

# Methodical approaches to the assessment of efficiency of investment projects in the municipal sphere

Valerya Glazkova <sup>1,\*</sup>,

<sup>1</sup> Moscow State University of Civil Engineering, 129337, 26, Yaroslavskoye Shosse, Moscow, Russia

**Abstract.** Methodical approaches to the assessment of efficiency of the investment projects, implemented at the expense of budgetary funds are considered in the article. The results of the analysis of the legislation of 85 territorial subjects of the Russian Federation, fixing the assessment of the investment projects, implemented at the expense of budget funds are presented. The analysis of indicators of the assessment of social and budgetary efficiency of investments, presented in regional methodology is carried out. The need of development of methods of the assessment of efficiency of the investment projects, implemented in the social sphere, allowing selecting projects for financing, is proved.

## 1 Introduction

The main document, regulating an order of assessment of project efficiency in the Russian Federation are Methodical recommendations on the assessment of investment projects. Methodical recommendations point out the following types of efficiency of the investment project: commercial, budgetary and economic efficiency.

Besides these types of efficiency the assessment of social and ecological consequences of the project and also the expenses, connected with social measures and environmental protection (public efficiency of the project) is pointed out as an important element of the assessment of project efficiency. According to Methodical recommendations, the indicators of public efficiency of the project consider both direct results and expenses of the project, and "external" expenses and results: those in the adjacent sectors of economy, ecological, social and other noneconomic effects [1].

The general algorithm of the assessment of the project efficiency, submitted in Methodical recommendations was widely adopted. It can be met in works by Vilensky P.L., Livshits V.N., Smolyaka S.A., Gubkina L.I., Krylova E.I., Nepomnyashchy E.G., Denisova I.V., Pridachuk M.P., as well as in the UNIDO technique of the projects assessment, etc.

During assessment of efficiency of the investment projects, implemented at the expense of budget funds, it is impossible to make the assessment only of the economic component, as their realization often bears in itself both social, and ecological consequences. At the same time, the analysis of the existing approaches to assessment of the investment projects

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\* Corresponding author: [leram86@mail.ru](mailto:leram86@mail.ru)

efficiency proved, that it is difficult to measure many manifestations of social effect directly, often it is necessary to be limited only to quality indicators. Experts note that the social achievement is more considerable, the it is more difficult to give it an integrated quantitative assessment. It is connected with the fact that social indicators can be measured by both qualitative characteristics, and quantitative ones, that results in incomparability of measurements [2, 3].

## 2 Methods

The assessment of the investment projects efficiency is carried out according to the federal legislation.

Some documents point out only the size of income, which the state will receive as a result of the project implementation. Other documents, mark out also social efficiency of projects besides the budgetary efficiency.

The official document "On the investment fund of the Russian Federation" considers the project social efficiency, besides its budgetary efficiency as the selection criterion of the investment project for the state support. The social efficiency is based on such quality indicators as: compliance of the solvable task to the priorities of social-and-economic development of the Russian Federation and existence of the positive social effects connected with the implementation of the investment project (expert assessment).

The order of the Ministry of Regional Development of the Russian Federation pines out the following indicators of social effect:

- a) increase in employment rate of the working-aged population;
- b) increase in level of provision of the population with well-planned housing;
- c) improvement of the environment condition;
- d) increase in availability and quality of services to the population in the sphere of transport, healthcare, education, physical culture and sport, culture, housing-and-communal services [4].

