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Efficiency of Investment Project Evaluation in the Development of Innovative Industrial Activities

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ABSTRACT

The article discusses the issues of the effectiveness of investment projects, and their assessment when introducing innovations into the process. As you know, innovations, both domestic and foreign, allow you to first create the prerequisites for stabilizing the situation in the country's economy, and then for a radical increase in its efficiency. That is why the theoretical substantiation of the conceptual approach, the development of practical recommendations for solving problems, and strategies for the innovative development of industries are becoming an important factor in progress and, therefore, very relevant and significant research for practice. The efficiency of investment projects is analyzed based on the goals of the industry, methods are used and a calculation is given to increase the efficiency of implemented projects in the industry. In this regard, it is necessary to note the particular importance of timely identification and systematic use of reserves for the implementation of innovative activities, as well as for increasing innovative activity to achieve more efficient further activities of industries.

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1. INTRODUCTION

In the context of the globalization of the world economy, special attention is paid to the widespread introduction of innovations and the development of an effective mechanism for the gradual assessment of investment projects, the compliance of the calculations of investment projects with international standards, the introduction of a public-private partnership mechanism, and an increase in the influence of the attractiveness of securities on active investment (Hertz, 1979). Also, the effectiveness of investment projects is ensured through structural changes and the creation of economic institutions (Lin, 2011, Ivanter, 2017). In this regard, scientific research is being carried out to improve the efficiency of evaluating investment projects in the context of the development of innovative activities in industries. In Uzbekistan, large-scale reforms are being carried out in all spheres of the economy, where priority is given to the implementation of investment projects with the involvement of foreign and national investors, in particular, the deep introduction of market mechanisms, the creation of ample opportunities for the development of private property and entrepreneurship, the organization of modern industries and infrastructure. "... one of our priority tasks in the field of economics is to further increase the prestige of our country in the international arena, increase the volume of attracted investments, by strengthening the economic ties of Uzbekistan with other states and by widely promoting the economic opportunities of our country abroad. One of the most pressing issues is the substantiation of scientific proposals and practical recommendations aimed at increasing the efficiency of evaluating investment projects in the context of the development of innovative activities of industries and in the implementation of these tasks, the practical use of modern mechanisms.

In the world economy, "5,300 innovative projects have been announced in recent years" (Kim & Mauborgne, 2003). Over the past decade, the efficiency of industries around the world has been assessed in terms of volume, forms of investment, and the scale of innovation processes. According to the McKinsey Global Institute, "to maintain the expected rates of economic growth in the world during the 2016-2030 investments in economic infrastructure should amount to an average of 3.3 trillion. dollars per year (about 3.8% of world GDP)". In particular, "in 2019, restrictions on foreign investment were lifted in China, agreements worth over $ 64 billion were reached on investment projects". Saudi Arabia strives to effectively develop its economy through innovative projects by 2030. "Under the agreement to develop the first phase of $ 86 billion projects between China and Kuwait in February 2019, will further support foreign direct investment". According to expert estimates, by 2020 Japanese corporations can earn about $ 30 trillion. yen from sales of infrastructure projects in the international market (Тимонина, 2017). The stability and competitiveness of the economy are achieved only by a country that pursues an active investment and innovation policy. Therefore, it can be argued that if the investment is the driver of the economy, then innovation is the force of its movement.

The success of investment projects and their evaluation while adding innovations into the process are discussed in this article. As you may be aware, both local and foreign innovations enable you to first provide the groundwork for stabilizing the country's economy, and subsequently for a dramatic rise in its efficiency. As a result, the theoretical justification of a conceptual approach, the development of practical recommendations for solving problems, and strategies for the innovative development of businesses are becoming increasingly important factors in progress, and thus very relevant and important research for practice. The effectiveness of investment projects is evaluated based on the industry's aims and methodologies employed. A calculation is provided to improve the efficiency of the industry's

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executed projects. In this regard, it is critical to emphasize the necessity of timely identification and systematic use of reserves for the execution of new activities, as well as for growing inventive activity to achieve more efficient subsequent industry activities.

2. LITERATURE REVIEW

In the research process were considered a variety of international interpretations of the effectiveness of investment projects, are distributed according to two approaches. Representatives of the first approach interpret the effectiveness of the project as the ratio of the result and costs. In this approach, efficiency is presented as the relative effect and effectiveness of the process, as well as the ratio of the result to the costs (Новоскольцева, Ю Ю., 2016). Theoretical recommendations consider the effectiveness of investment projects as a category reflecting the compliance of an investment project with the goals and interests of investors or owners of an industry (Usboko, 2018). When modernizing a manufacturing industry, it is important not only to update but also to understand what the results will be and what the effect and profit will be (Новоскольцева, Ю Ю., 2016). When analyzing the interpretation of our domestic researchers, the following was determined: an "investment project" is widely used in economic theory and practice, and it is interpreted in two different ways, such as the implementation of any set of measures in obtaining the desired results is understood as work, activity or event. In these cases, the terms "economic activity, set of work, project" (Junkes *et al*., 2015). Floricel & St-Pierre (2003) refer to these concepts as a system of legal management and financial reporting or a set of documents describing the system of such actions. **Table 1** contains the definitions of the researchers of the first approach.

