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# Screening-Evaluation of Regional Investment Projects for the Provision of State Financial Support Measures

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## ABSTRACT

The object of the study is regional investment projects (RIPS). The subject of the study is a methodological toolkit for assessing the investment attractiveness of regional projects, including criteria, indicators, methods and stages of making informed decisions about government financial support measures in relation to them. The relevance of the study is due to the state's interest in the socio-economic development of regions under the conditions of sanctions pressure and the need to ensure effective spending of budget funds allocated to regional investment projects, which requires the formation of new methodological recommendations for evaluating projects implemented within the framework of state financial support measures. The purpose of the study is to develop methodological recommendations for screening and evaluating regional investment projects in order for public authorities to make informed decisions on providing financial support. The methods of comparative analysis, classification, regulatory regulation, statistical indicators, screening and investment assessment, and the method of hierarchy analysis were used. Methodological recommendations on screening assessment of regional investment projects are proposed, within the framework of which: 1) the characteristics of RIP are identified and their classification is considered; 2) the criteria for assessing the investment attractiveness of the project and its contractor (partner) are defined: general (the purpose of the RIP, its significance, the quality of project documentation) and special (economic, budgetary, social, environmental efficiency, performance feasibility, compliance with ESG principles of doing business, business image); 3) evaluation indicators and their thresholds, the achievement of which means the expediency of investing budget funds in the project. It is concluded that in order to make a decision on the provision of state financial support to RIP, it is necessary to achieve target values by indicators corresponding to three components: "State" (customer), "Project" and "Partner (contractor)". At the same time, using the hierarchy analysis method, it was found that the investment attractiveness of the contractor has the greatest importance (weight) when choosing a project. The choice of the performer is based on screening of applicants according to the specified criteria.

**Keywords:** screening assessment; regional investment project; indicators of investment attractiveness; state financial support; hierarchy analysis method

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## INTRODUCTION

The Russian economy is experiencing through a challenging time of transition at the same time that digital technologies are developing and environmental issues are getting greater. Given the scale of the country, successful solution of the tasks of counter-sanctions and the transition of the economy to the trajectory of growth is impossible without the effective development of the regions, the strengthening of the coordination of the center and the regions on all issues of economic, financial and social cooperation.

Attracting investment for the socio-economic development of the regions and the Russian Federation as a whole has become more difficult in the present period of economic growth. Given the political and economic characteristics of today, emphasis is placed on domestic investments, including those carried out with the participation of the state.

According to Rosstat, the volume of capital investments in Russia for the first three quarters of 2023 amounted to 20.02 trln rubles.<sup>1</sup> In comparable prices, investment increased by 10% compared to the same period in 2022. In many regions there has been a significant increase in equity investments directly through the implementation of investment projects. The leader is Moscow, which accounted for 19.9% of total investment. 78.9 hectares of land were transferred for the implementation of eight large investment projects for the production of products of light, food, construction, electric and other industries with a total investment of 66.4 bln rubles.

Khanty-Mansiysk Autonomous District occupies the second place in the ranking of regions by volume of investment, the figures of which increased by 11.9% compared to the same period of 2022. Among the major regional investment projects should be

highlighted the creation of a special economic zone of the industrial and production type “Nyagan”, a production complex for the production of structural shapes, the capacity of which will be 100 thous. tons per year, production of domestic protein components for newborns and baby food, which was launched in test mode in November 2023, and the industrial park “Kogalym”.

The Republic of Tatarstan also showed a significant increase in private and public investments in the region, where their volumes grew by 29.9%. In addition to the oil and chemical industry, construction and wholesale distribution and logistics centers are actively developing through investment.

With this common form of implementation of regional investment projects is public-private partnership, including on the basis of concession agreements (contracts) between a private investor and a public customer. Thus, according to the official data of the open platform Rosinfra<sup>2</sup> by mid-2023 in 69 regions were completed 1 822 concession agreements, the leader was the Kursk region (203 projects) [1].

The Russian Federation in 2023–2024 continues to implement the policy of support of investment development of regions with increased focus towards private investment. Successful solution of the strategic development tasks of the Russian regions requires to develop a toolkit that allows timely evaluation of investment projects, using modern information technologies. One such technology is the use of machine learning methods for the screening-methodology of assessment of regional investment projects.

