneously observing certain restrictions. The proposed model is the result of the development of E. Bodmer's method for structuring project financing, adapted for use in public-private partnership projects with certain specifics. The methodological value of this approach lies in the fact that it allows solving not only the problem of minimizing the burden on the public partner's budget, but also the problem of achieving a "balance of interests" of the project stakeholders.

3. An improved approach for analyzing the financing structure of PPP projects has been developed, based on the assumption that the share of borrowed funds in the overall project financing structure can be a tool for capital structure optimization of the investor company. A solution to such a problem is proposed through the use of the methodology for evaluation of a rational financing structure for an investment project by calculating the interval of acceptable values for the share of debt financing of such a project, optimizing the investor company's capital structure. The proposed approach is a development of the classical method for optimizing the average cost of capital, based on the extended Modigliani-Miller theory. The methodological value of this approach is that it allows to solve the problem of minimizing the cost of capital of the investor company along with determining a rational, economically sound project financing structure.

4. Recommendations for improving the risk assessment system for international public-private partnership projects were formulated. The proposed methodology allows for adjustments to the projected cash flows of a project in order to obtain a more realistic assessment of its commercial effectiveness, taking into account an adjustment for the risk of unfavorable changes in the exchange rate. Based on the results obtained from testing this approach on the example of a PPP project considered in this research, the feasibility of its use in the framework of the assessment of international public-private partnership projects was justified.

The theoretical significance of the research consists in expanding the existing methodology for corporate financial management in the process of using PPP mechanisms. The results obtained make it possible to improve the existing methodology for managing socially important infrastructure PPP projects, as well as to identify relevant tools and methods for developing mechanisms for financing such projects within the framework of investment activities of a private partner corporation.

The practical significance of the research lies in the fact that the main methodological and applied results can be used in activities of corporations involved in implementation of PPP projects (potential private partners), government bodies interested in using PPP mechanisms for infrastructure development (potential public partners), banks and development institutions financing public-private partnership projects (financing organizations), auditing and consulting firms providing services within the framework of implementation of PPP projects, and executive authorities responsible for the independent assessment and control of the public-private partnership projects' implementation.

The results of the research are intended for the improvement of existing and development of new methodological provisions for assessing the financial viability of projects regulating the activities of the PPP sector, as well as for use in the system of higher and additional professional education within the framework of teaching such disciplines as «Corporate Finance», «Public-Private Partnership Projects Management» etc.

Approbation of the research results

Some results of the research are used in the practical activities of the enterprise involved in public-private partnership projects implementation, REGION Concession LLC, being part of the REGION Group of Companies, which can be confirmed by a certificate of use. In particular, the following provisions presented in the dissertation work are applied: a model for optimizing cash flows of public-private partnership projects, approaches to building the process of interaction with the main stakeholders of PPP projects, practical recommendations for developing methods for analyzing the financing structure of PPP projects at the stage of their preliminary analysis, as well as proposals for the development of a risk assessment system for such projects.

List of the author's publications in peer-reviewed scientific publications included in the «List of peer-reviewed scientific publications in which the main scientific results of dissertations should be published, established by the Higher Attestation Commission under the Ministry of Education and Science of the Russian Federation»:

1. Abramov A. E., Pershin A. A., Chernova M. I. (2023). Measuring the State Sector and Assessing Its Effectiveness: Different Approaches and Their Implications. // *Financial Journal*. 15 (2). 27–46 p. (in Russian). DOI: 10.31107/2075-1990-2023-2-27-46.

2. Gorshenin V. P., Pershin A. A. (2020). Currency volatility as one of the aspects affecting the investment attractiveness of the country // *Moscow Economic Journal*. (8). 18 p. DOI 10.24411/2413-046X-2020-10573.

3. Kalendzhyan S. O., Pershin A. A. (2024). Trends in the development of the institutional environment within the framework of the application of public-private partnership mechanisms in modern Russia // *Journal of Economics, Entrepreneurship and Law*. 14 (4). 1257-1270 p. (in Russian) DOI: 10.18334/epp.14.4.120889

4. Pershin A. A. (2024). Methodological approaches for the assessment of public-private partnership projects effectiveness // The article is planned for publication in the «*Journal of Economics, Entrepreneurship and Law*». 14 (8). (in Russian).

5. Pershin A. A. (2024). Cash flow structure optimization as one of the goals of public-private partnership projects preliminary analysis // The article is planned for publication in the «*Journal of Economics, Entrepreneurship and Law*». 14 (7). (in Russian).

6. Pershin A. A. (2023). Optimization of the company's capital structure as one of the goals of investment projects // *Journal of Economics, Entrepreneurship and Law*. 13 (5). 1717–1728 p. (in Russian). DOI: 10.18334/epp.13.5.117811

7. Pershin A. A. (2024). Features and prospects of investing into international investment projects using public-private partnership mechanisms // The article is planned for publication in the «*Journal of Economics, Entrepreneurship and Law*». 14 (5). (in Russian).

Other publications

8. Digital trajectories of economics and finance in the XXI century: monograph (2023) / Krinichansky K. V., Rubtsov B. B., Krinichansky K. V. (ed.), Rubtsov B. B. (ed.), Abramov A. E., Abramova M. A., Bezsmertnaya E. R., Genkin A. S., Dubova S. E., Evlakhova Yu. S., Zeleneva E. S., Zinovieva E. A., Karpova E. N., Markova O. M., Molchanov I. N., Molchanova N. P., Pershin A. A., Rubezh M. G., Ryabova S. S., Charaeva M. V., Chekunkova I. A., Chernova M. I.; edited by K. V. Krinichansky, B. B. Rubtsov. (in Russian).

Scope and structure of the research

The research thesis consists of an introduction, three main chapters, each containing three paragraphs, and a conclusion. It includes 30 tables, 31 figures, 10 appendices и 138 bibliographic sources.