Private investment of infrastructure facilities in PPP projects and a mixed model of their return in the construction

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Abstract. The article examines ways of returning the private investment in the PPP projects implementation in health care, and it turns out the reasons for the mixed model prevalence combining the fee from the consumer and the fee for accessibility in the Russian healthcare sector. The measures for its improvement are proposed.

Introduction
Public-private partnership (PPP) is one of the forms of interaction between government and entrepreneurship, allowing to overcome the resource limitations of the state to finance the social and infrastructure projects and to effectively use the benefits of the managing public infrastructure business.

In this regard the health sector is becoming increasingly attractive for the PPP development and allows to solve its major problems. For the state, it is primarily a reduction of the budget burden when creating high-quality and demanded services by the society. PPP for business is an opportunity to spread risks and guarantee a certain level of profitability in the long term.

According to the Ministry of Health, the 118 public-private partnership projects were launched in 2018. This has already attracted more than 60 billion rubles to the industry, more than 50 billion rubles of which is a private investment [1]. In health care concentrated almost 10% of total private investment volume in the PPP market [2].

As a rule, the subject of public-private partnership serves is the construction of new or reconstruction of old infrastructure, the provision of medical facilities to new high-tech equipment, medical services and in some cases, the provision of ancillary services (cleaning services, transport services, catering, etc.).

The PPP projects efficiency problems in general and in health system, in particular, is widely discussed in scientific literature.

The common methodology for evaluating the investment projects in the current economic indicators is traditionally used. However, A. Akintoye, M. Beck, C. Hardcastle underscore the need for a special methodology for assessing the effectiveness of PPPs as this large-scale projects that use state resources, share risks with them, etc. [3, p.275]. D. Grimsey and M. Lewis say compulsion of carrying out complex legal, technical and financial evaluation of PPP [3, p.9, 4, p.8].

Domestic researchers believe that primarily socio-economic benefits of PPP projects should be determined by the financial indicators of the project analysis (net present value, payback period, internal rate of profitability) [5, p.82].
Later a methodology to assess the effectiveness and availability of the comparative advantage of PPP project was developed (Ministry of Economic Development of Russia and the EBRD). All of this was the modern basis for evaluating the investment projects effectiveness in general and PPP projects in particular [6]. Comparative assessment based on comparing NET listed costs and revenues to the budget, taking into account the risks for PPP projects and the “state order” projects.

The new methods of PPP efficiency in healthcare are actively developing by Ghazaryan M.A., Farafonov A.Yu. and others. They substantiate the need to incorporate integral indicators project in system of CHI’s tariffs and standards of care [7, pp.50-52, 8, p.16].

The basis of any project feasibility study is the financial model, defining the sources and structure of financing at all the project stages, the state financial participation necessary level, the conditions and procedure for the risks and super-profits distribution. It is the financial model that has a stimulating (discouraging) effect on the private investor when deciding to participate in PPP.

But before creating a financial model, it is important to determine the mechanisms for returning the private investment. Zavyalova E.B., Tkachenko M.V. and others are engaged in the research on the comparative analysis of the return mechanism models in the health sector [9, p. 68].

Material and methods
The purpose of this study is to substantiate the need for the returning private investment mixed model wider use in the PPP projects implementation in health care and to improve the guarantee institutions when using the borrowed and own funds.

To achieve the goal, the following tasks are set:
- to find out the return features on private investment models when creating the healthcare facilities;
- to justify the need to use a mixed return model on the example of a specific PPP project;
- to identify the bottlenecks of a mixed model of return on private investment and to develop the recommendations for its improvement.

The theoretical and methodological basis of the study was the works of domestic and foreign scientists in the field of theory and practice of assessing the socio-economic effectiveness of PPP projects, legislative and regulatory acts governing the functioning of private investment return models. The methods of systematic and descriptive analysis, an integrated approach was implemented in the research, the hypothesis that in the areas of social infrastructure with low commercial attractiveness was put forward, the fact that the additional guarantee institutions are needed to return private investment is proven.

The information base of the research was made up on the analytical reviews of the National Center for Public-Private Partnership, national statistics data.

When comparing the private investment return models, expert assessments were used by specialists from the National Center for Public-Private Partnerships in the area of guaranteeing returns on concession projects and clarifying the legal specifics of PPP projects. [10, p.19].

Results and discussion
The PPP project effectiveness evaluation is based on the methodology for evaluating the effectiveness and availability of the comparative advantage of the PPP project developed by the Ministry of Economic Development of the Russian Federation.