Table 1. Interpretations of the effectiveness of the project by representatives of the first approach.

	Authors	Definitions
1.	Romanova O.A., Ratner N.M.	The effectiveness of the project as a quantitative comparison of costs and their results.
2.	Bogatin Yu.V., Shvandar V.A.	The effectiveness of an investment project is a correct comparison of the costs incurred with the results obtained.
3.	V.V. Kovalev	The efficiency of an investment project is a relative indicator that measures the effect obtained with the costs of resources used to achieve this effect (Новоскольцева, Ю Ю., 2016).
4.	Asaul A.N.	Efficiency is a comparative assessment of the result of a construction company, reflecting not only its ability to ensure economic growth but also its ability to stimulate progressive structural and qualitative changes (Асаул, 2013).
5.	Raizberg B.A., Lozovsky L.Sh., Starodubtseva E.B.	Efficiency is the relative effect, the effectiveness of the process, as the ratio of the result to the costs that caused it, provided it was obtained (Райзберг *et al*., 1999).
6.	Galperin V.M., Ignatiev S.M., Morgunov V.I.	Pareto efficiency - the level of organization of the economy at which: it is no longer possible to make any changes in favor of one person or a group of persons without worsening the position of another person or a group of persons; input resources are used most efficiently, and the result provides the highest possible utility.

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Proponents of the second approach consider the effectiveness of an investment project not only from an economic point of view but also from the point of view of achieving a social or another effect for the industry (**Table 2**).

Table 2. Interpretations of the effectiveness of the project by representatives of the second approach.

No	Authors	Definitions
1.	Khachaturova T.S.	Efficiency is the ratio of the effect obtained (social or economic) and the costs required to achieve it.
2.	Vyvarets A.D., Distergeft L.V.	The effectiveness of an investment project is assessed by the degree to which its goal has been achieved (Новоскольцева, Ю Ю., 2016).
3.	Vasilenok K.V.	The effectiveness of the project is a category that reflects the compliance of the costs and results of an innovative project with the interests and goals of the participants, and the interests of the state and the population are also taken into account (Коссов В.В., & Лившиц В.Н., 2000)
4.	Cyril and Methodius Encyclopedia	Efficiency is the ability to have an effect, to have an effect.
5.	Panina I.V.	Organizational performance is a complex concept that is defined in terms of the effectiveness of the constituent processes and shows how well the organization uses its resources to produce acceptable goods and services, compared with a set norm, goal, or standard (Панина И.В., 2016).
6.	I.V.Kovrizhnykh	Efficiency is an integral and structured characteristic of an organization's activities, comprehensively reflecting the success of this activity, its compliance with the mission, goals, and objectives of the organization (Коврижных, 2006).

In general, approaches to determining the effectiveness of investments can be divided according to the final goal or the effect of investments, type of data, approach to determining costs, level of the economic system, taking into account the time factor, the final goal of the assessment, and the form of assessment. According to the evaluated results, the following types of efficiency are distinguished from investment (Usman & Mikhailova, 2020):

(i) financial efficiency, taking into account the financial consequences of investment activities for its direct participants (profit, income, profitability);
(ii) budgetary efficiency, reflecting the financial implications of investment activities for national, regional or local budgets;
(iii) environmental efficiency of the project, reflecting the consequences of investment activities in terms of improving the environmental situation;
(iv) social efficiency, reflecting the social consequences of investment activities;
(v) production efficiency, reflecting the consequences of investment activities on the dynamics of natural production indicators. An example is the growth of production at certain volumes of costs for the implementation of the project, both in physical terms and in value;
(vi) economic efficiency, taking into account the results and costs that can be measured by value. In this case, we consider, for example, an increase in the cost of production as a result of the investment.

Significant views on the assessment of investment projects have been comprehensive research and the author proposed a new definition based on the findings: “The effectiveness

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of an investment project is a combination of economic (Žižlavský, 2014), social and innovative parameters that reflect the level of achievement of goals."

The current stage of world development creates many opportunities in the field of investment projects. Based on this, the need to analyze profit-making projects is deduced. An investor or an industry manager must be able to evaluate investment projects, allowing them to make effective decisions in their effectiveness. The effectiveness of investment conclusions is largely determined by the quality of the system for selecting investment projects for execution, and its adaptation to the factors of economic functioning in the future. To solve the problems of evaluating the effectiveness of an investment project, or at least to identify the effectiveness of partial indicators at the first moment, different methods, models, recommendations, and approaches are used (Shaturaev & Jumaev, 2019). The main indicator of the investment project is the growth of production efficiency and the maximization of profit from invested capital. In addition, the technological modernization of the basic industries also requires the required amount of capital.

