Risk Allocation within Public-Private Partnership in the Republic of Moldova Framework

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Abstract

A significant feature of infrastructure projects performed under public-private partnership (PPP) contracts in the Republic of Moldova is manifested by their multilateral state support. The state controls a large number of parameters that influence the successful implementation of the infrastructure projects, so potential investors decide to participate in the project only if they are sure that the government will support and compensate their investment through proper risk management. The confidence of the PPP partners and the effectiveness of their interaction reduce the risks and their consequences. The purpose of this article is to identify, classify and distribute risks in public-private partnership projects since these kinds of affairs has become increasingly popular in recent years. The determination of the best evidence approaches and risk assessment of the implementation of these projects is of particular relevance in each investment project.

Key words: public private-partnership, contract, concession, risks, projects
J.E.L. classification: M0, M1, M2.

1.Introduction

Due to the relatively recent appearance of the PPP mechanism in the Republic of Moldova practice, the subject matter requires constant scientific analysis, relevant theoretical studies development and to search new solutions using modern economics achievement.

Obviously, PPPs contracts can benefit all partners, with the condition that the associated risks in this type of cooperation are thoroughly analyzed at the pre-investment stage and that their allocation and mitigation is correct and in line with the concept of "effective risk sharing". This means that the risks must be transferred to the partner who controls them better and has a more efficient evaluation and management methods. However, current practices shows that the state aims to transfer to the private partner all the risks (in the form of contractual obligations) which contradict to the concept of economic efficiency, considering that stakeholders are pursuing different goals and interests. Effective risk sharing will be an important part of the project documentation process and an essential condition for project success. Further, it is proposed the improvement of risk evidence methodology for infrastructure projects implemented through the PPP mechanism.

2. Literature review

The article development started from a series of direct and indirect knowledge of the reality using of public-private partnership mechanisms, data of Public Property Agency- coordinator of the initiation of public-private partnerships at the national level, local legislation and literature in the field of specialty.

3. Research Methodology

The research methodology has an analytical character mainly focused on the specialized literature research, and consists of several theoretical principles of the PPP, infrastructure, risk management concepts, methods and techniques of data selection (information-factual support), methods and techniques of data handling (qualitative dimension processing), theory logical analysis of procedures generalization and systematization, induction and deduction.

3. Findings

At the present time, public-private partnership relations in the Republic of Moldova are becoming more and more attractive and widespread, since this effective method allows increasing the use of private capital for projects of public interest. In Moldova, the beginning of privatization became the starting point for the formation and further development of the features of public-private partnership. The changes in property relations have determined the qualitative characteristics of the national economy that have developed in the process of denationalization and privatization of state and municipal enterprises. Over the years of reforms in the Republic of Moldova economy, the public sector has been significantly reduced, and the management functions of the most important social life support objects have gradually been transferred to private business. In this context, it is extremely important to move on to a viable strategic partnership with the private sector and to create a system of relations that would provide a rational combination of free competition with state management monitoring in order to serve the interests of society (Calugareanu, 2018, p.47).

Obviously, the PPP is an alternative to the privatization when privatization is impossible for social or strategic reasons. The implementation of PPP's schemes is able to ensure firstly, the possibility of realization, in the shortest possible time, socially significant projects in the most non-attractive areas for traditional forms of private financing. Secondly, to improve the efficiency of projects through the participation of private business, which, in contrast to state institutions, could solve production and management tasks more effectively. Third, to reduce the burden on the budget by attracting private funds and shifting part of the costs to users, involving the best managerial staff, equipment and technologies, and improving the service quality for end-consumers and forth, creating conditions to state bodies in concentrating the attention on the administrative functions, as well as helping to reduce risks by distributing them between private partners and the authorities

In the Republic of Moldova, the areas where PPPs were concluded at the central level refers to:

- social constructions for the budgetary sector employees;
- health care (provision of radiology and imaging diagnostics, qualitative hemodialysis services and haemofiltration);
- the assets concession of S.E. "Chisinau International Airport" and its associated land;
- the concession of geological exploration works on the territory of the Republic of Moldova.

At the local level, contracts are concluded for areas such as sanitation, water supply, construction / social infrastructure, health care, video surveillance of road traffic, etc.