The calculation procedure, presented by the Ministry of Economic Development, does not gives any separate indicators of the budgetary and social efficiency of investments. The feature of this method is the division of capital construction projects and reconstruction into subjects to production appointment (production, transport, infrastructure of national innovative system, etc.) and social appointment (health care, education, culture and sport, environmental protection, etc.). The method uses the quantitative indices characterizing the purpose and results of implementation of the project for each direction. According to the method, the integrated assessment (Eint) is determined as the average sum of estimates of the efficiency according to the following formula:

$$E_{int} = Q_1 * 0,2 + Q_2 * 0,8 \quad (1)$$

Where  $Q_1$  - efficiency assessment on the basis of qualitative criteria;

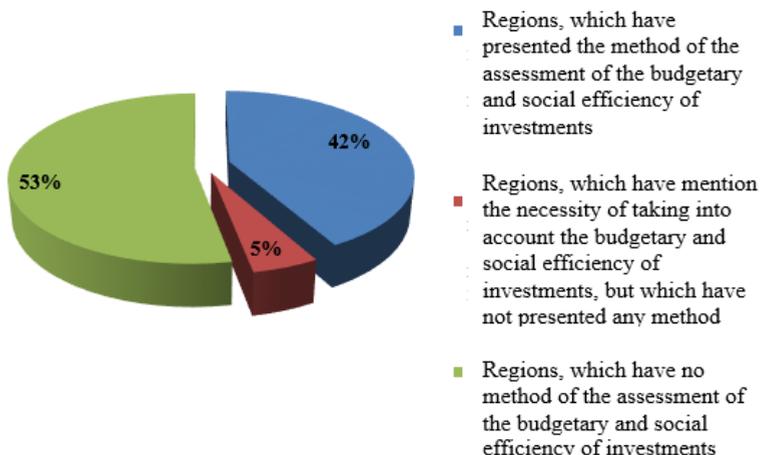
$Q_2$  - efficiency assessment on the basis of quantitative criteria;

0,2 и 0,8 - 0,2 and 0,8 - weight coefficients for efficiency assessment on the basis of qualitative and quantitative criteria respectively.

The analysis of the legislation of 85 regions of the Russian Federation on the assessment of efficiency of investments proved, that 36 regions of the Russian Federation methodically resolve the issue by determination of project efficiency, considering budgetary and social efficiency of investments (Altai and Khabarovsk Krai; Yamal-Nenets and Even autonomous area; Sakha Republic, Mordovia, Mari El, Altai, Buryatia, Bashkortostan, Komi, Udmurt and Kabardino-Balkar Republics; and also such regions as Amur, Leningrad, Kirov, Kurgan, Perm, Vologda, Voronezh, Kaluga, Murmansk, Nizhny

Novgorod, Tambov, Tver, Tomsk, Tula, Samara, Sakhalin, Ulyanovsk, Moscow, Lipetsk, Omsk, Irkutsk, Ryazan and Tyumen regions).

Besides the named 36 regions, in which there is a full-fledged mechanism of assessment of the budgetary and social efficiency of the projects, applying for budget funds, there are 4 subjects, which mention the budgetary or social efficiency of investments in their laws on the implementation of investment projects, but they have not presented the mechanism of the efficiency calculation (Arkhangelsk, Penza, Belgorod and Kaliningrad regions). 45 regions of the country have no legislation on the assessment of the budgetary and social efficiency of the investment projects, implemented at the expense of budget funds. The structure of methodical provision of the assessment of the budgetary and social efficiency of investments in the regions of the Russian Federation is presented in the figure 1.



**Fig. 1.** Structure of methodical provision of the assessment of the budgetary and social efficiency of investments in the regions

The considered methods were also grouped into the following subgroups:

- identical method of the assessment of financial and budgetary effect;
- identical method of the assessment of the budgetary efficiency of investments;
- equally the summary score for the assessment of the investment project [5].

### 3 Results

The analysis of regional approaches within the assessment of the budgetary efficiency of the project implementation proved that, there are usually no problems, when calculating the budgetary efficiency of investment projects [6, 7, 8]. In the majority of methods the budgetary effect of the investment project develops at the expense of direct income of the regional budget in connection with the project implementation as well as in connection with the economy of budgetary funds, owing to the project implementation [9, 10, 11. Methods are united by the fact that they define the indicators of the budgetary efficiency and their components.

