ORIGINAL PAPER

DOI: 10.26794/2587-5671-2023-27-5-43-54
UDC 336.64(045)
JEL D25

State Support of Investment Projects Within the Framework of an Agreement on the Protection and Promotion of Capital Investments: A Methodological Rationale

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ABSTRACT

The subject of research is economic interactions related to the implementation of an investment project within the framework of an agreement on the protection and promotion of investments (hereinafter referred to as the APCI). **Purpose:** methodological substantiation of the expediency of providing state support measures to ensure the minimum profitability of an investment project implemented within the framework of the APCI. **Objectives:** to propose an indicator that reflects the minimum profitability of an investment project, the mechanism for its usage to determine state support measures, additional state support measures in cases where they are not sufficiently established in the legislation. **Methods:** analysis of approaches to determining the discount rate; statistical (observation, grouping, method of indicators) for calculating industry-specific ROIC values; content analysis to select state support measures. **Results:** it is proposed to use the ROIC indicator as the minimum profitability of a commercial investment project. The indicator was calculated according to the data of all organizations that are not subjects of medium and small enterprises operating in the period 2012–2021. The sample included 133 organizations that make up eight subclasses of Russian classifier of types of economic activity (pulp and paper production; production of fertilizers and nitrogen compounds; production of pesticides, etc.; production of paints, varnishes, etc.; production of pharmaceutical substances; production of medicines; activities in the field of telecommunications; development of computer software). Based on the data from 1011 observations, the median value of ROIC for each subclass was calculated, the reliability of which is confirmed by the approved minimum rates of return on invested capital for calculating the tariffs of regulated organizations. A mechanism is proposed for using ROIC to determine state support measures within the framework of the APCI, including: determining the median value of ROIC for foreign economic activity, calculating ROIC for an investment project, and determining state support measures by their ratio. As additional measures of state support within the framework of the APCI, it is proposed to establish tax preferences (lower tax rates, tax benefits, tax deductions), as well as accelerated depreciation of fixed assets. The proposed developments create a methodological basis for substantiating the provision of various state support measures within the framework of the APCI.

Keywords: an agreement on the protection and promotion of capital investments; state support of investment projects; stabilization clause; budget subsidies; discount rate for the investment project; minimum profitability of the investment project; return on invested capital (ROIC); government support measures based on ROIC

For citation: **Tyutyukina E.B., Egorova D.A. State support of investment projects within the framework of an agreement on the protection and promotion of capital investments: A methodological rationale. *Finance: Theory and Practice*. 2023;27(5):43-54. DOI: 10.26794/2587-5671-2023-27-5-43-54**

INTRODUCTION

Federal Law from 01.04.2020 No. 69 "On the Protection and Promotion of Capital Investments in the Russian Federation" [1] (further — Federal Law No. 69) provides for state support measures (further — state support) for organizations implementing investment projects (further — OIP), that have concluded an agreement on the protection and promotion of capital investments (SPIC) with public law entity (further — PLE). Investment projects (further — IP) have to satisfy the following criteria:

1) to be new, to be implemented in the following areas:

- creation, construction, reconstruction, modernization of real estate objects or complex of related property objects and their subsequent operation;
- creation and use of results of intellectual activity or means of individualization;

2) have strategic importance for the economic development of the country (refer to a specific sphere of the economy);[2]

3) to be done for the purpose of profit and/or other desirable result, such as preventing or minimizing negative environmental impacts;

4) have a minimum capital investment [depending on the scope of activity and the type of public law entity (further — PLE), that is a party to the SPIC].

In accordance with Federal Law No. 69, the Government of the Russian Federation, in addition to the state support measures established in this law, can introduce other measures, as the criterion for which the minimum return on investment project (further — MROI) is claimed to be ensured.[3] At the same time, there are no clarifications on this issue in Federal Law No. 69.

In our view, in the SPIC framework, the MROI indicator should be used to justify both the OIP' state support measures already provided to Federal Law No. 69 and the introduction of new ones.

THE SELECTION OF AN INDICATOR WITH THE LOWEST RETURN ON INVESTMENT

The indicator reflecting the MROI is the discount rate used in the calculation of the cost effectiveness of the investment project (indicators NPV, PI, DPP) [1]. Scientific literature offers different approaches to its calculation.