To increase the competitiveness of local industries in the country, measures are being taken to expand production through the reconstruction and modernization of production, the introduction of innovative technologies, and the development of new types of products. In conditions of limited financial and material resources, innovative decisions are made after a deep analysis of the investment project. When evaluating and selecting investment projects, investors are faced with the problem of prioritizing the profitability and riskiness of these projects (Shaturaev & Jumaev, 2019). The choice of a project, based on its profitability, significantly increases the risks of financial and economic activities and reduces the reliability of achieving the planned financial result. On the other hand, attempts to reduce the risks of investment projects may not allow achieving the desired level of profitability. Therefore, for this purpose, it is vital to develop integrated multicriteria indicators (Glushchenko, 2021). It was revealed that the traditional method of evaluating the effectiveness of investment projects in the analysis does not fully take into account the strategic interests of industries. It is necessary to take into account various factors, in particular the impact of innovation on an investment project and a qualitative assessment of its effectiveness. Innovative efficiency makes it possible to comprehensively and accurately assess the economic efficiency of the project when making management decisions in the industry (see **Figure 1**).

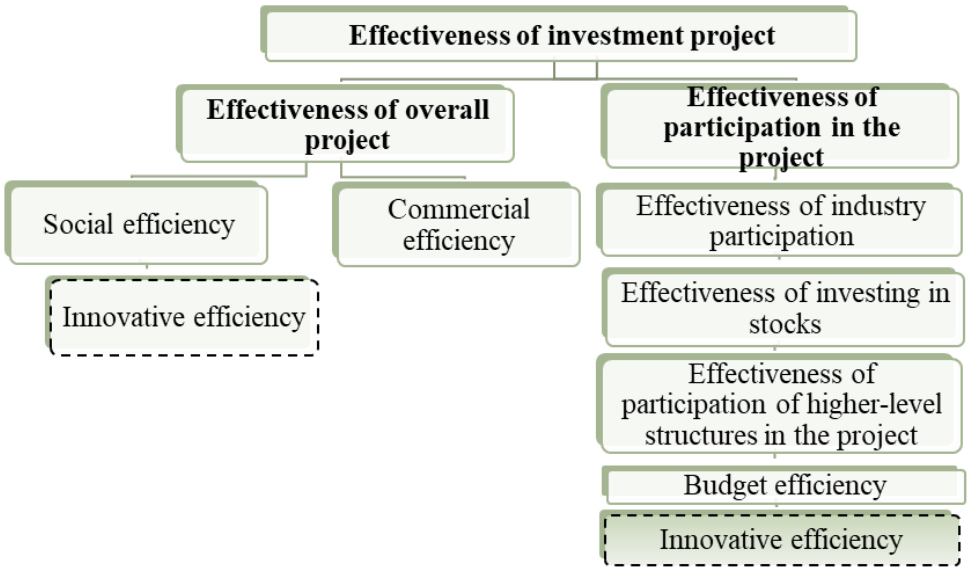

Figure 1. Classification of types of investment project efficiency.

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The economic efficiency of the project is directly related to the issues of a comprehensive assessment of investments. The study of the effectiveness of the project as a whole is based on the scientific aspects of its investment attractiveness, and its ability to demonstrate the commercial viability of the project to potential investors. The need to assess the overall effectiveness of the project requires that the factors traditionally influencing the activities of the industry take into account the interests of internal and external stakeholders. Also, important factors of the effectiveness of participation in the project are the effectiveness of the company's participation, the effectiveness of investing in shares, the effectiveness of the participation of higher-level structures in the project, and budget efficiency (see **Figure 2**).

The research for evaluating investment projects examined the methods used by international financial institutions and foreign companies: The World Bank; European Bank for Reconstruction and Development (EBRD); Goldman, Sachs & Co.; Ernst & Young; United Nations Industrial Development Organization (UNIDO) and Little-Mirrlis. In world practice, the method for evaluating the effectiveness of investment projects proposed by the World Bank Group is widely used.

