

METHODS FOR ASSESSING THE EFFECTIVENESS OF INVESTMENT ACTIVITIES IN AN ENTERPRISE

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Abstract

This article analyzes the issues of assessing the effectiveness of the investment activity of an organization, as well as theoretical and practical methods of its determination. The efficiency of investment activities is the process of ensuring long-term economic growth, successful implementation of new projects and creating opportunities to increase competitiveness in the market through the rational use of financial and economic resources. The article also examines the role of state policy in improving the efficiency of investment activities, the influence of domestic and foreign participants - domestic and foreign investors, international financial institutions and other financial sources. At the same time, an analytical approach is expressed to the advanced ideas and scientific proposals of economists for assessing the effectiveness of investments. The article concludes with practical recommendations for the effective assessment and development of investment activities of organizations. This study is a useful resource for undergraduate and graduate students in the field of economics and management, moreover, serves to expand their knowledge and skills in the field of investment analysis.

Keywords

organization, investment activity, welfare, financial resources, financial analysis, investments, attraction of investments, formula, economic development, economic theories.

Introduction

Issues related to the assessment and improvement of an organization's investment activity are also of great importance. Currently, existing challenges in the effective monitoring of investment projects and in the evaluation of their

financial and cost efficiency have a negative impact on the activation of investment activities, the implementation of large-scale infrastructure projects, and the rational use of investment resources.

Analysis of thematic review

The problems of organization of assessment and monitoring of the effectiveness of investment activities of organizations are constant focus of domestic and foreign economic scientists. Such problems are reflected in the works of A. Smith, D. Ricardo, J. Keynes, A. Marshall, P. Samuelson, L. Alfaro, B. Friedman, L. Abalkin, A. Dedikov, L. Grigorev, G. Birman, S. Schmidt, I.I. Mazur, V.D. Shapiro, N.G. Olderogge and other Western scientists⁵⁶.

It is impossible not to note the significant research of economists of our country in this regard. Various aspects of investment processes, mechanisms of its activation and assessment of investment efficiency in organizations and consequently improvement of its efficiency⁵⁷ were covered by B.Berkinov, D.Gazibekov, E.Makhmudov, Sh.Yuldashev, Sh.Kh. Nazarov, N.N. Oblomurodov, A.A.Sobirov, Sh.Mustafakulov, B.Muminov and many others.

Methods

The information presented in this work is based on official sources and the scientific research of well-known economists. The efficiency of investment projects in the development of our economy and the essence and significance of evaluating investment activities in organizations have been analyzed, while international experiences have been summarized. Furthermore, the results of studying and analyzing investment projects based on the achievements gained in this field within our country have been highlighted.

Discussion and results

Evaluation of the effectiveness of investment activities is one of the central issues of economic theory. This is because investments require a lot of resources, and their result affects not only the income of the enterprise, but also the overall

⁵⁶ А.Смит, Д.Рикардо Сочинения // Классика экономической мысли. - М.: ЭКСМО Пресс, 2000. - 164 с.; Кейнс Дж. М. Общая теория занятости, процента и денег / пер. с англ. проф. Любимова Н. Н. под ред. Куракова Л.П. М.: «Гелиос АРВ», 1999. С. 7.; Alfaro L., Rodriguez-Clare A. Multinationals and Linkages: Evidence from Latin America // Economic.- 2004. No 4. P. 113–172. Бирман Г., Шмидт С. Экономический анализ инвестиционных проектов М.: -Банки и биржи ЮНИТИ, 1997. – С . 613. Мазур И.И., Шапиро В.Д., Ольдерогге Н.Г. Управление проектами: Учеб. пособие для вузов /Под общ. ред. И.И.Мазура.- М.: ЗАО Издательство «Экономика», 2001. – С. 276.