Thus, the purpose of the study is to develop methodological recommendations for the screening-evaluation of regional investment projects, enabling public authorities to make informed decisions on RIP financial support

<sup>1</sup> URL: <https://id-marketing.ru/tags/инвестиции+в+основной+капитал+2023> (accessed on 16.02.2023).

<sup>2</sup> Official website of the Rosinfra platform. URL: <https://rosinfra.ru/> (accessed on 20.06.2023).

measures. To the purpose, the following objectives must be addressed:

- to identify evaluation objects — regional investment projects;
- to define criteria for assessing the investment attractiveness of projects, including taking into account the needs of the State and the implementers (partners within the framework of the PPP);
- to propose a system of indicators and their thresholds for the evaluation of the three components “Project”, “Partner” and “State”;
- to make recommendations on assessment of regional investment projects using selected criteria, indicators, screening methods, hierarchy analysis.

### RESEARCH MATERIALS AND METHODS

The information base for the article was the results of its own study, conducted in 2023 within the framework of the implementation of the state task of the Government of the Russian Federation on the topic “Development of screening-methods of assessment of regional investment projects” [2, 3] by the Financial University as well as the work of domestic and foreign scientists on the relevant topic, regulatory and legal acts of regulation of investment activities and evaluation of investments projects, implemented, including, at the regional level, data from open sources and specialized sites, including SPARK, Federal Property Management Agency, Rosinfra, Ministry of Economic Development, Rosstat, internet-sites of regional authorities etc.

The absolute majority of Russian authors, in particular, A. F. Ageeva S. D. Ptitsyn, K. I. Magomedova [4–7] when considering RIP parameters concentrate on traditional indicators of investment valuation: NPV, PI, IRR and DPP. They suggest that a project with the highest value of the profitability index and net discounted income, the shortest repayment period and an internal rate of return exceeding the WACC be considered as cost-effective. A number of other scientists

(O. D. Golovina, O. A. Borob’eva [8]), note the need to take into account, along with indicators of economic efficiency, also external effects — social and environmental. Each author or group of authors justifies the use of a wide variety of indicators of such effects. For example, O. A. Chumanskaya [9] to assess the socio-economic effectiveness of the project proposes to determine its impact on the environment, the level of employment, the availability of public goods, the dynamics of the income level of the population, etc. In turn, D. R. Zainullina [10] consider that environmental efficiency can be determined by assessing the reduction in material and energy costs for the production of goods, if the project is aimed at this, as well as reduction of charges for emissions of harmful substances into the atmosphere. The author proposes to measure the social impact through a change in the index of human potential used by the UN and the increase in the income of the population. For projects with state participation, in addition to socio-economic efficiency, it is proposed to take into account budget efficiency (V. A. Tsvetkov et al. [11]), focused on accounting of cash flows exclusively for budgets of different levels of government.

However, the assessment of the investment attractiveness of RIP performers is not included in the scientific papers of the original authors. The most frequently required criteria are available in publications devoted to the construction industry’s contractor selection process. In the paper of foreign researchers, this topic is given more consideration. S. Chernogorskiy, K. Kostin, and B. Muehlfriedel [12] specifically contend that the following factors should be considered when evaluating project implementers: the previous project’s scope and complexity, their knowledge, and their ability to fulfill deadlines. D. Khan [13] emphasized the need to assess expertise in the implementation of the project. The authors’ groups led by A. Shibani and S. Tarawneh [14, 15] concluded

that the financial stability of the contractor is an important factor that can influence the implementation of the project. From their point of view, it is necessary to assess the liquidity, financial stability, creditworthiness of the contractor. A. Khoso and A. Yusof [16] refer to similar criteria in their paper and highlight another criterion, the resource availability. In their view, the performer should have the necessary technical, labor and other resources.

In our view, the evaluation of RIPs for the purpose of providing public financial support measures requires an integrated approach that takes into account various factors relating to both the project itself and its contractors. The identification of such factors requires mass data analysis, which requires the use of screening models to find reliable information about various RIP parameters. The technology of such search and analysis is outlined in the papers of a number of foreign researchers [17–19]. The basic condition for the correct operation of the screening model is the quality of the source information, i.e. the reliability of the sources and the accuracy of the data. The objectivity of the results of such assessment will be greater if algorithmic data processing tools, including BigDate and machine learning technologies, considered in the papers of foreign authors are used [20–22].