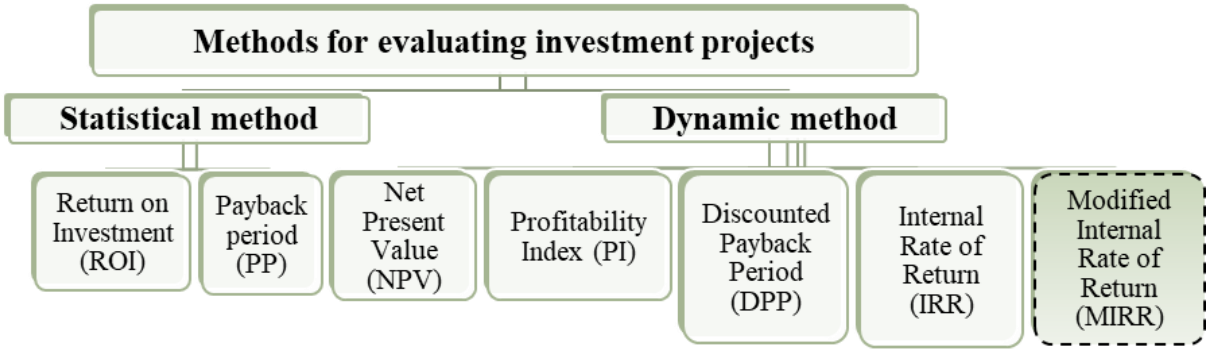

Figure 2. The main methods for assessing the effectiveness of investment projects (Новоскольцева, Ю Ю., 2016).

In the statistical method for evaluating the effectiveness of investment projects, two indicators are calculated. Including:

(i) Return on investment indicator – ROI (Черников А.Ю., 2013) (see Equation[1]):

$$ROI = \frac{I-C}{C} * 100\% \quad (1)$$

where I is the revenue and C is the expenses.

(ii) The return on investment (PP) is an important indicator that provides a simplified way to know how long it will take to recover the initial costs and is calculated using the following Equation [2]:

$$PP = \frac{IC}{P+P_1} \quad (2)$$

where P is the average cash receipts, IC is the initial investment, and P_1 is the period from the start of the project implementation to reaching the design capacity. The traditional method of efficiency of investment projects is assessed dynamically according to four indicators.

(iii) Net cash flow value (NPV) - determines the project's economic efficiency and compares several investment objects with each other (see Equation [3]) (Савчук В.П., 1998):

$$NPV = \sum_{t=1}^{n} \frac{CF_t}{(1+r)^t} - IC \quad (3)$$

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where CF is the discounted cash flow, t is the year of calculation, r is the discount rate, and n is the discount period.

(iv) The profitability index (PI) is the main method when deciding on the choice of an investment project, which focuses on the speed with which the initial investment made in the project will be reimbursed by subsequent cash flows (see Equation [4]):

$$PI = \frac{NPV}{IC} \quad (4)$$

(v) Indicator of the discounted payback period of the investment (DPP). It eliminates the disadvantage of the static method of the payback period and takes into account the value of money over time (see Equation [5]) (Непомнящий Е.Г., 2003):

$$DPP = \sum_{t=1}^{n} \frac{CF_t}{(1+r)^t} > IC \quad (5)$$

(vi) The internal rate of return (IRR) - shows the loan rate at which there will be no investment loss, all cash inflows, and outflows in the amount will be equal to zero. In this case, the investment will be recouped by future cash flows from the project (see Equation [6]):

$$NPV = -IC + \sum_{t=1}^{n} \frac{CF_t}{(1+IRR)^t} = 0 \quad (6)$$

(vii) In world practice, among the dynamic methods for evaluating the effectiveness of the above investment projects, in some cases, they began to use a modified internal rate of return (MIRR). The Modified Internal Rate of Return (MIRR) is the rate of return on investment adjusted for the reinvestment rate and is calculated using the following Equation [7].

$$MIRR = \sqrt[N]{\frac{\sum_i^N CF_i^+ (1+WACC)^{N-i}}{\sum_i^N \frac{CF_i^-}{(1+r)^i}}} \quad (7)$$

where CF_i^+ is the income of the i-th period, CF_i^- is the costs (investments) of the i-th period, WACC is the weighted average cost of capital, r is the discount rate, and N is the duration of the project. The need to use this methodology when assessing the effectiveness of investments in the innovative development of industries in Uzbekistan is justified. The research shows that each of the listed indicators separately makes it possible to evaluate an investment project to one degree or another, complementing the result, and therefore it is recommended to use all the listed indicators for a comprehensive assessment of the effectiveness of investment projects. Each indicator is used based on the objectives of evaluating investment projects.

3. METHODS

In the article, using methods of observation, generalization, grouping, comparative analysis, systematic and structural analysis, synthesis, induction and deduction, scientific abstraction, statistical analysis, and economic and mathematical methods, the effectiveness of the project is calculated. Further, the analysis of the state of efficiency of investment projects, which are most adapted to the conditions of innovative activities of industries, is considered in detail. The object of the analysis is the joint-stock company “Uzmetkombinat”, which is the leading ferrous metallurgy industry in the republic (see **Table 3**).

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Table 3. The main indicators of JSC "Uzmetkombinat" required when evaluating projects, billion UZS.