Most authors consider the WACC (weighted average cost of capital) method as a discount rate [2–5]. It is noted that in practice, the CAPM model is mainly used to calculate the value of the company's equity [6]. S. V. Kuzina and P. K. Kuzin recommend applying the value of capital (WACC) of the project to determine value for an economically deprived investment project, and using the enterprise's WACC discount rate for an enterprise-integrated project when it is difficult to allocate cash flows on it [3, 4]. They also recommend the use of the WACC method only if the project's residual cash flow cannot be estimated or when the investment budget has not been approved at the stage of the initial feasibility study of the investment project, and the ROE is the fairest estimate of the value of equity. The complication of the practical implementation of WACC in emerging capital markets, according to N. V. Voronina and V. G. Zaretskaya, is determining what value to use in calculations as a discount rate (factual for a period, average for several periods, or prediction) [5]. M. Jacobs notes that, despite the prevalence of the WACC method, in practice companies rely on a discount rate above the weighted average value of capital to take account of additional risks [7]. The

[1] Federal Law from 01.04.2020. No. 69 "On the Protection and Promotion of Capital Investments in the Russian Federation". Consultant Plus. URL: https://www.consultant.ru (accessed on 20.02.2023).

[2] Federal Law from 28.06.2022. No. 226 "On Amendments to the Federal Law "On the Protection and Promotion of Capital Investments in the Russian Federation". Consultant Plus. URL: https://www.consultant.ru (accessed on 20.02.2023).

[3] Federal Law from 28.06.2022. No. 226 "On Amendments to the Federal Law "On the Protection and Promotion of Capital Investments in the Russian Federation". Consultant Plus. URL: https://www.consultant.ru (accessed on 20.02.2023).

WACC indicator is used in the Russian economy as a minimum return on invested capital (ROIC) in the calculation of tariffs for services of natural monopolies,[4] determined by the formula[5]:

$$NI = 0.3 \cdot (GBY + RPI_m) + 0.7 \cdot (GBY + RPE_m), \quad (1)$$

where GBY — risk-free rate proposed by the Ministry of Economic Development of the Russian Federation (equal to the average ruble government bonds yield), %; $RPI_м$ — risk premium for investing in debt liabilities (may not be less than 3%); $RPE_м$ — risk premium for investment in equity (defined by the regulatory authorities and not less than 6%).

This approach is acceptable in this case because the problem of limiting tariff growth is solved, and the profitability of regulated companies is ensured through budgetary subsidy.For companies, however, IP can only be considered cost-effective provided the following conditions are achieved:

$$IRR \succ WACC, \quad (2)$$

where IRR — internal rate of yield, characterizing the maximum yield of IP.

It contrasts an IP's minimum and maximum achievable yield, with an IP considered effective when its yield exceeds the minimum.

According to the SPIC paradigm, IP realization is the development of real estate objects (the results of the intellectual activity) and their subsequent commercialization (another positive impact). Therefore, for OIP, IP yield is the return in the form of the results of operational (current) activity on the capital invested in the project. Providing MROI at the WACC level for OIP is not cost-effective.

The discount rate is sufficiently justified by the cumulative method [2–4]. As noted by A. Komzolov et al. [2], its advantage is the ability to evaluate specific risks, which is especially important in changing circumstances, and its disadvantage is the expert approach to their evaluation, which reduces objectivity [2]. It should be noted that the cumulative method is used in Russia to calculate the discount rate for a public partner when implementing PPP-projects.[6] However, as N.V. Voronina and V.G. Zaretskaya note, taking all risk variables into account significantly increases the discount rate, making investment projects ineffective [5].

Other approaches to calculating the discount rate are less common. For example, A. Toleugazy recommends using *ROA* and

[4] Order of FAS of Russia from 14.10.2021. No. 1108/21 "On approval of the minimum rate of return on invested capital for the calculation of tariffs in the sphere of water supply and drainage using the return on investment capital created before (after) the transition to tariff regulation with the application of the return upon investment capital method for the long-term regulation period with the beginning of the long period of regulation in 2022" (registered with the Ministry of Justice of Russia from 28.12.2021. No. 66633). Consultant Plus. URL: https://www.consultant.ru (accessed on 20.02.2023). Decree of the Government of the Russian Federation from 29.12.2011. No. 1178 (ed. 01.09.2022) "On pricing in the field of regulated prices (tariffs) in the electricity industry" (together with "Basics of pricing for regulated price (tariffs) in electrical power industry", "Rules of state regulation (revision, application) of prices (targets) in electric power industry"). Consultant Plus. URL: https://www.consultant.ru (accessed on 20.02.2023). Order of FTS of Russia from 27.12.2013. No. 1746 (ed. 05.07.2022) "On approval of the Methodical Guidelines for the calculation of regulated tariffs in the sphere of water supply and sanitation" (registered in the Ministry of Justice of Russia from 25.02.2014. No. 31412). Consultant Plus. URL: https://www.consultant.ru (accessed on 20.02.2023). Order of the Ministry of Economic Development of Russia from 30.11.2015. No. 894 "On approval of the Methodology for evaluating the effectiveness of the public-private partnership project, the project of the municipal-private partnership and determining their comparative advantage" (registered in the Russian Justice Ministry from 30.12.2015. No. 40375). Consultant Plus. URL: https://www.consultant.ru (accessed on 20.02.2023).