Thus, in the development of recommendations, in addition to the analysis of different sources, methods of statistical data processing, comparison, generalization, systematization, screening-modelling, investment assessment, construction of indicator system, analysis of hierarchies were used.

## RESULTS OF THE STUDY

The methodological recommendations developed are intended for the selection of regional investment projects for the purpose of providing state financial support measures and include the following steps.

*Step 1. Identification of RIP characteristics and classification by criteria, based on the purpose of screening.*

*Regional investment project* for the purposes of methodological recommendations will be understood as a limited in time and resources of activities, providing for the creation (or modernization) and subsequent operation of a new property complex and (or) intangible assets of regional or interregional importance for achieving the objectives of socio-economic development of the subject of the Russian Federation. The amount of capital investments determining the amount of RIP financing must comply with the requirements of p. 4, p. 4.1. of Art. 25.8 of the Tax Code of the Russian Federation.

*The objects of investment* in the methodological recommendations are the following types of investment projects (by the main objective of implementation):

- import-substituting production-commercial;
- social;
- ecological;
- infrastructure;
- innovative.

Under the screening-methodology of evaluation of regional investment projects for this study we will understand the sequence of actions aimed at the selection and ranking of new or existing RIPs for the provision of measures of financial state support.

At the same time, the *objects of the screening evaluation* can be both the projects themselves and the participants of the investment process, i.e.:

- 1) regional investment projects that are eligible for State financial support;
- 2) potential contractors of regional investment project, including project initiators;
- 3) potential private co-investors of regional investments projects, attracted, if necessary, by the evaluation entity within the framework of PPP, concession agreements and other public financial support instruments.

*Subjects of decision-making* are bodies of state authority at the federal and regional levels, acting as decision centers in the implementation of the investment strategy of the country and the region. They carefully consider all available options and choose the investment project which most fits their purposes and objectives, then keep focus on its implementation.

In this case, the main indicator for decision-making is the investment attractiveness of the project (IAP) and/or its contractor (IAC) from the perspective of meeting the needs of the public customer, on the one hand, and the conformity of the results obtained from the project implementation to the established parameters with the specified limitations, and on the other.

*Stage 2. Determination of conformity of the objective of RIP to the needs of the investor (subject of the Russian Federation).*

When *accessing a regional investment project*, we will consider that the formation of an expert path served as the foundation for the decision to provide public funds for the project:

- compliance of the project goal with the client's priorities and goals, incl. import substitution tasks;
- public relevance of the project;
- national and economic significance of the project.

The evaluation of the components of the project is carried out on the basis of different approaches and methods of evaluation RIP (Table 1), which are described in more detail in [2].

*Stage 3. Determination of criteria for assessing the investment attractiveness of the regional project (IAP) / contractor (IAC)*

The criteria for assessing regional investment projects are the key parameters by which an aspect of the investment attractiveness of a project/contractor is assessed (Table 2).

*Stage 4. Determination of indicators of evaluation and determination of their threshold (normative) values, the achievement of which will*

*mean the feasibility of investing in the project budget funds.*

For the complex evaluation of RIP, it is proposed to identify three key components: "State" (as the main customer); "Partner" (main executor of the project); "Project" (as an evaluation object) from which the evaluation indicators will be identified.

Analysis of the "State" component in the segment of regional investment projects is presented in Table 3. The criteria for assessing RIP are budget efficiency, state risks, national, sectoral and regional needs. The main source for the selection of indicators and their target values are indicators specified in the current regulatory framework. The number of indicators could be increased with the adoption of new RIP regulations for the achievement of strategic development goals. The effectiveness of this component according to expert assessments of public authorities is acceptable if the number of indicators satisfying the normative values and taking into account the needs of the Customer (state) exceed 50%.