No	Product name	Unit rev.	Period					Ratio 2015-2019	
			2015	2016	2017	2018	2019	Unit of change	%
1.	Production of products	bln UZS	1088.8	1153.8	1584.1	5749.4	5531.3	4442.5	5.1
2.	The growth rate compared to the previous period at comparable prices	%	101.3	103.1	104.2	144.1	101.2	-0.1	0.9
3.	Production of rolled metal	Thous. tons	722.0	727.3	733.4	1060.7	1067.8	345.8	1.5
	incl. grinding balls		180.0	185.0	195.1	235.2	188.1	8.1	1.0
4.	Volume of investment	Thous. dollars	26864	27059	34380	28619	52413	25546	2.0
5.	Number of new jobs	units	102	102	125	204	72	-30	0.7

4. RESULTS AND DISCUSSION

According to analysis, JSC "Uzmetkombinat" occupies a dominant position in the domestic market in terms of the potential for creating new industries based on manufactured products. In Table 4, the dynamics of the main indicators of JSC "Uzmetkombinat" are considered. Analysis of JSC "Uzmetkombinat" for 2015-2019. shows an increase in production by 4442.5 billion sums (5.1 times), the growth rate compared to the previous period incomparable prices increased by 0.9%. The statistics of rolled metal production indicate that for 2015-2018 there was no significant change, but by 2019 there was a significant increase of 345 thousand tons. Indicators of the volume of investments show an increase of 7,516 billion sums compared to 2015, but in the next year, the dynamics decreased.

This was influenced by the introduction of investment projects. Greater confidence in the economy raises the rate of saving and investment. Macroeconomic stability, balanced trade, and a balanced government budget provide an economic foundation where the private sector can make rational decisions. A positive real interest rate, and open and liberal cooperation between the private and public sectors are very important. In this regard, we analyzed the growth of "Uzmetkombinat" JSC in the ratio of its funds to the number of new jobs created, one of the factors that determine the effectiveness of the investment project.

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Table 4. Analysis of the growth of JSC "Uzmetkombinat" in the ratio of own funds to the number of new jobs created.

Dependent variable: LOG (Growth)				
Method: Least Squares				
Periods: 2015-2019				
Included observations: 20				
Variable	Coefficient	Standard error	t-statis	Probability
C	-146.4286	16.1662	-9.0576	0.0000
LOG (Investment / work place)	8.3037	0.7838	10.5941	0.0000
R-squared	0.8617	Mean dependent var		24.8260
Adjusted R-squared	0.8541	S.D. dependent var		2.3401
S.E. of regression	0.8938	Akaike info criterion		2.7080
Sum squared resid	14.381	Schwarz criterion		2.8076
Log-likelihood	-25.080	Hannan-Quinn criteria.		2.7275
F-statistic	112.2355	Durbin-Watson stat		0.4086
Prob(F-statistic)	0.0000			

According to the calculations, the formula is represented as follows:

LOG (GROWTH) = -146.4286+ 8.3037*LOG (INVESTMENT/LABOUR)

Analysis of **Table 5** shows that the growth rate of JSC "Uzmetkombinat" in the ratio of its funds to the number of new jobs created is 8.3037 (see **Figure 3**).

The conclusion from this analysis is that the contribution of the plant's funds for the initial cost of investment projects is beneficial. Investment projects have always been the main moving sources of joint-stock companies. Based on the above, we want to consider three investment projects implemented by "Uzmetkombinat" JSC. **Table 6** is considered three investment projects implemented in "Uzmetkombinat" JSC from 2015 to the present time.

Each investment project undergoes a certain comprehensive analysis before its implementation. Based on the above, for the first project A for 2015, the US dollar exchange rate was 2,422 sums, the initial total cost of the project was 59.9 million US dollars, this in national currency was 87,434.2 million sums. The final estimate of the project (for 2019, 1 half of the year) - is 189.3 million sums. According to the second project "Organization of wire rod production at mill "300" of section rolling shop No.2 with the installation of a wire block" of "Uzmetkombinat" JSC, the production volume is 100.0 thousand tons per year, the initial total cost of the project is 19.9 million US dollars and the final estimate for the project (for 2019) amounted to 137,728.0 million sums. According to the third project "Production of import-substituting products - hot-rolled sheet metal in rolls" in "Uzmetkombinat" JSC for 2019. Until now, the initial amount was 613.01 million US dollars, while the volume of production per year is 1.0 million tons, I would like to note that this production will employ 406 people according to the plan. Pistor (2013) The final estimate for the project for 2019 is 5,537.1 million sums. According to the investment projects being implemented, the dynamic and statistical indicators of "Project A" of "Uzmetkombinat" JSC were calculated.

