

Evaluation of Social Effectiveness of the Regional Public-Private Partnership Project

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Abstract: This study deals with the need to evaluate social effectiveness of the regional public-private partnership projects involves a critical analysis of existing methodologies for assessment of the given type of effectiveness and suggests own mesoeconomic method.

Key words: The public-private partnership project, social effectiveness, social significance of the project, project social effectiveness evaluation methods, regional utility

INTRODUCTION

Any project of Public-Private Partnership (PPP) is intended to implement, firstly, the task of improving social satisfaction of population with the quality of infrastructure services which are traditionally a responsibility of a state. In addition to indicators of economic and budget efficiency of the project that are mainly important to the entrepreneur and public authorities, it is of crucial importance to assess the social effectiveness of the project which shows both the possible benefits and the extent of public attitude to a PPP project.

In our view, social effectiveness is an integral indicator of the project implications for the public including the assessment of the results and costs and positive and negative effects of the project in the region.

MATERIALS AND METHODS

This study provides a critical analysis of both Russian and foreign practices in relation to social effectiveness of a PPP project.

The analysis of foreign practices of the PPP project social effectiveness evaluation also included the evaluation of the methods relating to traditional investment projects, since PPP is a special form of investment partnership between the public and private parties (Table 1).

Virtually all methods of investment projects calculation set out in the regulatory laws of the Russian Federation have the indicators of social efficiency that represent mostly an estimate of the project's regional utility for society such as the increase rate of average

wage, improvement of employment rates and reduction in prices of services provided under the project etc. (Decree of the Ministry of Regional Development of the Russian Federation No. 117 of 31.07.2008, On approving the methods for indicators calculation and application of criteria of the regional investment project effectiveness, 2008/Prikaz Ministerstva regionalnogo razvitiya RF No. 117 ot 31.07.2008 "Ob utverzhdenii metodiki rascheta pokazateley i primeneniya kriteriev effektivnosti regionalnykh investitsionnykh proektov", 2008, Decree of the General Directorate of Economy of Perm region No. 16-03 of 01.10.2004, "Methods of calculating the social, economic and budgetary efficiency of investment projects", 2004/Prikaz glavnogo upravleniya ekonomiki Permskoy oblasti No. 16-03 ot 01.10.2004 "Metodika rascheta socialnoy, ekonomicheskoy i budgetnoy effektivnosti proektov", 2004). M.R. Orlov uses similar indicators in his proprietary methodology. The considered methods analyze only a small part of social effectiveness rather than cover it in full (Shakina, 2011).

I.N. Makarov suggests evaluating the social effectiveness through the prism of commercial efficiency while Novikova and Chukhlomin (2010) focus on the taxation indicators relating to the assessment of budgetary efficiency. These measures can lead to double counting of the indicators in calculating the overall integral evaluation of the effectiveness of the PPP project. Methods by Prokopovich (2013) and Laktiushina (2011) use subjective evaluation and can be applied only for certain purposes and analyzed taking into account the specific type of investor (e.g., one interested in the field of agricultural production or the creation of large international companies, etc.).

Litovka (2013) suggests evaluating social effectiveness based on the analysis of the ratio of

Table 1: Characteristic of the methods of social effectiveness evaluation of public-private partnership projects

