
INVESTMENT PROJECT RISKS: ASSESSMENT AND MANAGEMENT EFFICIENCY

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Abstract: This article examines the risks of investment projects, analyzes the essence and features of assessment and management efficiency. The factors influencing the final efficiency of the investment project are identified.

The authors analyzed the theoretical aspects of the project implementation, studied the concepts of "uncertainty" and "risk" of the investment project. The differences and relationship between the categories of "risk" and "uncertainty" are revealed. The article defines and schematically presents the classification of investment project risks.

Key words: risk, risk analysis, risk minimization, types of investment risks, investment risk management, risk management system, investment project risks, investment project cost, investment project viability, active investment policy.

Introduction. In the context of globalization, investments are one of the most effective tools for ensuring high rates of economic development. In the first two decades of the 21st century, Uzbekistan saw a significant increase in investments in fixed capital, which on average outpaced the growth rate of GDP, which gave grounds to talk about an investment boom in this phase of the country's economic development.

Uzbekistan is one of the most attractive developing markets for investment. The relevance of this provision is confirmed by the words of the President of the Republic of Uzbekistan Sh.M. Mirziyoyev: "...for the rapid development of the economy, we need an active investment policy"¹.

Capitalization of any economic entity is the most important parameter for assessing its investment attractiveness as a business. It is capitalization that helps increase the resource potential of a particular company through additional attraction of direct and portfolio investments. In particular, investments in fixed assets are a set

¹Message from the President of the Republic of Uzbekistan Sh. Mirziyoyev to the Oliy Majlis 20.01.2020 y. <https://president.uz/ru/lists/view/3304>

of costs aimed at acquiring and reproducing new fixed assets. In January-March 2024, 107.1 trillion sums of investments in fixed assets were mastered in the Republic of Uzbekistan, and, compared to the corresponding period of 2023, this amounted to 174.5%².

In this context, it should be noted that the dynamics of the volume of investments in fixed assets over the past five years have shown that it has increased almost threefold and has a tendency to grow. The highest indicators and growth rates by sources of financing investments in fixed assets were noted due to foreign direct investment, which, compared to the same period in 2023, amounted to 258.0%. The volume of investments should reach 250 billion US dollars by 2030³.

But despite the above-mentioned high growth rates of investment investments, instability in the financial sector causes an increase in uncertainty and risks in the implementation of real investment projects. In particular, investment risk is an expected deterioration in the final value of the project's efficiency, which occurs under the influence of uncertainty. In this regard, the role of assessing and minimizing investment risks increases. The importance and relevance of solving these problems predetermined the relevance of the topic of this article.

Literature review. The principles of investment risk assessment are considered in the scientific works of a number of scientists from foreign countries. Among the authors of scientific publications analyzing investments under conditions of risk and uncertainty, we can highlight Van Horne J.K., McCarthy M., Markovich G., Masse P., Knight F., Tversky A., Fishburne P., Flynn T., Sharp W., Schmidt S., Blank I., Galkin G., Granaturov V., Melnikov A., Plekhanova A., Tsarev V., Shapkin A., Sholomitsky A. and others.

Among the scientists of our time, such as A. Neshita, V. Bocharov, M. Knysh consider investment activity and investments as an important section of modern economic science. These scientists in their scientific publications studied the problems of investment development, financing and evaluation of their effectiveness, patterns of investment calculations and features of investment financing. For example, A. Lapteva in her article attempts to consider the concept and essence of investments from an economic point of view. Foreign scientists such as William F. Sharpe, Gordon J. Alexander, Jeffrey V. Bailey studied theories and practices of investment funds in developed countries⁴.

²Лаптева А.М. Содержание и сущность понятия «Инвестиции» // «Экономика и бизнес», № 3, 2015 г. С 45-53.

³<https://www.society.at/uzbekistan-demonstrates-its-high-investment-attractiveness-at-tashkent-international-investment-forum-2024/>

⁴Уильям Ф. Шарп, Гордон Дж. Александер, Джеффри В. Бэйли Инвестиции: учебник // Инфра-М, 2001–1035 с.

The formation of investment funds in the Republic of Uzbekistan began in 1996 and therefore research in this area was limited mainly to problems of the financial market, the securities market and research on collective investment institutions. Research in this area includes the works of Sh.R. Abdullaev⁵, N.G. Karimova⁶, N.M. Makhmudov and N.R. Avazov⁷, M. B. Sultanbaeva⁸, M.A. Sultanov⁹, M.K. Shodiboeva¹⁰ etc. The works of the above-mentioned scientists mainly studied issues related to attracting investments.

Despite the existence of a significant number of scientific works, many aspects of investment risk assessment remain incompletely developed. In particular, the tasks of analysis, assessment and management of investment project risks require further development. The classification of investment risks requires clarification. Existing methods of system analysis of investment risks assume the presence of a priori information, expert assessments, and consideration of the subjective attitude of a particular investor to risk. All these factors are associated with uncertainty, which necessitates improvement and adaptation to practical reality of existing methods of investment risk assessment. At present, economic entities need accessible methods of "express diagnostics" of risks, which are practically absent in the existing scientific literature. Thus, there is an urgent need to develop methods, functional models for minimizing the risks of investment projects in general.

Main part. Investments are understood as investments of funds, certain expenses in the securities market, carried out for the purpose of obtaining income, profit. In a market economy, there are various opportunities for investment. When a legal entity or an individual chooses the direction of capital investment, one of the main criteria is the identification, assessment and effective management of investment risk.