Analysis of the component "Partner" involves determining the investment attractiveness of RIP performers. Indicators to be evaluated include:

1) a due diligence index (DDI) based on a scoring assessment from the SPARC system (the risk of improper conduct is low if the DDI is  $\leq 40$ );

2) a financial risk index (FRI) based on a scoring assessment based on the SPARC system (solvency loss risk is low if the FRI is  $\leq 30$ );

3) Payment discipline index (PDI) based on the scoring assessment of the SPARK system (the risk of late payments is low if the PDI is  $\geq 79$ );

4) a consolidated risk indicator (CRI), representing a cumulative qualitative assessment of previous indices and characterizing the company's status as a reliable partner (the value "low" should be taken);



Table 1

**Groups of Approaches and Methods for Assessing the Investment Attractiveness of Regional Investment Projects and their Performers**

| No. | Classification attribute  | Name of approaches and methods                                  | Use for methodological recommendations |
|-----|---|---|--|
| 1   | Time factor approaches  | Statistical dynamic prognostic                                  | All approaches and methods             |
| 2   | Approaches to factors-component influencing the investment decision | One-component multicomponent                                    | Multicomponent                         |
| 3   | Approaches to measurement of evaluation results                     | Quantitative qualitative combined                               | Combined                               |
| 4   | Mass appraisal methods  | Screening / scoring econometric model (incl. clustering) rating | All approaches and methods             |

Source: Developed by the authors.

Table 2

**Classification of RIP Assessment Criteria**

| No. | Classification attribute | Name of the criteria  |
|-----|--------------------------|---|
| 1   | General criteria         | Purpose of RIP (its alignment with implementation priorities) |
|     |                          | Importance of RIP (public, economic)                          |
|     |                          | Availability and quality of project documents                 |
| 2   | Special criteria         | Economic efficiency of the project and its operator           |
|     |                          | Budgetary efficiency  |
|     |                          | Social efficiency   |
|     |                          | Eco-efficiency  |
|     |                          | Project feasibility   |
|     |                          | Compliance of the performer with ESG-business principles      |
|     |                          | Business image  |

Source: Developed by the authors.

Table 3

## Indicators of the "State" Component in the Context of Regional Investment Projects

| Indicator   | Calculation of the indicator   | Source   |
|---|--|--|
| <b>Budgetary efficiency</b>   |  |  |
| Net discounted budget income  | $NPV_B = \sum \frac{CF_{Bt}}{(1+r)^t}$   | Resolution of the Government of the Russian Federation from 22.11.1997 No.1470   |
| Discounted term of budget payback   | $DPP_B = \sum \frac{CF_{Bt}}{(1+r)^t} > I_0$   | Resolution of the Government of the Russian Federation from 22.11.1997 No.1470   |
| Net discounted budget expenditures of the Russian Federation  | $PBV_{ppp} = \sum_{t=1}^T \frac{(sB_{pppt} + sM_{pppt} + sD_{pppt} + sC_{pppt} + I_{pppt})}{(1+r_b)^t}$                                      | Order of the Ministry of Economic Development of the Russian Federation from 30.11.2015 No. 894<br>Resolution of the Government of the Russian Federation from 30.12.2015 No. 1514 |
| Ratio of cash flow to debt service payments   | $DSCR_t = \frac{CFADS_t}{P_t + L_t}$   | Order of the Ministry of Economic Development of the Russian Federation from 30.11.2015 No. 894  |
| Budget efficiency indicator   | This indicator is defined as the ratio of the discounted amount of tax receipts and obligatory payments to the amount of the state guarantee | Resolution of the Government of the Russian Federation from 01.05.1996 No. 534   |
| Project benefit comparison ratio at the conclusion of an agreement or government contract (applicable in the presence of multiple RIPs) | $k_{vfm} = 1 - \frac{PBV_{ppp} + PRV_{ppp}}{PBV_{av} + PRV_{av}} \geq 0$   | Order of the Ministry of Economic Development of the Russian Federation from 30.11.2015 No. 894  |
| <b>State risk</b>   |  |  |
| Regulatory risk   | Expert assessment, qualitative methods applied (the legislation proposes the use of expert assessment)                                       | Resolution of the Government of the Russian Federation from 05.11.2013 No. 991   |
| Administrative risks  | Expert assessment, qualitative methods applied (the legislation proposes the use of expert assessment)                                       | Resolution of the Government of the Russian Federation from 05.11.2013 No. 991   |