As we can see the peculiarities of state regulation on business partnership are determined by the general expansion of agreement relations with private sector enterprises, non-profit and public organizations in areas where previously was the prerogative of the public sector. Such a partnership requires an adequate and continuous improvement of the contractual tools, including risks identification and mitigation.

According to the figures presented by the Public Property Agency, it is monitoring 76 contracts, of which 9 are concluded at the central level and 58 at the local level. In the 2015, only four public-private partnership contracts were concluded, of which one contract at central level and three at local level. In 2016, two contracts were concluded, one at the central and local level, and in 2017 four such acts, one at the central level and three at the local level. For each of them, the risks associated with the projects were analyzed and shared between the partners (Public Property Agency, 2017). Therefore, each contract is individual and the risks are monitored by the public partners who have concluded the documents. In spite of this, PPP demonstrates to the parties its complexity and diversity in the process of projects implementation. In particular, at the PPP

projects implementation occurs risks, which can have a significant impact on their realization which is why they are not always so attractive to private investors.

J. Delmon agrees that all risks should not be attributed only to the private sector, because it is usually inefficient, costly and makes the project useless and sensitive to changes and crises. Certainly, inappropriate activity or project failure will affect all participants (Delmon J.,2009, p.30):

- for a private investor: decrease in profitability, or loss of invested capital;
- for the concessionaire (if the concessionaire and the investor are different companies): the risk of reputation loss or even the risk of bankruptcy;
- for the state: deterioration of service quality, non-implementation of the project and unplanned budget expenditure risks.

Thereby, the risk that affects one partner will affect the project and the other parts of the contract, that why the partners are interested in minimizing the risks that prevent the successful implementation of the project. The risk management process is necessary for all possible investment projects. In particular, it is important for high-profile and long-term projects, as this analysis is an ancillary tool for attracting funds from private investors. But, of course all stages of risk management are important, but one of the fundamental steps is risk analysis.

According to EU practices, concession are the most promising mechanism of a public-private partnership because of its efficiency at various stages of the investment process and its successfully combination with the state control. Furthermore, we intend to analyze the types of risks related to the implementation of infrastructure projects since the project realization on the basis of a concession contract implies the existence of general and specific risks. General risks are the same risks as in any similar investment project; the specific risks are associated with the chosen partnership form. Global risks are divided into internal project risks and risks influenced by external factors (Călugăreanu, I., 2018, p.49). Risks associated with external conditions do not depend on the activities of project participants but may have financial implications for the private partner and the state. Traditionally, the following risk groups are identified in the different types of PPPs: financial, administrative, political, economic, social, project financing, fiscal and monetary risks, design risks, construction risks, force majeure risks. Risk groups can be combined into modules - an invariable risk module and a variable risk module, where invariable risks are inherent in all projects and variation risks are involved in the state projects. The PPP legislation contains several risk minimization mechanisms at the fundamentals and attribution stage of the project, but unfortunately, without the approval of secondary acts, they will not give the desired results (Law, 2008).

According to local legislation concerning concessions, the execution of PPP contracts includes the following types of risks, which must be represented in the form of matrices (Law, 2018):

a) the risks of design, construction and works reception;
b) establishment risks;
c) financing risks;
d) exploitation risks;
e) market risks;
f) risks related to legislation changes and/or political risks;
g) risks associated with the assets of the concession project;
h) force majeure risk.

Risk identification is basically an assessment of the risks that may affect the public-private partnership project by identifying foreseeable threats and hazards and calculating the likelihood of their occurrence and the severity of their impact on the public-private partnership project. As future events have a certain degree of uncertainty, estimating the likelihood of materialization is made with a margin of error, using, where appropriate, specialized advice to quantify this value (Delmon J., 2009, 60). Hereby, the risks associated with the project we will divide according to the implementation phase of the investment project: risks at the design stage, risks at the construction and reception stage of the works, risks of the operating (exploitation) stage. Risk allocation is not static. It is necessary to rely on the constraints of the public partner and it must be taken into account whether the allocation of risks is acceptable to investors. Thus, during the process of negotiating, the developed risk matrix for the specific public-private partnership project will be

updated as a result of the negotiations/dialogue with the bidders, and the final form of the Matrix will be stipulated as the contractual clauses for parties under which the Public Property Agency will keep track of the risks associated with the implementation of the public-private partnership contract in accordance with its legal obligations (Law, 2018). According to the above mentioned the author has developed the following risk matrix.