⁵⁷ B.B.Berkinov and b.Organization and financing of investments.-Т.:Economics,2011.-128b.; Gozibekov D Investment financing issues,-Т.Finance,2003.; Gozibekov D Investment finance issues,-Т.2002.diss.avtoref.11-14b. Yuldashev Sh.G.Foreign investments as a factor of economic growth and emancipation of national reproduction of the Republic of Uzbekistan.-Т.2002,-P.125.; Назаров Ш.Х. Методологические аспекты повышения конкурентоспособности региона // Монография. Tashkent, IFMR. 2014.; Oblomurodov N.N.Theoretical foundations and priority directions of attracting direct investments:I.F.N... dissertation.si.-Т.:Academy of State and Community Building.2008.143b.; Muminov B.Ways to increase the efficiency of centralized investments in the economy of Uzbekistan. 08.00.07. Iqt.Ph.nom.disser./OzRBank-Finance Academy.-Т.,2012.135b 43.Mustafakulov Sh.Investment activity, potential and attractiveness. Market,Money and Credit.4/2017,April(239),10-19 b .

growth of the national economy. Therefore, different approaches to the investment efficiency have been formed in the scientific literature.

Investment efficiency is the rate of return on invested capital, i.e. a set of profits, economic growth and social outcomes obtained from the investment. Productivity is measured not only by financial performance, but also by technological, social, and environmental factors.

Entrepreneurs or policymakers will need to anticipate future revenues, costs, interest rates, and market conditions when evaluating the effectiveness of an investment. These projections are actually expectations about the future. Such expectations include:

- Statistical expectations → Investor believes that the future will be the same as it is today. For example, they think that if incomes are stable now, so will they be in the future.

- Extrapolative expectations — An investor believes that the trends observed in the past will continue into the future. For example, if demand has been growing by 5% each year, the investor expects a similar rate of growth in the coming years.

- Adaptive expectations → Investor takes into account recent developments. For example, if revenue declined last year, it makes future forecasts even lower. This will allow for more flexible and realistic assessment of the effectiveness of investments.

- Rational expectations → An investor is based on all available data and economic theory. For example, it assesses the effectiveness of an investment by taking into account inflation projections, interest rates, public policy, and competition. This is the most thoughtful and theoretically correct approach.

Return on investment (ROI) is a concept that refers to the amount of profit an investment generates. In a market economy, if $i > 0$, having a certain amount of money today is not the same as having the same amount one or two years later. Therefore, a natural question arises: *"If an investment yields R_1 euros after 1 year, R_2 euros after 2 years, and so on up to R_n euros after n years, what is the equivalent value in today's terms?"* To answer such questions, it is sufficient to determine both the present and future returns of the investment.

Computation of the present value of expected future net income⁵⁸

$$x_1(1+i) = R_1 \rightarrow \frac{R_1}{(1+i)}$$

$$V = \sum_{j=1}^n x_j = \frac{R_1}{(1+i)} + \frac{R_2}{(1+i)^2} + \frac{R_3}{(1+i)^3} + \dots + \frac{R_n}{(1+i)^n}$$

- The investment is made only in the case of V (value) $>$ IC (initial cost).

⁵⁸ Tusciana University Politicia Economia 2 p. 100

The investment function can be defined as follows:

An investment function is a macroeconomic concept that describes the relationship between the level of investment in an economy and the factors that affect it, such as interest rates, income levels, and assumptions about future profits. It shows how a change in these factors affects firms' decision to spend direct investment funds, which in turn affects the economy's productive capacity and overall performance.

Investment function⁵⁹

$$I = \bar{I} - bi$$

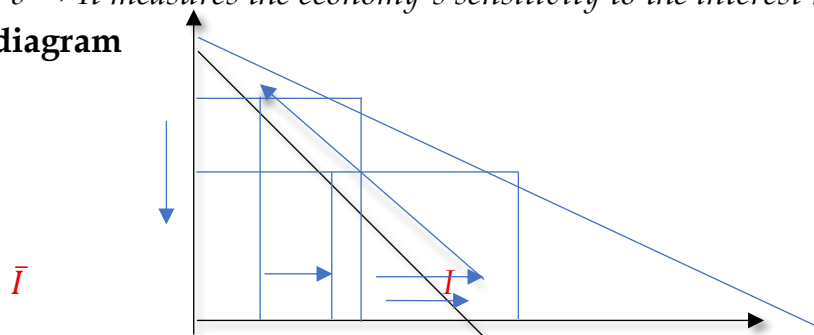
$I \rightarrow$ The amount of investment (independent variable).

$i \rightarrow$ Interest rate (independent variable).

$\bar{I} \rightarrow$ Fixed investment (i.e., an investment to be made even if $i = 0$).