Table 3 (continued)

| Indicator   | Calculation of the indicator   | Source  |
|---|--|---|
| <b>National, sectoral and regional needs</b>  |  |   |
| National competitiveness: depending on whether the products produced have foreign counterparts, investment projects are classified into several categories, on which depends the maximum proportion of public funding (indicated in brackets for each category of projects)   | Category A – projects that ensure the production of products that do not have foreign analogues, provided that it is protected by domestic patents or similar foreign documents (50%);<br>category B – projects that ensure the production of export goods of non-material industries with demand in the foreign market, at the level of the best world samples (40%);<br>category C – projects that ensure the production of import substitute products with a lower level of prices for it compared to imported (30%);<br>category D – projects providing production of products that are in demand in the domestic market (20%) | Resolution of the Government of the Russian Federation from 01.05.1996 No. 534<br>Resolution of the Government of the Russian Federation from 22.11.1997 No.1470  |
| Compliance of the objective of the investment project with the priorities and objectives defined in the projections and programmes of socio-economic development of the Russian Federation, the state programme of arms, sectoral doctrines, concepts and strategies of development for the medium- and long-term periods | Yes/No<br>1) the purposes and tasks of the project correspond to at least one objective and (or) the objective of the state (municipal) programmes;<br>2) the project indicators correspond to the values of at least two target indicators of the state (municipal) programs  | Resolution of the Government of the Russian Federation from 12.08.2008 No. 590<br>Resolution of the Government of the Russian Federation from 15.03.2023 No. 399<br>Order of the Ministry of Economic Development of the Russian Federation from 30.11.2015 No. 894 |
| The investment project corresponds to the sectoral directions of financing and is implemented on the basis of project financing.  | Expert assessment  | Resolution of the Government of the Russian Federation from 15.02.2018 No. 158  |
| Commissioning of reclaimed land for export-oriented agricultural production   | Expert study   | Resolution of the Government of the Russian Federation from 16.03. 2022 No. 377   |
| Assessment of the effectiveness of the investment project according to the criteria of the need for capacity created ( $\sigma_1$ ) and the impact of investment project on the integrated development of territories ( $\sigma_2$ )  | $E = \left( 0,6 \times \frac{\sigma_1}{n} + 0,4 \times \sigma_2 \right) \times 100\%$  | Methodology for assessing the effectiveness of investment projects of the Government Commission on Regional Development in the Russian Federation   |

Source: Compiled by the authors according to the information and reference system "Consultant Plus".



5) project feasibility by the contractor, assessed on the basis of the project application on two indicators:

a) resource support (RS) — involves expert-point assessment of required resource support parameters (the list can be expanded) in relation to production capacities, the number of employees, the qualifications of workers, the technologies of additional financing used (for each compliance with the requirements — 1 point, the target value — not less than 3 points);

b) technology audit (TA) — involves expert-point assessment of the following parameters (the list can be expanded): the validity of the choice of the location of the project, compliance with technical, sanitary and epidemiological requirements, regulations in the sphere of environmental protection (objects of cultural heritage); industrial security; anti-terrorism safety, etc. (compliance must be performed for each parameter);

6) ESG-index “Responsibility and openness” (IESG), determined by RSPP by the rating method (the entrance of a company on the rating list means that it is implementing the principles of sustainable development in practice);

7) a reputational risk index (RRI), determined on the basis of scoring assessment according to SPARK and SCAN data of the analytical system “Interfax” and representing a qualitative assessment of the business image of the company by references in open sources (values “low”, “average” is acceptable).

Thus, 8 indicators are assessed to determine the investment attractiveness of RIP performers. The effectiveness of the “Partner” component is acceptable if the number of indicators satisfying the target values is at least 6.

The analysis of the component of the “Project” involves determining the investment attractiveness of the RIP itself. The indicators to be evaluated include:

1) utility assessed on the basis of the project application by expert-point method on two indicators:

a) public significance of the project (PSP) — characterizes the role of RIP in solving urgent public-oriented problems of the region, industry, country (number of points  $> 0$ );

b) national economic significance of the project (NSP) — characterizes the role of RIP in solving urgent economic-oriented problems of the region, industry, country (number of points  $> 0$ );

2) economic efficiency, measured on the basis of the business plan in the project application, according to three investment indicators:

a) net present value of the project ( $NPV_p > 0$ );

b) profitability (returnability) of investment in the project ( $PI > 1$ );

c) internal project return rate ( $IRR > \text{discount rate}$ );