The assessment of the socio-economic effects of the project (the project is tied to the target indicators of various programs and strategies), an assessment of the financial performance of the project (NPVp> 0), the determination of the comparative advantage of the project based on a comparison of net discounted budget expenditures with risk are highlighted.

It should be noted that the Methodology for evaluating the effectiveness of PPP projects is more focused on assessing the effectiveness of government participation, rather than on a private partner. This is due to the PPP mechanism understanding specificity in Russia, since the private investments are attracted to those areas that are not in the active interest of entrepreneurship due to a long payback
period, low profitability and non-commercial orientation characteristic of social objects. In addition, the PPP projects should provide budget savings. Evaluating the effectiveness of projects for a private partner is to calculate the indicators of alternative projects. The social effect will be present in any PPP project, since they are implemented in socially significant sectors of the economy and are developed based on the need to create a new facility (hospitals, water channels, roads, airports, sports complexes, etc.).

When evaluating financial performance in addition to a positive net present value (NPV), use and other indicators of financial viability of the project:

- internal return rate (IRR);
- cost and investment profitability indices;
- payback period;
- group indicators characterizing the financial condition of the enterprise-project participant.

But they are considered as additional indicators, therefore the project is recognized as financially efficient if the net present value (NPV) is greater than or equal to zero. A prerequisite for investment projects applying for state support is a positive value of the NPV project as a whole, at an interest rate of \( r \geq 8 \), and NPV of a private partner \( \geq 0 \) at an interest rate of private partner \( r \geq 11 \).

In order to assess the future financial effectiveness of a PPP project, it is necessary to choose the returning private investment method. The implementation of PPP projects, in general, and in health care in particular, is characterized by the specifics of the investor's response to the changing market conditions. So, it cannot be flexibly adapted to the change in demand, like an ordinary entrepreneur. It is constrained by the requirements of the public side (the volume of investments, the cost and quality of services) and potential lenders (guarantees of liquid funds, other obligations). The project's duration imposes its burdens in the inflation, political and economic risks form. Therefore, the participation of business needs government commitments to return the invested funds.

There are legal and contractual guarantees for the investments return in accordance with the Laws on Concessions and “About public-private partnership, municipal-private partnership in the Russian Federation and amendments to certain legislative acts of the Russian Federation” [11].

These guarantees include the costs reimbursement to the investor for the creation (reconstruction) of objects in the agreement termination event, for reasons beyond its control, for example, compensation for lost gross revenue due to an increase in tax burden or an increase in regulated tariffs.

Contractual guarantees are reflected in the PPP agreement or concession. They mean compulsory co-financing, obtaining the minimum guaranteed income (MGI), compensation for other force majeure circumstances.

The complex of state guarantees and obligations provides business motivation to participate without abolishing the basic principles of the effectiveness of PPP projects. In this regard, the mechanisms of return on investment can be divided into the following groups:

- fee for availability, where the return of investments of a private investor is fully or to a greater extent secured by payments from a public partner, including ensuring a certain level of profitability and covering the costs of servicing the attracted financing;
- the minimum guaranteed return (MGI) from the public partner, in which the entrepreneur returns the investment by directly collecting fees for services, goods, work with consumers and other commercial activities. This provides for the conditional obligation of the public partner to compensate for the established lost profit for a certain period;
- direct collection of fees and the implementation of other commercial activities without additional guarantees from the public partner solely through the implementation of commercial activities without any guarantees from the public partner.

There are 139 PPP projects with a volume of 31.6 billion rubles in Russia today, the private investment is carried out by the direct collection of consumers, 8 projects with a volume of 0.59 billion rubles; private investment is implemented a mixed model of return, 53 projects (53.55 billion rubles of private investment) apply “fee for availability”. This statistic covers all infrastructure projects, not only in the social sphere. [12, p.37].
How do the relations between the state and business develop in existing and fairly successful agreements in the field of healthcare? What private equity return model prevails? Let us consider this on the example of the project to create the Regional Medical Rehabilitation Center in Kommunar (Leningrad Region). The project is implemented in the form of a concession for 26 years, its cost is 2.6 billion rubles, of which private investment is 0.4 billion rubles (15%), public funds - 2.1 billion rubles (85%), payment - by installments. This is a co-financing scheme for the investment costs.

The agreement is provided for financing and operating expenses. All these costs are the prerogative of the private party, but the MGI is established and the guaranteed tariff for OMS services.

The implementation of the project should provide a socio-economic effect in the form of increasing the availability of medical rehabilitation in the Leningrad Region, improving the quality of medical care, creating 250 new jobs. In 2019, the operational phase began. The financial model of the project is presented in Figure 1.