$b \rightarrow$ It measures the economy's sensitivity to the interest rate.

i1 - diagram



Modern financial methods

The key indicators used to assess the effectiveness of an investment are important tools of economic analysis, using them to determine the project profitability, level of risk, stability of financial flows, as well as the overall economic efficiency of investment activities. These indicators contribute to a reasonable analysis in the investment decision-making process, thereby creating conditions for the most efficient use of available resources. At present, the following key financial indicators are widely used to assess the investment performance:

- Net Present Value - (Net Present Value - NPV). This indicator represents the difference between the current value of future cash flows expected during the investment project and the amount of the initial investment. If the $NPV > 0$, the project is cost-effective.

Formula⁶⁰:

$$Net\ Present\ Value\ (NPV) = \sum_{t=0}^n \frac{Benefits - Costs}{(1 + r)^n}$$

⁵⁹ Tusciana University Politicia Economia 1 p. 123

⁶⁰ "Global Program for Safer Schools", World Bank. *Cost-Benefit Analysis: Technical Note* Fernando Ramirez Cortes, Diana Katharina Mayrhofer. October 201. P - 3.

- Another important indicator is the internal rate of return (IRR). It represents the average rate of return for each unit of money invested. IRR reflects the level of profitability of the investment project in the form of a percentage. If the IRR is above the discount rate, it means that the project is economically feasible and can be implemented.

Formula:⁶¹

$$0 = NPV = \sum_{t=1}^T \frac{C_t}{(1 + IRR)^t} - C_0$$

- As well as the Profitability Index and Profitability Index - (PI). This metric is widely used in comparative analysis of investment decisions. PI determines the value of an investment relative to the amount of investment, that is, it expresses how much return each investment brings. If the PI is > 1, the project is effective.

Formula:⁶²

$$\text{Profitability Index (PI)} = \frac{\text{PV of future cash flows}}{\text{Initial Investments}}$$

$$PI = \frac{\sum_{t=1}^n \frac{C_t}{(1 + r)^t}}{C_0}$$

- Also, the payback period is (Payback Period - PP). This will help determine in how many years the initial investment can be fully recouped. This indicator is a convenient tool for investors when determining the level of risk and assessing the rate of return on capital. But the PP method does not take into account the time factor of cash flows, therefore it is mainly used as an additional analytical indicator.

Formula:⁶³

$$\text{Payback Period (PP)} = \frac{\text{Cost of Investment}}{\text{Average annual cash flow}}$$

- In addition, the revised Adjusted Internal Rate of Return (MIRR) can be added. This indicator will allow you to more accurately assess the return on investment.

Formula:⁶⁴

$$MIRR = \sqrt[n]{\frac{FVCF}{PVCF}} - 1$$

- FVCF - future value of positive cash flows discounted at the reinvestment rate
- PVCF - current value of negative cash flows discounted at the financial rate
- n - number of periods

⁶¹ <https://www.investopedia.com/terms/i/irr.asp>

⁶² <https://corporatefinanceinstitute.com/resources/accounting/profitability-index/>

⁶³ https://www.investopedia.com/terms/p/paybackperiod.asp?utm_source=chatgpt.com

⁶⁴ <https://corporatefinanceinstitute.com/resources/valuation/modified-internal-rate-of-return-mirr/>

Socio-economic approaches

Investment efficiency is not limited to financial performance alone. In the present era, in the process of modernization of the economy:

- social efficiency (creation of new jobs, increase of incomes of the population, territorial development),
- environmental efficiency (reduce atmospheric pollution, switch to green energy),
- Criteria for evaluation are also used such indicators as innovative effectiveness (introduction of new technologies).

An example is the three most reliable and progressive rating agencies - Standard & Poor's (S&P), Moody's and Fitch Ratings - that are the most reliable and progressive in assessing the effectiveness of investment projects at the global level of countries and organizations. These agencies reliably assess the credit repayment (creditworthiness) of states, companies and international financial institutions. According to the agency's estimates, Uzbekistan has retained its BB rating of 2024 with stable outlook. This means that while the country is still in the speculative category for investment, there is economic growth and stability.