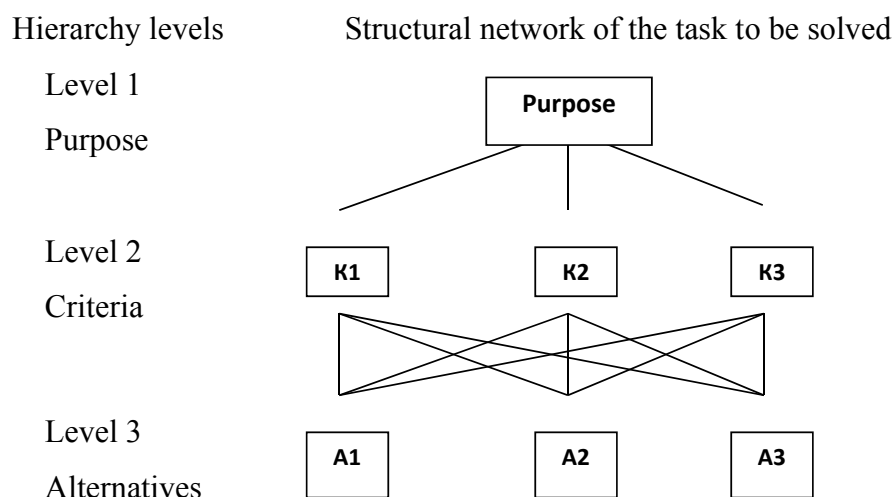
3) social efficiency, measured on the basis of the project application by expert-point method on three indicators:

a) scale (S) — characterizes the proportion of the population coverage of the region by the social results of the project ( $S \geq 10\%$ );

b) employment growth ( $\Delta E$ ) — presupposes the definition of the difference “number of jobs created — number of jobs reduced” ( $\Delta E > 0$ );

c) postponed social effects (PSE) — assumes a positive/negative assessment in the scores of the following possible consequences of the implementation of the RIP (the list may be expanded): inflow/outflow of labour; growth/decrease in population incomes; improvement/degradation of demographic situation; decrease/increase of social tension; reduction/increment of morbidity; increase/degrade in the quality of services provided ( $PSE > 0$ );

4) ecological efficiency, measured on the basis of the project application by expert-point method on three indicators:



**Fig. A Complete Dominant Hierarchy**

Source: T.L. Saati [23].

Table 4

**List of Approval Criteria**

| No. | The content of the criterion                                 |
|-----|--|
| 1   | Reflection of the purpose of the main investor (customer)    |
| 2   | Quality and quantity of input data on which decision is made |
| 3   | Investment attractiveness of the contractor                  |
| 4   | Investment attractiveness of the project                     |

Source: Developed by the authors.

a) limit (zone) of the impact of the project on the ecology of the territory of the region (Z) — characterizes the share of the coverage of the area of the environmental results of the implementation of a project ( $Z \geq 10\%$ );

b) degree of environmental impact of the project (I) — qualitatively characterizes the strength of the impact on the environment (acceptable no more than slightly negative or no less than moderately positive impact);

c) postponed environmental effects (PEE) — assumes a positive/negative assessment in the scores of the following possible consequences of the implementation of the RIP (the list may be expanded): restoration/depletion of natural resources; improvement/degradation of air quality; improved/degrade of water quality (water reservoirs); reduction/increase of ecological morbidity; improvements/depreciation of recreational and aesthetic

functions of landscapes; damage/benefit to agricultural sites ( $PEE > 0$ ).

Thus, 11 indicators are assessed to determine the investment attractiveness of RIP. The effectiveness of the “Partner” component is acceptable if the number of indicators satisfying the target values is not less than 8.

*Stage 5. Decision on the selection (positive screening) or seeding (negative screening) of regional investment projects (contractor).*

After calculating and evaluating all indicators, it is proposed to weigh the results obtained on three components (“State”, “Partner”, “Project”) to make a final decision and select the RIP from possible options.