![Figure 1. Financial model of the project](image)

The Government of the Leningrad Region entered into a concession agreement with a private investor to create a high-tech medical center, transferred on a long-term lease the land, the real estate objects located on it, and then the newly constructed and equipped medical facilities. The investor received the rights for design, reconstruction, equipment, operation and maintenance of the center, provision of medical services until 2041 [13].

At the pre-investment and investment stage, the private party used its own and borrowed funds to create the center, but according to the concluded contract, the regional government should compensate them with a capital grant (26% of the investment), the cost of the grant provider (59% of the capital expenditures in installments at the rate of the Central Bank +2%), the payment of the minimum guaranteed income, if the gross revenue of the investor does not reach 90% of the planned level. In addition, the entrepreneur was exempted from property tax.

All these payments started with the operational period onset. Operating expenses are fully borne by the investor, but the state guarantees the occupancy of 150 beds through the CHI system (total 200 beds in the hospital). The investor compensates the remaining part of operating expenses by providing...
various services on a commercial basis. So, the return on investment in the operating period is at the expense of consumers, insurance organizations, the Territorial Health Insurance Fund.

Cost-effectiveness of the project-15% savings in capital costs, net present value (NPV)-16 million rubles (at a discount rate of 18%), internal rate of return (IRR) - 18.5% [13].

So, a project based on the financial model is a mixed mechanism for returning the funds invested. Reimbursement of investment at the investment stage, it is anticipated as availability, operation period of the created object is payment associated with MGI, and the ability to connect to CHI, also there is a fee for accessibility, but the investor shall reimburse the invested funds and the commercial use of established medical infrastructure and delivery of health services.

Despite the fact that the financial model in General creates new incentives for private parties, ensuring the socio-economic efficiency of the project, here too there may be unrecoverable losses.

The implementation of operational activities for the investor due to the costly than for budgetary medical establishments. The maintenance of expensive equipment, special movable and immovable property in good condition is very expensive, not to mention the observance of environmental norms and quality standards. Therefore, the investor is a keen choice: increase the cost of paid services or reduce their range and quality.

To solve this problem at the expense of additional budgetary infusions cannot be lost meaning in attracting private party in infrastructure projects. Means necessary to extend the list of incentives to ensure the flow of new funds to the social infrastructure.

So, the possibility of borrowing for development at all stages are limited to requirements of guarantees from the State and credit organizations. The State requires that business has provided its own liquidity is a kind of guarantee of the successful implementation of the project (may be 10% or more of investment). This warranty will apply to save the project if necessary. Lenders to the project also require serious guarantees that you can use for maintenance or to compensate for their losses. As a result, investors, investing in a project from 20 to 30% of the cost of own funds (in this case, 15%), should additionally reserve the same amount to ensure for the benefit of creditors and the State. This sharply reduces interest in the projects [14].

Creation of special infrastructure insurance funds for PPP projects, in particular, in the field of healthcare, would allow solving such problems. These could be direct financing funds, where extra-budgetary funds would be accumulated, ensuring co-financing of PPP projects and the provision of state guarantees for the return of capital investments. They could subsidize interest rates for PPP loans, promoting deeper specialization in the system of existing development institutions.

Funds could also play the role of guarantors of investors to banks and other credit organizations, removing the compulsory reserves 20-30% the cost of the project, combining the funds of guarantee infrastructure funds and direct state support through various subsidies.

These funds could become the Institute to guarantee the private partner of the execution of State commitments. A guarantee could cover both contingent liabilities on the individual project risks and direct payments (payment for availability). It is a guarantee against the risk of demand for infrastructural service appear on the list of binding assurances that would like to get investors.

Summary
The established models for the private investment return can be divided into two groups, depending on the guarantees’ availability from the state: projects in which the flow of payments is fixed, i.e. the state guarantees the minimum yield; projects in which the flow of payments directly depends on the consumer demand. In the first case, the financial model and the project’s risks are understandable to the investors, which ensures a higher investment attractiveness of the project. In the second, the project is assessed as highly risky, and, therefore, either loses its attractiveness in terms of attracting debt financing, or requires other guarantees. However, in both cases, investment in social projects is considered riskier and less marginal than in transport infrastructure projects.

The special guarantee funds creation could solve at least part of the financial problems for PPP projects of social infrastructure. Such funds are important for the investors, as they allow to reduce the
specific international or local risks caused by economic crises, political instability, lack of sufficient experience in the field of PPP, the specifics of the territory and so on. [12, p.57]. Consequently, the new financial institution would make the system of public-private partnership more definite and predictable. And to a greater extent this is facilitated by a mixed model of return on experience in the field of PPP, the specifics of the territory and so on. [12, p.57].

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