Table no 1. Risks matrix associated with the investment project at different stages

No.	Risks associated with the investment project	The responsible party	
		Private partner	State partner
1. Design stage			
1.1.	Risks associated with the project design	+	+
1.2.	Risks associated with the project terms	+	+
1.3	Risks associated with the project quotas modification		+
1.4.	Project errors	+	
1.5.	Administrative barriers resulted in the stage of project approval with state or municipal authorized bodies	+	+
1.6.	Risks associated with the land	+	+
1.7.	Corruption	+	+
2. Stage of construction and works reception			
2.1.	Guarantees and quality control	+	
2.2.	Compliance with building regulations and requirements	+	
2.3.	Increasing project costs	+	
2.4.	Construction terms extension	+	
2.5	Delays caused by the activities of governmental bodies, or local authorities	+	+
2.6.	The macroeconomic influence on the terms of construction	+	+
2.7.	Availability of raw material and human resources	+	
2.8.	Damages and losses caused by third parties	+	
2.9.	Contravention of safety and health regulations	+	
2.10	Bankruptcy or contractors insolvency		+
3. Operation phase			
3.1.	Risks associated with a possible revenue decrease	+	
3.2.	Failure in managing and exceeding operation costs	+	
3.3.	Technical risks regarding the object operation (hidden defects, maintenance, and repairs)	+	

Source: Developed by the author according to the Law (2018)

1. Risks at the design stage can be caused by various factors: design errors, environmental legislation violations, administrative barriers that appear at the preliminary project approval stage, etc. It should be known that the proportion of the pre-investment stage can account for up to 70% of the total transaction costs.

The result of the preliminary investment stage is reflected in a feasibility study that includes the detailed elaboration of all project phases and permits for building and land allocation. The feasibility study should include an analysis that enables the definition and quantification of risk and risk transfer options to the concessionaire, in economic and financial terms as well as to include the calculation of the estimated value, the opportunity study, the specification, and to justify the fact that a concession contract is economically more advantageous than a public procurement contract.

In consequences, if the concessionaire receives all approvals and permits without the help of the state body, obviously the transaction costs will be very high.

2. The risks during the construction phase come from the choice of technologies and the construction works progress. They represent the events of the public-private partnership projects that could come along with defective design and construction and/or engineering errors that impact on the project cost starting with the design, construction stage and finishing with operation phases. The consequences of these risks lead to excesses and delays in project implementation in addition on the inappropriate activity of suppliers and contractors, delays in obtaining work permits, underestimation of labor costs. Ultimately, these circumstances influence either the project financing or lead to the delay in obtaining the initial income.

3. Risks associated with the operation stage occur at the completion of the construction phase and are generated by events that are not under the control of the parties to the concession contract and/or market fluctuations. Operation risk refers to all events within public-private partnership projects that occur from direct or indirect losses as a result of the bad organization of technological processes, the inefficiency of internal control procedures, technological disturbances, unauthorized personnel activities or external influence. In these cases, the concessionaire is not guaranteed the recovery of the investments. The amount of project revenue depends on the frequency of the consumer usage of the built object and the established price. At the same time, the infrastructure objects utilization depends directly on the correctness of the tariffs establishment and acceptability for the beneficiaries. For example, the tariff on the M5 motorway in Hungary, built with PPP, proved to be too high according to Hungarian standards. As a result, many people preferred to use longer alternative routes, and the project was financially unviable.

There are several principles for determining the acceptability of the established price for using an infrastructure object. However, according to global practice, in 50% of cases, the forecasts for the use of paid infrastructure object contain an error of more than 20% (Delmon J., 2009, p.97). Thus, we can say that it is particularly difficult to estimate the demand if the paid infrastructure is new to the country. In addition, infrastructure exploitation takes place over a long period of time after the pre-investment studies have been done, where macroeconomic and social conditions may change unpredictably. Based on this, it is impossible to make reliable predictions on the intensity of user streams. That why we consider that one of the main type of infrastructure projects risks is the risk of not receiving the planned income for the project and it makes sense to distribute between the participants of the concession agreement.