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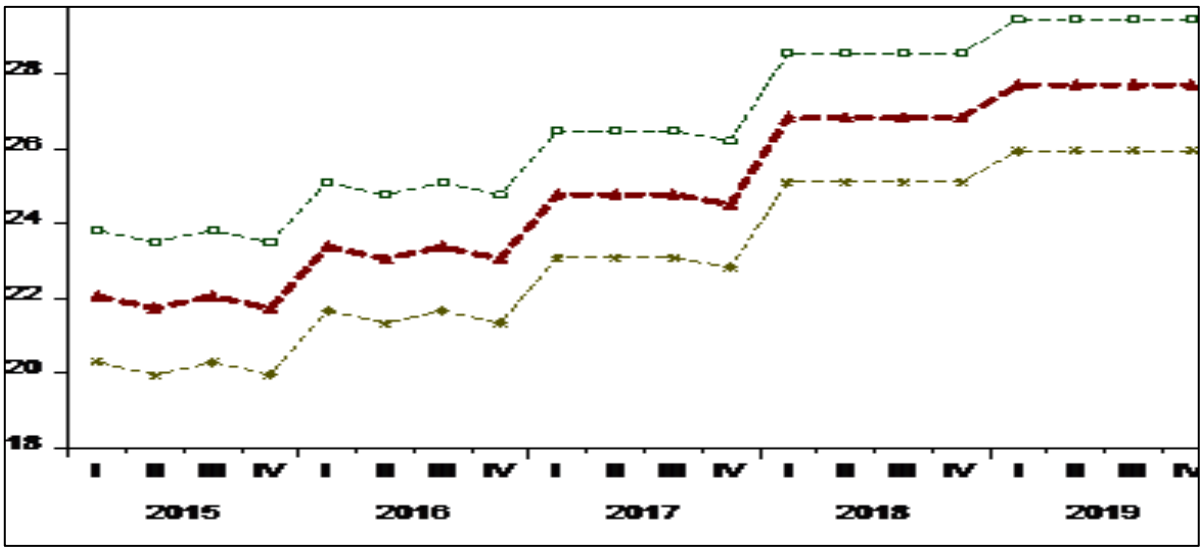

Figure 3. Dynamics of growth of JSC "Uzmetkombinat" in the ratio of own funds to the number of new jobs created.

Table 5. Estimates for investment projects implemented "Uzmetkombinat" JSC, thousand USD.

No	Projects	2015-2017	2016-2018	2019 – UN
		Estimated projects		
	Brief description of the project	**" Organization of production of ferrosilicon and ferrosilokomarganz" (" Project A")**	**" Organization of wire rod production at Mill 300 of Section Rolling Shop No. 2 with the installation of a wire block" (" Project B")**	**" Production of import-substituting products - hot-rolled sheet in coils" (" Project C")**
1.	Volume of production (in a year)	15.0 and 10.0 thousand tons	100.0 thousand tons	1.0 million tons
2.	**Initial total project cost**	59940	19900	613010
	including the plant's funds	46400	4700	122600
	Borrowed funds	-	-	490410
	the loan from Eximbank of Korea	11475	-	-
	loan Ipoteka-bank	2065	5200	-
	loan FRRU (China)		10000	-
3.	Estimated number of employees	188 people	58 people	406 people
4.	**The final estimate for the project (for 2019)**	18578	13513	543302

* The established exchange rate of the dollar (US) by the Central Bank of the Republic of Uzbekistan for 2015 is 2422 sums, in 2016 - 2809 sums, in 2017 - 3231 sums, in 2018 - 8120 sums, in 2019 - 8384 sums.

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Table 6. General information on project A, thousand USA.

No	Name	"Project A"			
		Ferrosilicon		Ferrosilicomanganese	
1.	Start-up investment	59940			
2.	Cost price	1,065		1,675	
3.	Costs	0,170		0,170	
4.	Purchase price from import	1,4		1,66	
5.	Profit	0,505		0,155	
	Period (years)	**2018**	**2019-2030**	**2018**	**2019-2030**
6.	Volume of production	10	15	0,903	10
7.	Free cash flow	5 050	7 575	140	1 550
8.	Revenue	14 000	21 000	1 499	16 600
9.	Cost price	8 950	1 359, 3	13425	15 050

Based on this information, we calculated the efficiency indicators of dynamic and statistical methods for the project, which are set out in **Table 7**. The conducted research suggests the need to strive to increase the rate of profit calculation to accelerate the payback period of the project.

Table 7. Performance indicators of dynamic and statistical methods of "Project A", thousand US dollars.

No	Name	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Indicators of the effectiveness of the statistical method														
1.	Net present value (NPV)	4 718	7 541	6 855	6 232	5 665	5 150	4 682	4 256	3 869	3 518	3 198	2 907	2 643
2.	Return on investment (ROI)	0.09	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
3.	Payback period (PP)	-54750	-45625	-36500	-27375	-18250	-9125	0	9125	18250	27375	36500	45625	54750
Indicators of the effectiveness of the dynamic method														
4.	Profitability Index (PI)	1.87												
5.	Discounted Payback Period (DPP)	7.47												
6.	Internal Rate of Return (IRR)	10.4%												
7.	Modified Internal Rate of Return (MIRR)	10.18%												

* Discount rate -10%

Figure 4 shows the analysis of the estimated rate of return (ROI) for 2018 equal to 0.09 for subsequent years, derived at 1.15, respectively, in terms of production volume 1903/2500. For the indicator of the calculated profit rate to increase, it is necessary to increase the volume of production, to accelerate the pace of work by modernizing the technology(Lane, 1999).

