

Investment Provision of Innovative Projects Realizing with Life Cycle Contract Form

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Abstract. The article analyzes forms of the public private partnership in the housing and utilities sector which can optimize budget expenditures and improve the quality of housing services. Life cycle projects can improve the state of the housing and utilities sector. A private investor is responsible for functional characteristics of the building. Theoretical, empirical and private scientific methods were used. Life cycle contracts (LCC) are an effective tool for implementing projects in the housing and utilities sector. They will have a positive effect on the development of the national economy. The authors assessed these projects, identified their key characteristics and analyzed foreign experience. The authors developed and justified a method for assessing the effectiveness of investment projects. This form of interaction can encourage private partners to develop innovative technologies that reduce construction and operation costs.

1. Introduction

Economic growth, innovation and investment attractiveness and competitiveness of the economy, successful integration of Russia into the world economy depend on the development of infrastructure. The developed infrastructure does not mean that the economy is developed as well. However, its poor state prevents the economy from development.

The infrastructure development is a capital-intensive process. In the Soviet economy, great attention was paid to these problems. According to G.A. Tsykunova, the Soviet territorial industrial systems were forerunners of modern "clusters" [1]. The TIS were created in new economic zones. In old economic zones, clusters were created. Russia has used territorial forms of the industrial infrastructure for a long time.

2. The nature of life cycle contracts

The current state of the Russian economy requires new tools to fund the infrastructure. The article pays special attention to PPP-based projects. Unfortunately, the government cannot construct or reconstruct existing social facilities using own funds. Therefore, PPP-based projects are in demand. Successful implementation of these projects will allow for construction of social facilities, creation of new jobs, and development of the national economy. Public and private partners can cooperate in the beneficial market conditions. This task is extremely important for the Siberian Federal District. The Sibe-

rian regions lack per capita investments. Only in three regions of the Siberian Federal District (Krasnoyarsk Krai, Kemerovo region and Tomsk region), this indicator exceeds the national average [2].

In modern economic conditions, the PPP can be a basis for innovative activities. It is an essential tool for improving efficiency of the national innovation system, encouraging investment activities, and improving material, technical, human and financial resources. PPP indicators are presented in Figure 1.

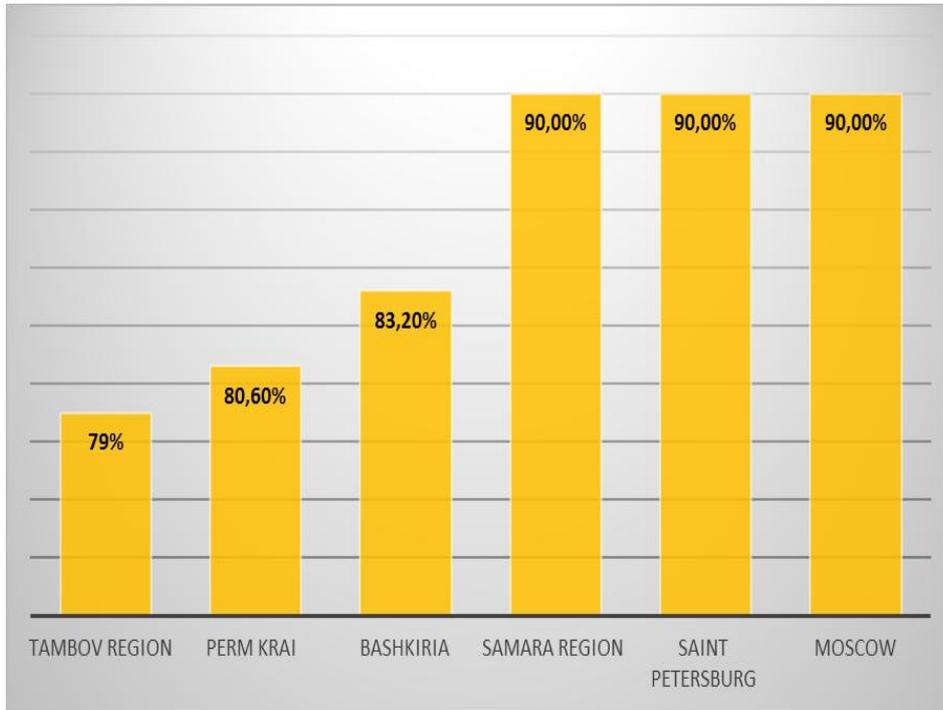


Figure 1. Ranking of the regions according to the level of PPP development.