[5] Order of FTS of Russia from 27.12.2013. No. 1746 (ed. 05.07.2022) "On approval of the Methodical Guidelines for the calculation of regulated tariffs in the sphere of water supply and sanitation" (registered in the Ministry of Justice of Russia from 25.02.2014. No. 31412). Consultant Plus. URL: https://www.consultant.ru (accessed on 20.02.2023).

[6] Order of the Ministry of Economic Development of Russia from 30.11.2015. No. 894 "On approval of the Methodology for evaluating the effectiveness of the public-private partnership project, the project of the municipal-private partnership and determining their comparative advantage" (registered in the Russian Justice Ministry from 30.12.2015. No. 40375). Consultant Plus. URL: https://www.consultant.ru (accessed on 20.02.2023).

ROE, indicators, assuming that they account for all of the risks associated with a specific type of activity, as opposed to the WACC, which is based on capital market interest rates [8]. D. Chai et al. [9] suggest the use of the multiplier method (P/E), and a number of authors — suggest the *ROCE* (*ROIC*) indicator [10]. For example, I. Yu. Lukasevich [11], K. Arjunan [12–15] consider that for commercial investment projects the return on invested capital should exceed its value (*ROIC* > *WACC*), so this indicator can be used as a discount rate. A similar position is shared by O.K.S. Emiola et al., considering *ROIC* as a criterion for ensuring the minimum required return when selecting projects into the portfolio [16].

It should be noted that the implementation of Federal Law No. 69 is intended to protect and promote specifically the invested capital, because under SPIC capital investments mean income OIP invested in IP at the pre-investment and investment stages, which can be both own and borrowed.[7] Therefore, the most reasonable for determining the minimum return on an investment project for the purposes of Federal Law No. 69 is the ROIC.

The *ROIC* indicator has the following advantages:

- other analytical tools, it indicates the results of the company's the main (operational) activities in their most basic form (*ROE*, *ROA*)[8];
- not only gives a more accurate measure of the return, but also allows to compare it with the cost of attracting capital (*WACC*) in order to evaluate the quality of the investment of the company [1];
- it has industry specificity. Investment projects implemented for operational activities can be considered to a certain extent as projects-analogue for organizations of the same industry/type of economic activity, then the indicator can characterize industry levels of return-on-investment projects and be considered within the SPIC as MROI. Under the SPIC, the MROI can be the median value of the ROIC calculated for each type of economic activity.

In the literature, two approaches can be identified to calculate the return on invested capital in the operational activities of the company:

1) formulas (3), (4) [17], (5) [18] based on operating profit:

$$ROIC = \frac{OI_t * (1-T)}{BVofIC_{t-1}}, \quad (3)$$

$$ROIC = \frac{OI_t * (1-T)}{ABVofIC}, \quad (4)$$

$$ROIC = \frac{NOPAT}{IC}, \quad (5)$$

where *ROIC* — return on invested capital; OI_t — operating income for the period t; T — corporate tax rate; $BVofIC_{t-1}$ — book value of invested capital; *ABVofIC* — average book value of invested capital; *NOPAT* — net operating profit after taxes; *IC* — invested capital.

A. Damodaran uses the following formula (6) to determine the invested capital:

$$IC = BV_D + BV_{Eq} - Cash, \quad (6)$$

where BV_D — book value of debt; BV_{Eq} — book value of equity; and *Cash*;

2) formulas (7) and (9) based on operational cash flow [17]:

$$CashROIC = \frac{OI_t * (1-T) + D\&A}{GFA + Non - cashWC}, \quad (7)$$

$$GFA = NFA + AD, \quad (8)$$

[7] Federal Law from 28.06.2022. No.226 "On Amendments to the Federal Law "On the Protection and Promotion of Capital Investments in the Russian Federation". Consultant Plus. URL: https://www.consultant.ru (accessed on 20.02.2023).