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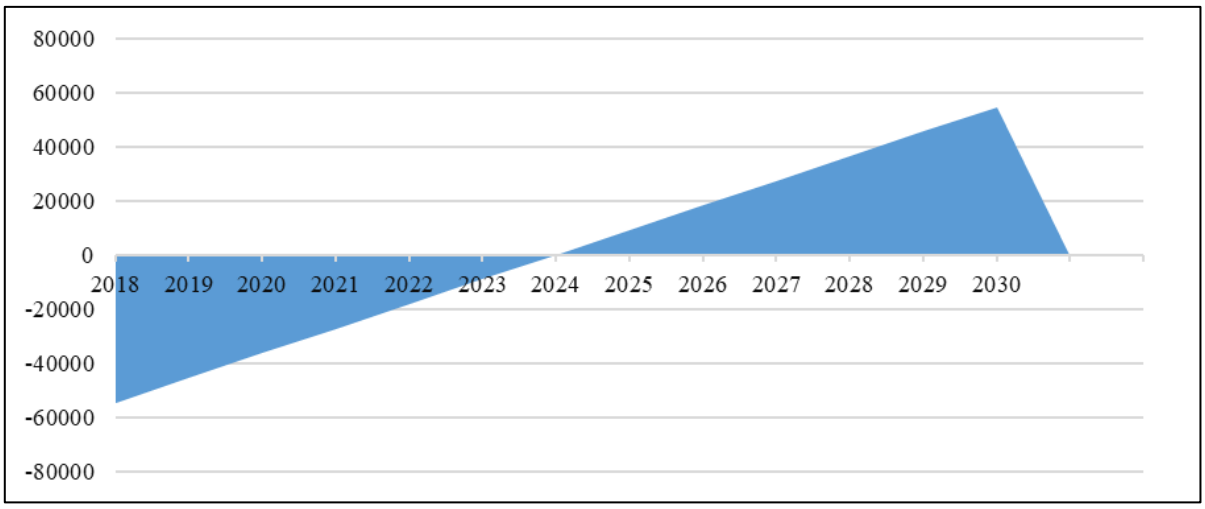

Figure 4. Correlation of effectiveness indicators of "Project A".

Further, the author analyzed the ratio of efficiency coefficients concerning the calculated rate of return for project A (see **Table 8**). The analysis of Table 8 shows that the coefficients used, such as the project payback and the net present value, affect the indicator of the calculated rate of return of "Project A" and this indicator reflects the efficiency equal to 9.4292. Consequently, project payback rates and net present value have a positive effect on the efficiency of the "Project A" rate of return. All other projects of JSC "Uzmetkombinat" can be calculated in this way. **Figure 5** shows the ratio of the indicators of the statistical method for the calculated project, such as profitability index (PI), discounted payback period (DPP), internal rate of return (IRR), and modified internal rate of return (MIRR).

Table 8. Analysis of the ratio of efficiency ratios concerning the estimated rate of return of "Project A", thousand US dollars.

Dependent variable: ROI				
Method: Least Squares, Included observations: 13				
Variable	**Coefficient**	**Standard error**	**t-statistics**	**Probability**
PP	9.4292	8.2147	11.4783	4.4322
NPV	1.9179	1.9049	10.0686	1.4929
R-squared	0.9294	Mean dependent var		0.1453
Adjusted R-squared	0.9153	S.D. dependent var		0.0166
S.E. of regression	0.0048	Durbin-Watson stat		0.3380
Sum squared resid	0.0002	Prob(F-statistic)		1.7471
F-statistic	65.8764			

According to the calculations, the formula is represented as follows:

ROI = 9.4292-07*PP + 1.9179-05*NPV

The main point in the statistical method is that there are two problems in the internal rate of return (IRR), one is a purely mathematical problem, if the project's cash flows are not stable, then, according to the assumption, IRR can change in the resulting range and mislead the investor, and in traditional cash flow, IRR does not change.