Name of method/developer	Method principle	Social effectiveness indicators used
Calculation method for indicators and application of criteria of the regional investment project effectiveness/Ministry of Regional Development of the Russian Federation (Decree of the Ministry of Regional Development of the Russian Federation No. 117 of 31.07.2008, 2008/Prikaz Ministerstva regionalnogo razvitiya RF No. 117 to 31.07.2008, 2008)	Evaluating the effectiveness of regional investment projects claiming state support at the expense of the budgetary allocations from the Investment fund of the Russian Federation	Enhancing the employment of working-age population; improving public suitable housing; environmental improvement performance; improving the availability and quality of public services in transport, health, education, physical culture and sports, culture and housing and utility spheres
Calculation method for social, economic and budgetary efficiency of investment projects/General Directorate of Economy of Perm region (Decree of the General Directorate of Economy of Perm region No. 16-03 of 01.10.2004, 2004/Prikaz glavnogo upravleniya ekonomiki Permskoy oblasti No. 16-03 to 01.10.2004, 2004)	Evaluating the effectiveness of a project claiming state support for the development and implementation of investment projects for a region	The coefficient characterizing the excess of unemployment rate over the average rate in the region. The coefficient characterizing the excess of project wage level over the average level in the region. Number of jobs created as a result of the project
Evaluation method for PPP project effectiveness/I.N. Makarov (Shakina, 2011)	PPP project effectiveness evaluation at its initiation, implementation and completion stages	The indicator of specific socio-economic output of investments, indicator of specific socio-economic demand
Evaluation method for PPP project implementation perspectives/M.R. Orlov (Shakina, 2011)	Evaluation of PPP project implementation perspectives. The researcher also suggests using the project Integrator application for automatic calculation	Creating new jobs, changing the average wage level, increasing the social consumption fund for the poor, etc
PPP effectiveness evaluation method (Novikova and Chukhlomin, 2010)	PPP effectiveness evaluation upon creation of special economic zones	Taxation-related indicators
Evaluation method for regional PPP project effectiveness (Litovka, 2013)	General evaluation of the regional PPP project	GRP (gross regional product), employment and income indicators
PPP effectiveness evaluation method (Prokopovich, 2013)	PPP project effectiveness evaluation at various development and implementation stages	The project relevance for the priorities of socio-economic development strategies, evaluation prior to the operation of the facility: the level of satisfaction in services demand, availability of infrastructure facilities, conformity of quality of actually provided public services with the approved quality standards, level of consumers' satisfaction with the public service quality-weighting coefficients are assigned
Method for evaluation of the effectiveness of the PPP organizational and economic mechanism (Laktyushina, 2011)	Evaluation of the effectiveness of the PPP organizational and economic mechanism in managing the service sector development	Expert assessment of the project's global scale, etc.
Value For Money Method/HM Treasury (Anonymous, 2006)	Project effectiveness evaluation using the value for money analysis	Indicators of social impact, the non-diversifiable risk-adjusted discount rate
Social Welfare Functional evaluation method (Social Welfare Aggregator) (Mas-Colell <i>et al.</i> , 2005)	Evaluation of the project's social utility	Indicator of social utility/effect for society an integral indicator of social preferences (significance)
Method for Cost benefit analysis (Blum <i>et al.</i> , 1980; Williams and Giardina, 1993)	Project effectiveness evaluation using the cost-benefit analysis	Current and long-term indicators of social benefit in monetary terms
Method for Cost effectiveness analysis (Anonymous, 2012; McEwan, 2012)	Project effectiveness evaluation using the cost-effectiveness analysis	Evaluation of current indicators of social benefit in physical terms

possible growth in GRP and indicators of demographic changes in the region. We consider this approach invalid because both demographic and economic changes are often interdependent (for example, war-time), so it would be wrong to rely only on this indicator.

In addition to the quantitative criteria of social effectiveness, the qualitative criteria must be also considered. For example, it is very important to make social evaluation of the project to be implemented in the framework of the PPP mechanism, since budgetary funds spending can be justified only in the case of financing any socially significant projects that cannot be realized without state support.

We would like to particularly address the foreign methods. Using them, one should perform complex

calculations on an unlimited number of indicators, the number of which is not clearly specified in the method and specified individually by each expert which is convenient for the evaluation reasons, since one can use the best information resources available.

The value for money method is used in several variants. There are the English, Australian and Japanese methods slightly differing in their composition. We have studied the method of HM treasury which is the most often used and original. This method analyzes the indicators of social utility with allowance for risk and discount rate (Anonymous, 2006). We totally agree that the risk accounting allows actualizing an estimate with regard to negative factors identified. However, a discount rate should be included in the final integrated assessment

of the overall indicator of the PPP project effectiveness when all efficiency (fiscal, commercial and social) indicators are already calculated and need to be brought to the current value.

Mas-Colell *et al.* (2005) Green describe a Foreign method of evaluating the project's social utility in their textbook in macroeconomics. This indicator (SWF) is described as a multiplicative function reflecting the impact of the significance of a social improvement project based on the decreasing (negative) and increasing (positive) coefficients. In addition, this indicator is obtained by calculating the level of significance of the direction for the project implementation.