[8] The ROA lacks the necessary proportionality between the numerator and the denominator, the ROE incorporates the financing structure to the core activity.

where *CashROIC* — cash on invested capital; $D\&A$ — depreciation & amortization; *GFA* gross fixed assets; $Non-cashWC$ — cash working capital; *NFA* — net fixed assets; *AD* — accumulated depreciation;

$$CFROI = \frac{OCF_t}{ABVofIC}, \quad (9)$$

where *CFROI* — cash flow returns on investments; OCF_t — operating cash flow for the period t.

The differences between the formulas (7) and (9) are that, in one case, investments are taken into account and, in another, invested capital.

ALGORITM OF CALCULATION OF ROIC IN QUALITY OF MINIMAL RETURN OF AN INVESTMENT PROJECT

The algorithm for calculating the *ROIC* on accounting data is presented in *Fig. 1*.

Table 1 presents the results of the *ROIC* estimate by type of economic activity, which may include *SPICs* for IP implementation (*Table 1*).[9]

The composition of the organizations included in the sample was based on the following criteria:

- company is not included in the register of medium and small companies;
- company operating, not in the process of reorganization and liquidation;
- accounting statements (RAS) available in full for the period 2012–2021.

The selection comprised all Russian groups that matched the defined criteria.[10]

The dynamics of the *ROIC*, having the minimum and maximum value of the type of economic activity considered, are presented in *Fig. 2 and 3*.

The validity of the calculations carried out (the ratio between the return on invested capital of regulated and commercial entities) is confirmed, in particular, by the approved minimum rates of return-on-investment capital for the calculation of tariffs in the sphere of heat supply for the long-term period of regulation,[11] which after the transition to the regulation of the tariffs is 9.27%.

DISCUSSION OF SPIC ROIC-BASED GOVERNMENT SUPPORT MEASURES

All possible measures of state support of the *OIP* in implementation of the IP under the *SPIC* are presented in *Table 2*.

Given that the State support measures in Federal Law No. 69 are intended to protect and promote capital investments in order to guarantee the required level of return, we believe that their implementation is only justified in the conditions that follow:

$$ROIC_{av} \le ROIC_{med}, \quad (10)$$

where $ROIC_{av}$ — average annual ROIC for the SPIC's operational implementation of the IP cycle; $ROIC_{med}$ — median value of ROIC calculated for the given type of economic activity.

Otherwise, the formula (11) follows that IP is commercially effective:

$$ROIC_{av} \ge ROIC_{med}. \quad (11)$$

Therefore, the use of OIP of all state support measures under the concluded SPIC, provided for by Federal Law No. 69, will further increase its competitiveness, distorting the conditions of market competition in this type of economic activity.

[9] Federal Law from 28.06.2022. No. 226 "On Amendments to the Federal Law "On the Protection and Promotion of Capital Investments in the Russian Federation". Consultant Plus. URL: https://www.consultant.ru (accessed on 20.02.2023).

[10] Contractor Verification and Analysis Service Rusorofile. URL: https://www.rusprofile.ru/about (accessed on 12.03.2023).

[11] Decree of the Government of the Russian Federation from 29.12.2011. No. 1178 (ed. 01.09.2022) "On pricing in the field of regulated prices (tariffs) in the electricity industry" (together with "Basics of pricing for regulated price (tariffs) in electrical power industry", "Rules of state regulation (revision, application) of prices (targets) in electric power industry"). Consultant Plus. URL: https://www.consultant.ru (accessed on 20.02.2023)