There are other direct risks that lead to revenue decline and are indirectly related to demand and price flexibility. These may be caused by the following reasons: installation technical problems, strikes, results of the company's management activity, etc.

The operation technical risks may be caused by faulty installation management, underestimation of the maintenance and repair cost of the installation, increased security requirements, service quality, violation of infrastructure operation rules, loss of ownership.

Further are presented risks related to location, financing, trade, legislation changes and/or political risks, concession assets and force majeure.

Table no. 2. Risks matrix associated with the investment project that could lead to revenue decline

No.	Risks associated with the investment project	The responsible party	
		Private partner	State partner
1. Location risks			
1.	Location availability	+	+
1.1.	Establishment conditions of ground that could not be forecasted	+	+
1.2.	Approval of necessary documentation	+	+
1.3.	Title of ownership (claims)	+	+
2. Financial risks			
2.1.	Risk of insolvency	+	
2.2.	Credit risk	+	
2.3.	Lack of available funding	+	
2.4.	Increased in costs of initial investment	+	+
2.5.	Interest rate variation, inflation of exchange rate	+	
2.6.	Taxes modification	+	

3. Commercial risks			
3.1	Changes of economic conditions		+
3.2	Increase competition		+
3.3.	The decline of market demand		+
4. Political/legislation risk			
4.1.	Change of legislation in the field	+	
4.2	Retirement of complementary support	+	
5. Environmental risk			
5.1.	Adjacent properties not available for project implementation		+
5.2.	High emission standards	+	
6. Force majeure risks			
6.1	Force majeure events	+	
6.2.	Risks that can not be assured due to insurmountable conditions	+	

Source: Developed by the author according to the Law (2018)

Financial risks refer mainly to the external parameters of the contract, which determine the financing conditions. In addition, this type of risk may be caused by the ability of the contracting parties to comply with the contractual conditions.

Inflation risk: Inflation above the planned level will increase the need for funding.

The risk of unfavorable exchange rate fluctuation usually occurs when a part of the project financing is borrowed in the form of a foreign currency loan.

The risk of interest rate change occurs when an infrastructure project is credited at a floating interest rate. During the construction period, the project does not generate income, and an increase in the interest rate leads to an increase in interest payments, which means a decrease in the project's profitability.

Institutional risks are the risks of changing the political course, the risks associated with the activities of financial institutions, the unfavorable development of legislation, the activities of environmental organizations involved. For example, the risk of legislation changes prevents the expropriation of property by the country's government.

Most of the risks that have a low probability of occurrence, but serious financial consequences are force majeure, financial and institutional risks. They should be entrusted to the grantor as the party to the agreement with the greatest financial strength. Most of the internal risks inherent the project should be assigned to the private investor as a participant in concession relations, who has considerable experience and qualifications in solving such issues (risks associated with the design, construction and operation stages).

We would like to mention that all the risks that may arise in a public-private partnership project are anticipated by the public and private partners in the feasibility study, which includes a complex analysis that would define and quantify project and project risks in economic and financial terms, taking into account the scenarios identified by sharing them with partners with rational arguments.

4. Conclusions

In conclusion, we can say that there are currently no effective tools and methodologies for a comprehensive assessment of the many risks that arise during projects management within the public-private partnership. Therefore, there is a contradiction between need in the further development of the PPP mechanism in the complex infrastructure projects implementation and the absence of mechanisms for an integrated assessment of emerging risks. At the same time, taking into account the risk classification, it should be noted that the exact limit between each type of risk is quite difficult to achieve because most of the risks are interconnected and therefore changes in one of them affect changes in another. Risk classification, however, helps to identify risks which ultimately affect the precision of risk analysis and risk management results.

These contradictions led to the highlight of the research problem - the absence of a qualitative and quantitative risk assessment mechanism resulting from the implementation of infrastructure projects, which is not allowed to fully evaluate the effectiveness of the PPP models proposed.

5. References

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