1 - table

"Top 3 agencies" model⁶⁵

Rating level	S&P / Fitch	Moody's	Description (Note)	Risk level
Prime	AAA	Aaa	Very stable with minimal risk exposure	Very low risk
High grade	AA+, AA, AA-	Aa1, Aa2, Aa3	Very stable with minimal risk exposure	Low risk
Upper medium grade	A+, A, A-	A1, A2, A3	Generally reliable but somewhat sensitive to economic changes	Moderate-low risk
Lower medium grade	BBB+, BBB, BBB-	Baa1, Baa2, Baa3	Stable but susceptible to uncertainties	Moderate risk
Speculative (low Investment)	BB+, BB, BB-	Ba1, Ba2, Ba3	Higher risk; vulnerable during economic downturns	High risk
Low quality (speculative)	B+, B, B-	B1, B2, B3	Limited ability to meet obligations	Very high risk
Highly speculative	CCC+, CCC, CCC-	Caa1, Caa2, Caa3	Severe financial stress; very high probability of default	Very high risk
De facto default	CC / C	Ca	In partial default or default is imminent	Extreme risk

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Default	D	C	Has failed to meet obligations or missed full payment	Default
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International organizations have developed specific methodologies in this regard. **The World Bank** widely uses Cost-Benefit Analysis. **The International Monetary Fund (IMF)**, on the other hand, has developed the **Public Investment Management Assessment (PIMA)** methodology, which allows assessing the performance of public investments based on 15 indicators. **The OECD**, on the other hand, considers indicators such as the impact on economic growth, employment and innovation activity to be important within the framework of the Investment Policy Framework. For example, the UN Sustainable Development Goals (SDGs) stipulate that the effectiveness of investments is evaluated based not only on financial but also on social and environmental criteria.

The experience of developed countries also deserves special attention. For example, in the United States, investment projects are analyzed on the basis of the "Benefit-Cost Ratio", which takes into account social justice and environmental safety along with financial benefits. In Germany, the effectiveness of infrastructure projects is determined using the Life Cycle Costing (LCC) method, which means that all costs incurred during the project are taken into account. In addition, the concept of "triple bottom line" – economic, environmental and social sustainability – is at the forefront. And in Japan, indicators such as technological innovation, export potential, and support for the local market are leading the way in evaluating efficiency. In China, the effectiveness of a project is directly related to the country's compliance with the long-term development strategy, and its contribution to regional development is considered one of the important evaluation criteria.

From international experience it is clear that when evaluating effectiveness it is simply not possible to get complete results based on financial indicators alone. Therefore, in the present period, special attention is given to such factors as environmental sustainability, innovative development, social efficiency and impact on regional development. The advantage of this approach is that it allows an in-depth analysis of not only the short-term benefits of investment projects, but also their long-term impact.

Conclusion

Evaluation of the effectiveness of an organization's investment activities plays an important role in ensuring the sustainable development of the economy. This is because the effectiveness of investment activities is primarily reflected in quantitative indicators such as profit, income, production, and employment. However, the real impact of this process is not limited to economic measures alone.

It is also reflected in the improvement of living standards, the creation of new jobs, and the development of social infrastructure. Investment in organizations, on the one hand, allows for the expansion of production volumes and the efficient use of resources; on the other hand, it ensures stable employment for the population. As a result, citizens' incomes rise, and their quality of life improves. This, in turn, has a positive effect on social well-being, increases state budget revenues, and strengthens the country's economic independence – because as society becomes wealthier, so does the state.

As a result of this process, our country will consolidate its position in the world economic space and create a solid ground for achieving the goals set out in the economic strategies. The experience of developed countries shows that proper regulation of investment activities will increase not only economic stability, but also international prestige.

The Republic of Uzbekistan should use the best practices of foreign countries in assessing the effectiveness of investment activity in organizations. At the same time, it is important to develop and apply in practice a distinctive "**Uzbek model**" in accordance with the international practice. If this model is developed based on the country's economic conditions, resource potential and national values, it will reduce the full dependence on foreign experience, ensure the independent development of the national economy and will give impetus to further intensifying scientific and practical research. In addition, the use of digital technologies, economic modelling and innovative approaches in the evaluation of the effectiveness of investment projects will further increase the efficiency. This serves to develop the economic activities of organizations in a transparent, sustainable and results-oriented manner.

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