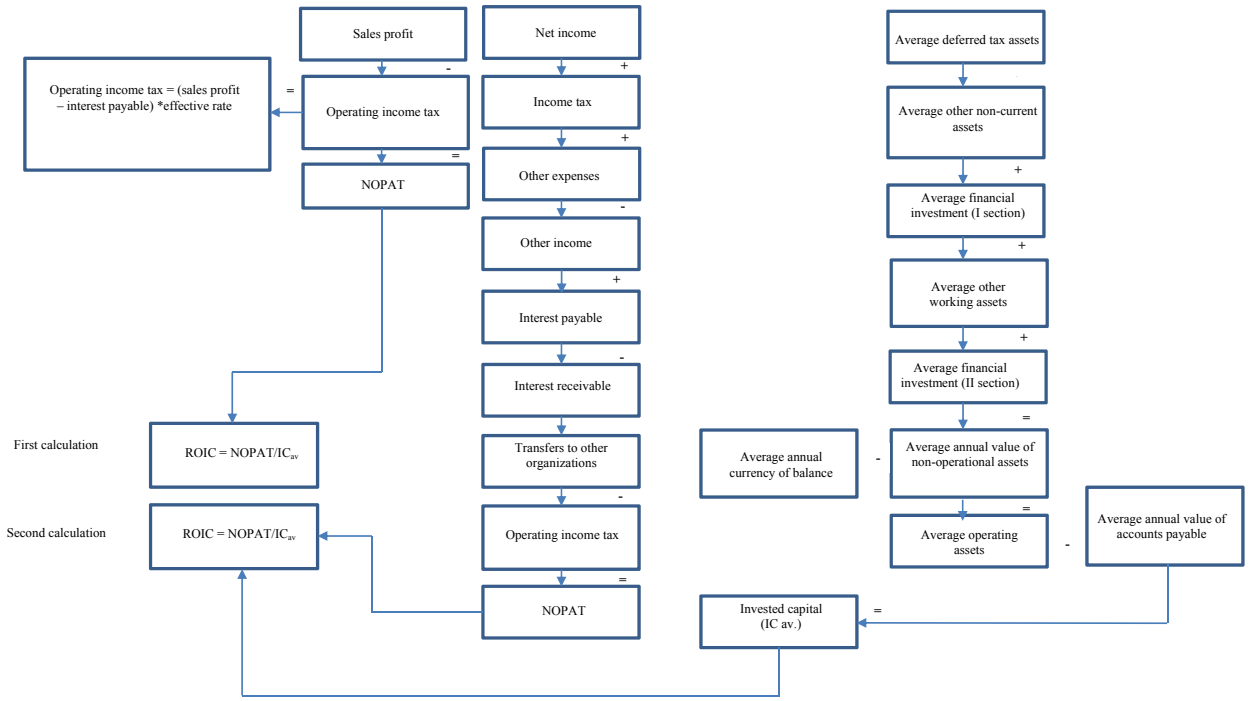

Fig. 1. **Algorithm for Calculating the ROIC Indicator According to Accounting Data**

Source: Compiled by the authors.

The mechanism for the use of the *ROIC* for the application of State support measures in the conclusion of the SPIC may be as follows:

1. Determination of $ROIC_{med}$ by type of economic activity in which IP can be implemented using SPIC.

Currently, Rosstat uses data from financial statements and the State Information Resource of the Accounting Statements of the FTS of the Russian Federation to calculate specific indicators of organizations' activity by type of economic activity in the section named "Financial Results and Effectiveness of the Activities of the Organizations" [in particular, the profitability of products (works, services); the return on assets of organizations, etc.].[12] Similarly, each year Rosstat can calculate the *ROIC*, which in a greater degree, compared to the calculated indicator of the profitability of assets of organizations, characterizes the industry performance of the organizations. The *ROIC* will thus include data for all organizations operating in the reporting year.

The calculation of $ROIC_{med}$ by type of economic activity can be carried out in the government information system "Investment"[13] (further — GIS-Investment) on the basis of Rosstat data and be available for use by all SPIC participants.

2. The calculation of OIP of the $ROIC_{av}$ at the date of conclusion of the SPIC.

Created in accordance with Federal Law No. 69 with the intention of providing information on IP[14] support procedures. A business plan and financial model for the deployed IP are introduced as part of the GIS-Investment process. For the formation of data on the determination of the $ROIC_{av}$ in GIS-Investment should integrate the data of the forecast accounting (financial) reporting on the planned to implement IP, which are usually part of the financial section

[12] Russian Statistical Yearbook. Rosstat. Moscow, 2022:342–345. URL: https://rosstat.gov.ru/storage/mediabank/Ejegodnik_2022.pdf (accessed on 26.03.2023).

[13] Federal Law from 28.06.2022. No. 226 "On Amendments to the Federal Law "On the Protection and Promotion of Capital Investments in the Russian Federation". Consultant Plus. URL: https://www.consultant.ru (accessed on 20.02.2023).

[14] Federal Law from 28.06.2022. No. 226 "On Amendments to the Federal Law "On the Protection and Promotion of Capital Investments in the Russian Federation". Consultant Plus. URL: https://www.consultant.ru (accessed on 20.02.2023).