The weighting coefficients were determined on the basis of the hierarchy analysis method [23]. A hierarchy is complete if each element

Table 5

**A Matrix of Pairwise Comparisons for Criteria and the Value of the Priority Vector**

| Criteria  | Reflection of the main investor's (customer's) goal | Quality and quantity of the source data for analysis | Investment attractiveness of the contractor | Investment attractiveness of the project | The value of the priority vector |
|---|---|--|---|--|----------------------------------|
| 1. Reflection of the purpose of the main investor (customer)    | 1   | 1/2  | 1/2   | 1/2                                      | 0.138071                         |
| 2. Quality and quantity of input data on which decision is made | 2   | 1  | 2   | 1/2                                      | 0.276141                         |
| 3. Investment attractiveness of the contractor                  | 2   | 1/2  | 1   | 1/2                                      | 0.195261                         |
| 4. Investment attractiveness of the project                     | 2   | 2  | 2   | 1  | 0.390527                         |

Source: Developed by the authors.

Table 6

**Reflection of the Main Investor's (Customer's) Goal**

| Alternatives | Project | Partner | State | Geometric average | The value of the priority vector |
|--------------|---------|---------|-------|-------------------|----------------------------------|
| Project      | 1       | 1/4     | 1/6   | 0.346681          | 0.091498                         |
| Partner      | 4       | 1       | 2     | 2.00000           | 0.527854                         |
| State        | 6       | 1/2     | 1     | 1.44225           | 0.38065                          |
| Amount       | 11.00   | 1.75    | 3.67  | 3.79              |                                  |

Source: Developed by the authors.

Table 7

## The Quality and Quantity of the Source Data for Analysis

| Alternatives | Project | Partner | State | Geometric average | The value of the priority vector |
|--------------|---------|---------|-------|-------------------|----------------------------------|
| Project      | 1       | 1/4     | 1/6   | 0.346681          | 0.091498                         |
| Partner      | 4       | 1       | 2     | 2.00000           | 0.527854                         |
| State        | 6       | 1/2     | 1     | 1.44225           | 0.38065                          |
| Amount       | 11.00   | 1.75    | 3.67  | 3.79              |                                  |

Source: Developed by the authors.

Table 8

## The Investment Attractiveness of the Contractor

| Alternatives | Project | Partner | State | Geometric average | The value of the priority vector |
|--------------|---------|---------|-------|-------------------|----------------------------------|
| Projectt     | 1       | 1/6     | 1/4   | 0.346681          | 0.088983                         |
| Partner      | 6       | 1       | 2     | 2.289428          | 0.587631                         |
| State        | 4       | 1/2     | 1     | 1.259921          | 0.323386                         |
| Amount       | 11.00   | 1.67    | 3.25  | 3.90              |                                  |

Source: Developed by the authors.

Table 9

## Investment Attractiveness of the Project

| Alternatives | Project | Partner | State  | Geometric average | The value of the priority vector |
|--------------|---------|---------|--------|-------------------|----------------------------------|
| Project      | 1       | 1/5     | 1/7    | 0.305711          | 0.075057                         |
| Partner      | 5       | 1       | 1/2    | 1.357209          | 0.333216                         |
| State        | 7       | 2       | 1      | 2.410142          | 0.591727                         |
| Amount       | 13.00   | 3.2004  | 1.6429 | 4.073062          |                                  |

Источник / Source: разработано авторами / Developed by the authors.

Table 10

**Determination of weight of the components “State”, “Partner”,  
“Investment project”**

| Alternatives                              | Criteria 1 | Criteria 2 | Criteria 3 | Criteria 4 | Component weight |
|---|------------|------------|------------|------------|------------------|
| Project (A)                               | 0.091498   | 0.091498   | 0.088983   | 0.591727   | 0.29             |
| Partner (B)                               | 0.527854   | 0.527854   | 0.587631   | 0.075057   | 0.36             |
| State (C)                                 | 0.38065    | 0.38065    | 0.323386   | 0.333216   | 0.35             |
| Value of Criterion<br>Priority Vector (D) | 0.138071   | 0.276141   | 0.195261   | 0.390527   |                  |

Source: Developed by the authors.

of a given level is a criterion for all lower-level elements (*Fig.*).

The structure of the hierarchy in our situation is as follows:

1) top level is the goal: selecting the most investment attractive RIP;

2) intermediate level is harmonization criteria;

3) lower level is alternative: values of indicators for the components “State”, “Partner”, “Investment project”.

The harmonization criteria are shown in the *Table 4*.