According to Figure 1, PPP contracts are widely used in the Russian economy.

The PPP can help implement social projects, reduce the burden on budgets and enhance project efficiency. All PPP projects are risky. The average implementation period is 10-50 years. The English Channel was being built for 100 years [3].

One of the most valuable participants in PPP projects is a transnational corporation. It is a key participant in all global economic processes [4]. Figure 2 shows the schedule for successful implementation of PPP projects.

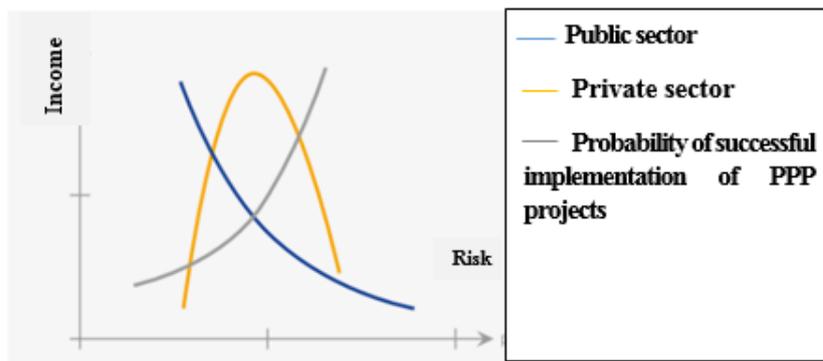


Figure 2. Probability of successful implementation of PPP projects depending on risk distribution.

Within the PPP, the most promising form is a life cycle contract (LCC).

A life cycle contract is a contractual form of the PPP. The public partner concludes an agreement with a private partner who designs, builds and maintains the facility during its life cycle. The public partner provides financial support while the private partner maintains the facility in compliance with functional requirements [5].

The following key characteristics of the life cycle contract can be drawn from this definition (Fig. 3).

In addition to legislative difficulties, there are risk components. Many business decisions are made under uncertainty, when it is necessary to choose from several options whose results are difficult to predict [6]. The risk matrix was built.

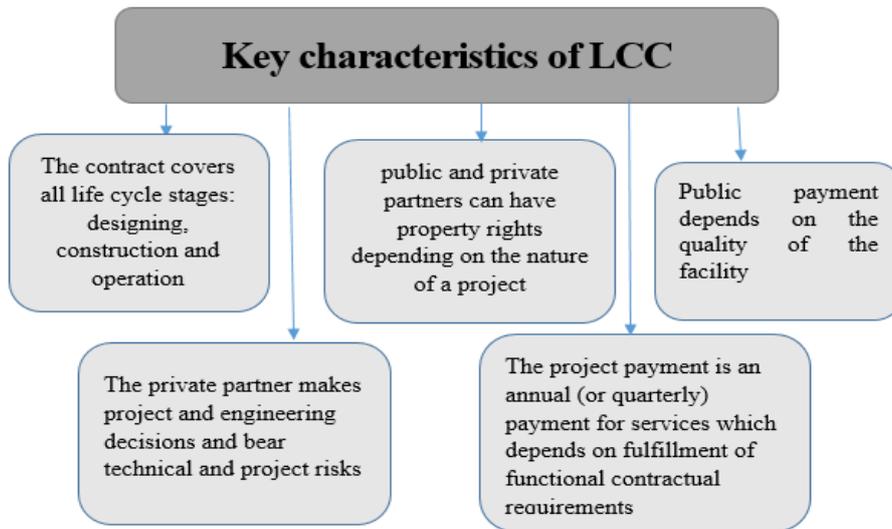


Figure 3. Key characteristics of the life cycle contract.