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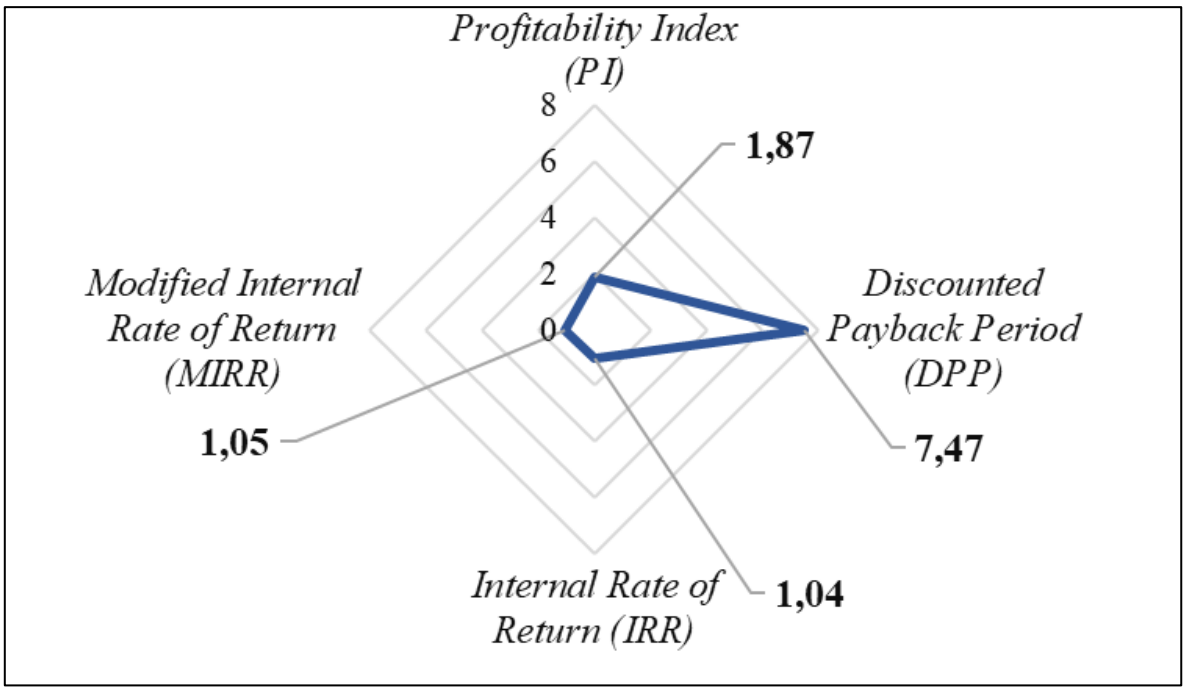

Figure 5. The ratio of the effectiveness of indicators of the statistical method "Project A".

5. CONCLUSION

The conclusion of this study is

(i) The author's definition was developed through a critical study of the approaches and views of foreign and domestic economists, practitioners in evaluating investment projects: "The effectiveness of an investment project is a combination of economic, social and innovative parameters that assess the level of achievement of the set goals."

(ii) In the context of the development of innovative activities of industries, it is advisable to widely use statistical and dynamic methods that help make the right decisions in improving the efficiency of evaluating investment projects. As a result of the study, the factors influencing the evaluation of projects were identified and they were systematized. The expediency of using a modified internal rate of return that accurately reflects the cost and profitability of the project has been substantiated.

(iii) The positive results of increasing the efficiency of evaluating investment projects using loans, loans, grants, credit lines, and other forms of project financing, as well as providing government guarantees based on additional sources of financing using the mechanism of public-private partnership in the development of innovative activities, are summarized.

(iv) The industry is characterized by an intensive growth of innovation and investment indicators by assessing the efficiency of investments through targeted financing of innovative projects to increase the economic efficiency of the production process.

(v) The idea of the MIRR indicator is that this indicator calculates available funds at the discount rate and is between the IRR rate and the discount rate, which does not give a misconception. MIRR calculates the objective profitability of an investment project, and IRR calculates the internal ability to generate income from the project. Consequently,

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the MIRR indicator shows updated information on the effectiveness of the investment project.

Investments and innovations serve to increase the profitability of the industry and expand production, as well as reduce variable and fixed costs, and reduce the cost of finished products. The productivity ratio correlates with risk and is a necessary indicator for investors and owners when choosing projects. Based on the international experience of expert assessment of the effectiveness of investment projects and taking into account their concepts, in further analysis of the effectiveness of investment projects in Uzbekistan, it is advisable to pay attention to the following factors. One of the best methods for evaluating investment projects, widely used in advanced foreign practice, is the "Balanced Score Card", which is based on the analysis of the effectiveness of the industry strategic management system in terms of a set of financial, investment, marketing, and other specific indicators. This system connects the points between the core values of the common elements of the strategy, such as mission, goal, and vision of the future.

Analysis of investment projects should be carried out in the following areas. In particular, the evaluation of the project after the completion of each phase of the project, which is used in modern models of project management: summing up the results of the phase; It is advisable to apply the positive experience gained at the next stage of the project, to begin the appraisal of the project before its implementation (appraisal of the project) and the evaluation of the project, avoiding these shortcomings and errors at the next stage of the project, to conclude the negative consequences. In conclusion, we note that factors such as modernization, diversification, differentiation, widespread use of corporate governance principles, and employee motivation, play an important role in increasing the efficiency of investment projects in the development of innovative activities of industries. At the same time, promising investment projects will remain relevant in adapting the industry to modern market mechanisms.

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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