Some approaches are based on the score assessment of the investment project efficiency. For each investment project the summary score is calculated as follows:

$$N_i = 0,2 * N^i_{ecef} + 0,2 * N^i_{bef} + 0,1 * N^i_{socef} + 0,2 * N^i_{risk} + 0,2 * N^i_s + 0,1 * N^i_{im} \quad (2)$$

where  $i$  – index of the investment project;  
 $N_i$  – summary score of the  $i$ -th investment project;

Necef – summary score of assessment of economic efficiency of the i-th project;  
 Nbef – summary point of assessment of the budgetary efficiency of the i-th project;  
 Nsocef – summary point of assessment of social efficiency of the i-th project;  
 Nrisk – summary point of assessment of risks of implementation of the i-th project;  
 Ns – summary point of assessment of need of providing the state support for implementation of the i-th project in the territory;

Nim – summary point of assessment of the importance of implementation of the i-th project.

In turn the summary point of assessment of the budgetary efficiency of the project is calculated as follows:

$$Nbef = Kbef [i] / Kbef [max] \quad (3)$$

where Kbef [i] – coefficient of the budgetary efficiency of the i-th project;

Kbef [max] – the maximum coefficient of the budgetary efficiency from the estimated group of projects.

If some project get summary score of assessment of feasibility less than "0.5", or the summary score of assessment of the need of the state support for the project implementation is less "0.3", the zero summary score is appropriated to this project. The state support cannot be given to the projects with zero summary score under no circumstances. Investment projects are ranged according to the calculated summary score, at the same time the rank "1" gets the project which has got the greatest summary score [12, 13, 14].

**Table 1.** Weights of estimates of the budgetary efficiency of investment projects, depending on the branch (Altai Republic as an example)

Branch of the investment project	Weights of estimates
1	2
Education, healthcare, social policy, culture, physical culture	0.2
Housing-and-communal services	0.3
Agriculture	0.3
Management	0.4
Transport, energy, communication	0.4
Trade, public catering, tourism, other branches of the economy	0.6

Thus, the majority of regional methods estimate the project efficiency by comparison of budget revenues connected with the project implementation and expenses on the project implementation according to the provisions of Methodical recommendations [15-17].

## 4 Discussion

Some methods estimate the social efficiency of investments with the use of the uniform indicator of social effect. Public benefits expressed as the number of inhabitants of the region who get material advantages, services of social character (medical, educational and other similar services), jobs, an opportunity to satisfy the spiritual needs in result of the investment project implementation are used as such a social effect [18, 19, 20]. The following formula can be used:

$$\text{Social effect} = \Delta R * Cma \quad (4)$$

where  $\Delta R$  – the number of residents of the area who get material advantages, services of social character, jobs;

Cma – cost (financial) assessment of material advantages and also costs of services of social character per one their recipient as the result of the investment project implementation.

We should mention, that such an assessment of social efficiency of the investment project causes some difficulties, therefore the majority of regional methods suggest to estimate it according to the experts opinions or according to scores [21].

## 5 Conclusion

Thus, the analysis of approaches to the assessment of the investment projects, implemented at the expense of the budget, proved that there are no difficulties during the assessment of the budgetary efficiency of projects, while assessment of social efficiency of projects raises some questions. Some methods for assessment of social effect use only qualitative parameters, and that limits the possibilities of comparison of projects. Moreover, the list of indicators of social efficiency of the project is narrow and limited within the existing approaches, as it does not include assessment of social standards achievement for concrete social spheres and the directions and it does not give the assessment of interests of future generations and do not take into account the principles of sustainable development or social consequences of the project implementation.

The analysis of the existing methods of assessment of the investment projects efficiency proved, that there are objective difficulties, when determining social efficiency of the project. No one of the existing methods of assessment of investment projects does not correspond to the principles of assessment, given in Methodical recommendations. In this regard there is a need of development of a method of assessment of the investment projects efficiency, implemented realized at the expense of budget funds, which will be fuller and which will provide the instrument of selection of investment projects for financing.

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