Risks are analyzed at all stages. The investment stage is crucial. At this stage, risk-management causes difficulties. Table 1 presents problems public and private partners experience.

Since it is impossible to consider all the PPP-related risks, the main ones were identified.

1. Investment risks. To implement a project, a private partner can invest up to 80% of its cost. Depending on the amount of investment, the risks are distributed between the participants.

2. Inflation risks. If the investment project is short-term, the risk is minimal. If it is long-term or non-standard, the risk is high.

3. Legal risks. Political risks. In the Russian Federation, these risks are low.

4. Early termination of the contract. If the private partner is unable to fulfill his obligations, the risk is very high. Risk minimization contributes to qualitative development of the main stages of PPP projects.

5. Improper maintenance. Risks can be eliminated by experts.

The present study does not aim at analyzing the nature of these risks, classification principles or management methods. It aims at analyzing differences and features of PPP contracts.

It is necessary to identify all failures and consequences of negative events. Project implementation scenarios were built [7].

Having reviewed theoretical and practical aspects of project investment in Russia and abroad, the authors developed a method for evaluating the LLC efficiency.

Figure 4 shows a simulation model for project risk assessment (Fig. 4).

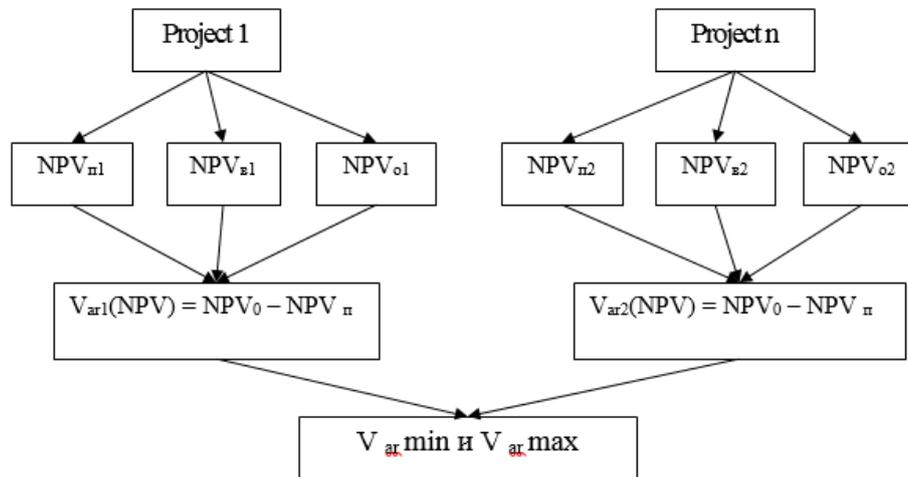


Figure 4. Simulation model for project risk assessment.

There are three development options: pessimistic, most probable and optimistic (for the project and for each participant) [20];

A tree of options was built. Its nodes are key events, and its arrows are project tasks.

A positive indicator of the integral net value indicates the risk level for the project.

LCCs allow private partners to participate in beneficial projects, while the government can build a social facility using private funds [11]. Life-cycle projects are not popular in Russia as there are no legal acts regulating their status.

Innovative enterprises do not participate in these projects due to the lack of financial resources. According to [8], it is necessary to create conditions for innovative businesses, renew technologies and products, and create new markets.

3. Conclusion

Life cycle contracts provide opportunities for long-term investment in social facilities.

Due to their complex nature, LCCs are hybrid contracts concluded by public and private partners.

The Russian legislation has no fundamental restrictions on life-cycle contracts. However, in Russia, there are no legal acts regulating their status.

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