Table 1

ROIC Data by Types of Economic Activity

No.	Russian Classifier	Number of organizations in the sample	Volume of observations*	Median value		
				NOPAT thous. rubles	IC thous. rubles	ROIC, %
1	Activity code 17.1 "Production of cellulose, wood, paper and cardboard"	39	390	258 698	1 100 153	18
2	Activity code 20.15 "Production of fertilizers and nitrogen compounds"	6	52	11 725 056	15 088 598	26
3	Activity code 20.2 "Production of pesticides and other agrochemical products"	12	120	37 590	22 360	30
4	Activity code 20.3 "Production of paints, varnishes and similar materials for coatings, printing inks and mastics"	13	130	126 028	273 989	26
5	Activity code 21.1 "Production of pharmaceutical substances"	6	60	61 163	384 215	21
6	Activity code 21.2 "Production of medicinal products and materials"	15	150	410 990	1 146 116	40
7	Activity code 61 "Telecommunications activities" (subsidiaries)	26	291	69 156	598 881	16
8	Activity code 61 "Telecommunications activities" (parent companies)	5		40 153 963	183 623 404	23
9	Activity code 62 "Computer software development, telecommunications consultancy and other related services"	11	88	22 483	41 974	12

Source: Author's calculations.

Note: * Number of ROIC indicators included in the median calculation.

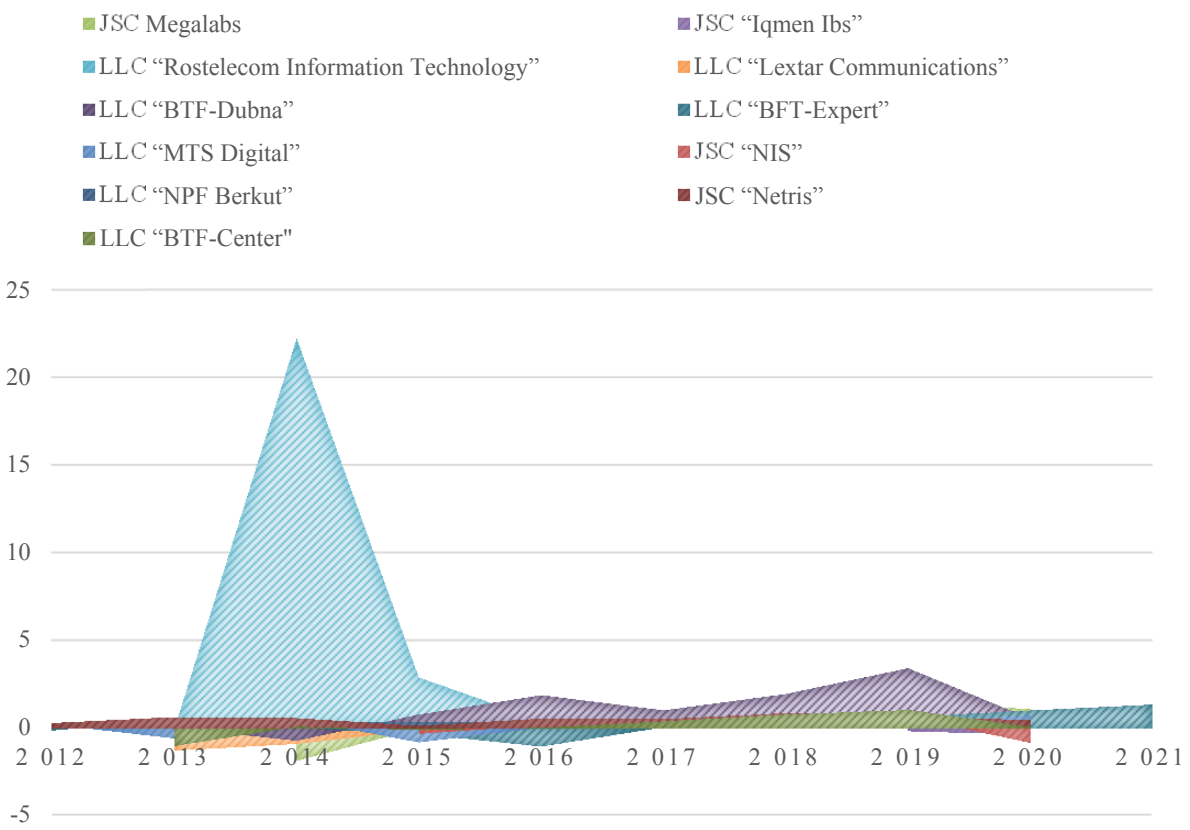

Fig. 2. **Dynamics of the *ROIC* Indicator for Companies Included in Russian Classifier of Types of Economic Activity, Code 62 (62.01 and 62.02)**

Source: Author's calculations.

of the business plan IP. On the day the SPIC concludes, this will forecast the value of $ROIC_{av}$ by IP.