Methods of "cost-benefit" and "cost-effectiveness" analysis are often used simultaneously. A cost-benefit analysis uses the indicators of a social utility project in monetary terms (Williams and Giardina, 1993) while a cost-effectiveness analysis (McEwan, 2012) uses the same in physical terms (for example, reduction in number of car accidents, increase of patients' survival rate, increase of a cumulative USE score per a number of students, etc.). Blum *et al.* (1980) used to study the method of cost-benefit analysis and suggested to apply the indicators evaluation in the analysis both in the short-and long-terms, focusing on the fact that the effects and results will vary.

RESULTS AND DISCUSSION

This study presents the developed proposals for evaluating social effectiveness of the public-private partnership projects in the Russian regions.

Regional PPP centers shall upon implementation of a project organize an expert group which would be composed of business and government representatives, experts from PPP-related areas and civil representatives whose interests are involved, either directly or indirectly, in the PPP project. An expert group shall have possibility to score the projects subject to indicators of commercial effectiveness for society gained from the implementation of the planned PPP project.

We have proposed the following scheme of evaluating the social effectiveness which can be used as a base for submitting to the experts. This scheme is described in Table 2. An integral indicator of social effectiveness shall include 3 cumulative indicators:

- Regional utility of a project
- Evaluation of negative factors
- Evaluation of social significance of a project

Last two indicators are to be calculated based on the scores with the values predetermined by an expert board at the regional PPP center. This is in order to improve the objectivity of the calculations. The indicators will be automatically calculated on the predetermined scores of effectiveness.

The value of the integral indicator of social efficiency ≥ 1 indicates that the project is socially oriented, greatly affects the lives of people in a region and is relevant.

After evaluating the social significance of a project, we recommend to make both commercial and budget assessment of project effectiveness to clarify the possible interest of public and private authorities in implementing the project.

Table 2: Indicators of evaluation of social effectiveness of the regional public-private partnership projects

Indicators	Calculation of the indicator
Block of evaluation of project regional utility, $Reg_{ut} = S_p + In_b + P_a + U_r + W$	
Level of services provision (S_p)	Amount of services provided under the project per capita
Investment benefit from project implementation, In_b	Ratio of project investments per capita
Price level index (P_a)	Ratio of the average annual price of a service under the project to the price of a service not included into the project
Unemployment rate (U_r)	Ratio of unemployment in the region to the average unemployment in the Federal District to which the region belongs
Level of economic well-being of the population (Wage level, W)	Ratio of the wage level under the project to the average wage in the region of project implementation
Block of expert evaluation of negative factors, $Neg_{im} = \sum_{i=1}^n (In_{neg\ i} \times W)$ where, W is weight (significance) of an indicator; n is number of indicators, not <3 and i is indicator number	
Environmental pollution ($In_{neg\ 1}$)	Expert grades (%)
Noise level increase ($In_{neg\ 2}$)	Expert scores (%)
Loss by regional enterprises of their market share due to appearance of larger market participants implementing the PPP projects ($In_{neg\ 3}$)	Expert scores (%)
Other related benefits of the project, expressed in qualitative terms ($In_{neg\ n}$)	Expert scores (%)
Block of expert evaluation of the project's social significance, $S_w = \sum_{i=1}^n (In_{a\ i} \times W)$ where W is weight (significance) of an indicator; n is number of indicators, not <3 and i is indicator number	
Service quality improvement ($In_{a\ 1}$)	Expert scores (%)
Safety improvement ($In_{a\ 2}$)	Expert scores (%)
Other related benefits of the project, expressed in qualitative terms ($In_{a\ n}$)	Expert scores (%)
Integral indicator of social effectiveness ($S_{ef} = Reg_{ut} + S_w - Neg_{im}$)	

CONCLUSION

Social effectiveness is the total benefits from the PPP project implementation which includes not only the benefit of private and public partners, acting in the framework of the selected PPP project but also benefits for population which pays for the right to use the PPP project either directly (e.g. in the form of payments) or indirectly (e.g. in the form of taxes). It is important for a PPP project to confirm the social orientation which can be proved by using the above-described methods of evaluating the integral indicator of social effectiveness.

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