In *Table 5*, the Saati method determines the values of priority vectors for each criterion on the basis of pairing comparisons.

In general, the rule applies when assessing criteria: more significant criteria are rated with higher scores. The criteria 2, 3, 4 are, in our view, more important than the first criterion and therefore have higher scores, but at the same time these criteria are approximately equal in significance. At the same time, the criterion “Investment attractiveness of the project” has the greatest importance of the priority vector.

We compare the results of evaluation of priority vectors for the alternatives “State”, “Partner”, “Investment project” for each criterion of harmonization (*Table 6–9*).

Since the customer of the project is the subject of the Russian Federation and its purposes are priority for the implementation of the Project, the greatest importance is attached to this component, the project executor realizes this goal, he is in the second place, and in the third place the project itself. At the same time, the largest importance of the priority vector for the “Partner” component as the RIP contractor.

To assess the attractiveness of RIP an important priority is the opinion of the investor, that is, the entity of the Russian Federation, respectively, the indicators of the component “State” first of all should be provided with transparent and reliable data for the calculation, so this position is given the greatest importance, then goes by the degree of importance of the contractor, on whom depends the proper implementation of the RIP, and the project itself.

From the name of the criterion, it is clear that the main component here is the project executor, it is awarded the highest score, then goes the consumer of the results of implementation of RIP — the subject of the Russian Federation, and then — the investment project. The most important priority vector is the “Partner”.

The main alternative is directly the project, so this component has the highest score; the project's customer is the subject of the Russian Federation, so the alternative "State" is second in importance; and finally, "Partner" as the project executor is last. The priority vector has a significant importance in the "State".

*Table 10* defines the outcome weights of the three components to be analyzed for the final decision on the RIP state financial support as the sum of the priority vectors of a particular component on four criteria (lines A, B, C) on the values of the criteria priority's vectors (line D).

The results of the calculations in *Table 10* show almost equal weights for the "Partner" and "State" components. Their separation from the "Project" component is small.

In our view, this distribution of weights is quite justified, because the main risks in the implementation of the project, of course, lie on the contractor. Since the evaluation is carried out by the "State", indicators that characterize the purposes, risks, the significance of RIP for the customer are quite important. At the same time, the project, its documentation with approved indicators of cash flows, investments, implementation times, indicators different types of effectiveness is the main object of evaluation and analysis of its investment attractiveness according to the proposed indicators is also a significant factor in the selection of RIP.

### CONCLUSION

In conclusion, the following conclusions can be reached:

1. The evaluation of a regional investment project is proposed to be carried out through the assessment of the investment attractiveness of the project itself (IAP) and the assessments of investment attractiveness

of the contractor (IAC) as a measure of the effectiveness and potential implementation of the projects, taking into account the objectives of the customer (state).

2. The objects and subjects of the evaluation of regional investment projects have been identified, the system of criteria for the assessment of regional investments projects has been developed from the positions of three components: "State", "Partner", "Project". The main assessment criteria for the State component are budget effectiveness, state risks, national, sectoral and regional needs. Criteria of utility, economic, social and environmental performance are identified for the evaluation of IAP. The main criteria for evaluating the IAC include the criteria of cost effectiveness, the feasibility of the project by the contractor, compliance with ESG principles and its business image.

3. A system of evaluation indicators is proposed that meets the criteria developed and includes both quantitative and qualitative indicators, their methods of determination, targets and sources of information. The following methods of determining the values of indicators were used: calculation of traditional indicators of the effectiveness of investment projects; expert-point assessment of the degree of manifestation of the feature, as well as indices of RSPP, analytical systems of SPARK and SCAN of the Interfax group, built on the basis of screening and scoring models.

4. The elaborated methodological recommendations for the screening-evaluation of regional investment projects will reduce costs and damage to organizations providing RIP financing, reduce the costs of regional budgets associated with the selection of low-quality regional investments projects and their executors, as well as reduce the labor costs for selection of quality RIPs.

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**O. V. Loseva** — analysis of literature, statistical data, development of criteria and indicators corresponding to the components “Project”, “Partner”, writing an introduction, visualization of research results, formulation of conclusions.

**M. A. Fedotova** — formulation of the problem, development of the concept of the article, writing an abstract, preparation of a list of sources.

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