3. SPIC determination of OIP support measures in accordance with the calculated $ROIC_{av}$.

In cases where the ratio between the forecast value of $ROIC_{av}$ by IP and $ROIC_{med}$ by the relevant type of economic activity corresponds to the formula (10), the OIP at the conclusion of the SPIC may be granted all state support measures provided for by Federal Law No. 69.

If the ratio between the forecast $ROIC_{av}$ for IP *и* $ROIC_{med}$ for the relevant type of economic activity corresponds to the formula (11), then it is economically reasonable for the OIP to provide only the support measures that are implemented within the framework of the investment activity of OIP associated with the implementation of the IP when concluding the *SPIC* (*Table 2*).

It should be noted that the Russian legislation provides the most measures of state support IP for special investment contracts (further — SIC), SPIC and concession agreements.

Since the SIC and the *SPIC* address practically similar conditions, it is advisable to use the State support measures applied in SIC (this mechanism has already demonstrated its effectiveness) as an additional state support measure to ensure the MROI implemented in the framework of *SPIC*. In total, these should be indirect financial measures, namely:

1) establishment of reduced tax rates, tax benefits and other preferences (including special procedure and payment periods, procedure of calculation of taxes) on the following types of tax: corporate income tax, corporate property tax, transport and land taxes;

2) for the purpose of computing corporate income tax, accelerated asset depreciation is

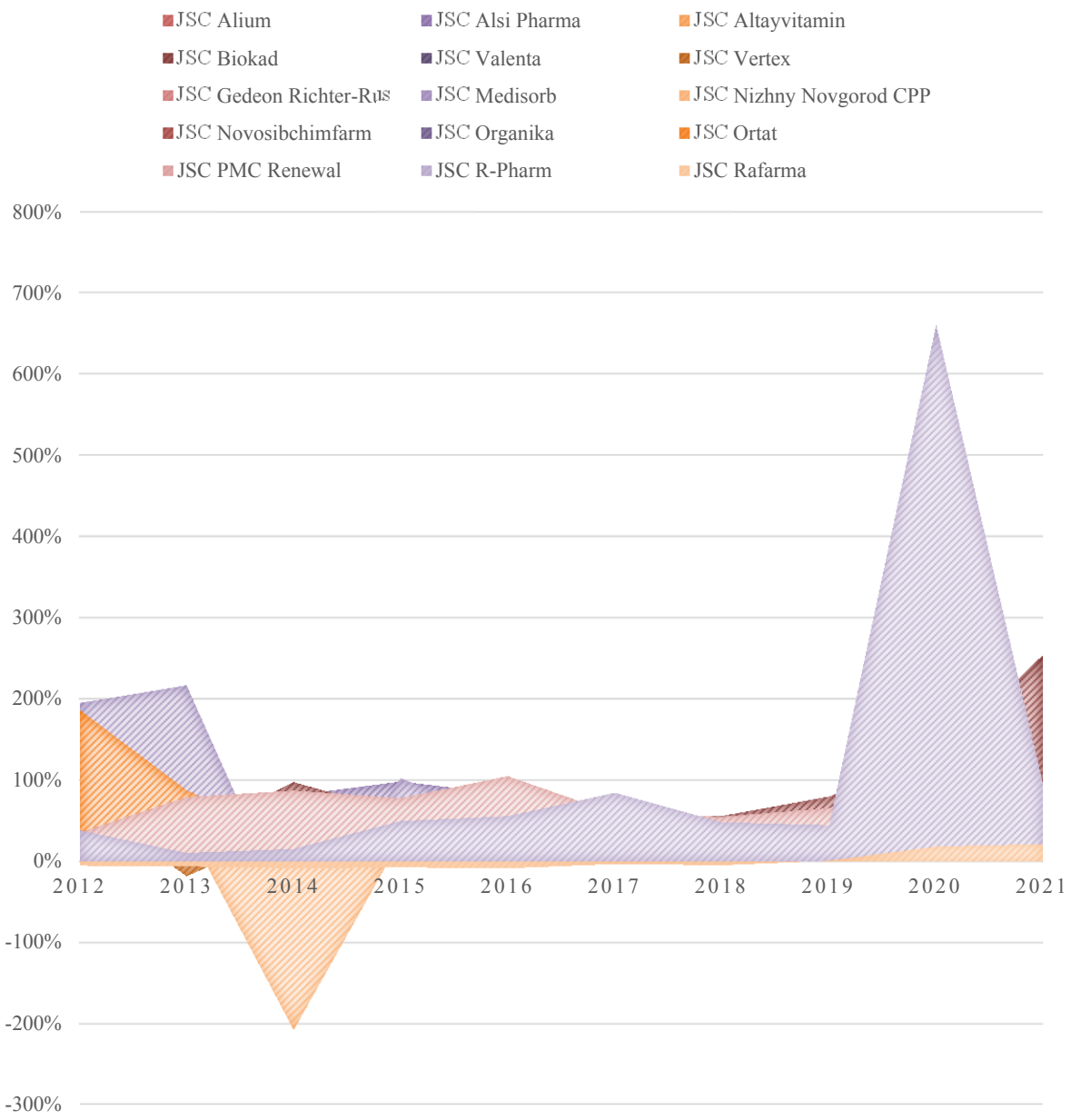

Fig. 3. **Dynamics of the *ROIC* Indicator For Companies Included in Russian Classifier of Types of Economic Activity, Code 21.2**

Source: Author's calculations.

used for SIC-produced items falling under the first through seventh deprecation groups;

3) use of the tax deduction by a private partner, regardless of the existence of a public partner, as initially provided by Federal Law No. 69. At present, this is possible if the *SPIC* party is the Russian Federation. For the OIP, this form of reimbursement would be more appropriate and transparent for tax monitoring within the framework of the *SPIC*.

CONCLUSION

The results of the study allow us to draw the following conclusions:

On the basis of the analysis of different approaches to the choice of discount rate, reflecting the minimum level of IP

Table 2

State Support Measures for the Organization Implementing the Project under the Agreement on the Protection and Support of Capital Investments

No.	State Support of the OIP			
	Measure	Period	Maximum volume	Type of activity within the implementation of the IP
1	Application of the stabilization clause in the following areas of legislation			
1.1	Customs	During the SPIC period	Unlimited	Operating
1.2	Budget	During the SPIC period, equal to the period of State support measure		Investment
1.3.	Land	Within three years of the SPIC's implementation date		Investment, operating
1.4	Urban planning			Investment
1.5	Ecologic			Operating
1.6	Forestry			Operating
2	Cost recovery in accordance with budget legislation	5 years for supporting infrastructure and IP, 10 years — for associated infrastructure	100% for associated, 50% — for providing infrastructure and IP, but not more than the amount of compulsory OIP payments associated with IP implementation	Investment, operating
3	Compensation for real damages OIP by law enforcement agencies	Not before the year after the year of the decision regarding reimbursement		Operating
4	Budget investment	Article 80 of the Budget Code		
5	State guarantees	Article 115.2 of the Budget Code, the Federal Law on the Federal Budget for the next financial year (next financial year and planned period), the decision of the Government of the Russian Federation and agreement on provision of state guarantee to Russia		
6	Features of the application of tax legislation	During the SPIC period, but not beyond the maximum permissible period of stabilization clause	Unlimited	Investment, operating

Source: Compiled by the authors.

returns, for OIPs (commercial organizations implementing IP within *SPIC*), it is proposed to use the *ROIC* indicator. Its advantage over other indicators (reflects the result of the main activity, takes into account the character of the industry, evaluates the quality of investments) is shown. The MROI is proposed to be the median value of the *ROIC* by type of economic activity.

A mechanism for calculating *ROIC* and its use for determining State support measures under the *SPIC* is proposed, including: an algorithm for the calculation of the *ROIC*; determining the median value of *ROIC* by type of economic activity as MROI; calculating the *ROIC* by IP; determination of State aid measures by their ratio (*ROIC* by type of economic activity and *ROIC* by IP). Testing of

the *ROIC* median calculation on the example of nine types of economic activity showed the reliability of the results obtained, which are consistent with the published return on invested capital for regulated activities.

As additional state support measures under the *SPIC*, it is proposed to enable OIP to apply tax deductions regardless of public partner status, as well as to use successful tax preferences (reduced tax rates, tax benefits, tax deductions) and accelerated depreciation of assets to calculate corporate income tax for the implementation of the SIC.

ACKNOWLEDGEMENTS

The article was prepared based on the results of research at the expense of budgetary funds under the state assignment to the Financial University for 2022 (VTK-GZ-PI-16-22). Financial University, Moscow, Russia.

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Conflicts of Interest Statement: The authors have no conflicts of interest to declare.

The article was submitted on 12.03.2023; revised on 27.04.2023 and accepted for publication on 26.05.2023. The authors read and approved the final version of the manuscript.