To minimize possible losses, project managers and investors must analyze the idea for the possible presence of existing risk groups and assess the amount of damage

⁵Абдуллаева Ш. Р. Повышение эффективности централизованных инвестиций в базовых отраслях экономики // Векторы развития современной науки. 2016. №1. С. 118-122.

⁶Н.Г. Каримов Ўзбекистонда кулай инвестицион мухитни шакллантириш орқали инвестицион жозибдорликни ошириш истикболлари // “Иқтисодий ва инновацион технологиялар” илмий электрон журнали. № 5, сентябрь-октябрь, 2016 // <https://iqtisodiyot.tsue.uz/yangisoni>.

⁷Махмудов Н.М. Авазов Н.Р. «Анализ факторов, влияющих на государственный инвестиционный климат» // «Инновация в экономике», № 7, 2019 г. стр 4-10.

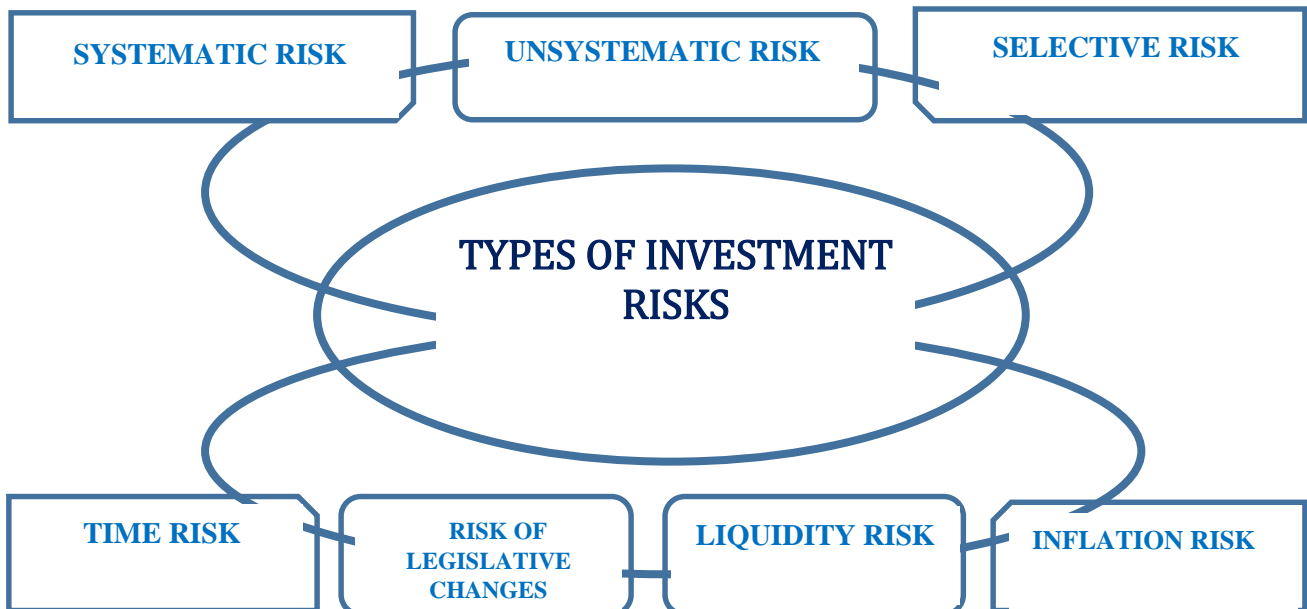
⁸Султанбаева М. Б. Использование зарубежного опыта в развитии инвестиционных фондов в Республике Узбекистан: автореф. ... канд. экон. наук. Ташкент, 2012

⁹Шодибоева М. К. Инвестиционная привлекательность Узбекистана. // Молодой ученый. 2016. №10. С. 939-941.

¹⁰Developed by the authors based on the synthesis of a number of scientific publications, in particular, Романенко О.О. Риски инвестиционного проекта. // <https://cyberleninka.ru/article/n/riski-investitsionnogo-proekta>; Лапченко Д.А. Методы оценки риска инвестиционных проектов. // Repository of Belarusian National Technical University (BNTU), № 3, март 2013 г. // <https://core.ac.uk/reader/323157000>.

that they can bear as a result of a risk event, that is, quantitatively assess the possible risk capital, the investor's risk appetite.

- Types of investment risks – the following types of risk are distinguished (Fig. 1):
- systematic risk, i.e. the risk of a securities market crisis;
- unsystematic risk, i.e. the combination of all types of risk associated with a particular security;



*Fig. 1. Types of investment risks*¹¹

- selection risk – the risk of choosing the wrong securities for investment when forming a portfolio;
- time risk – the risk of issuing, buying or selling a security at the wrong time, which entails losses;
- the risk of legislative changes (the terms of the issue may change, it may be declared invalid, etc.);
- liquidity risk – the risk associated with the possibility of losses when selling a security due to a changed assessment of its quality;
- inflation risk – the risk that, with high inflation, the income received by investors on securities depreciates faster than it grows, the investor suffers real losses.

It is well known that the implementation of most investment projects on any stock market is associated with a significant risk of losing part or even all of the invested capital, and the risk of loss is higher, the higher the level of income expected from investments. In this regard, it is extremely important to have a clear

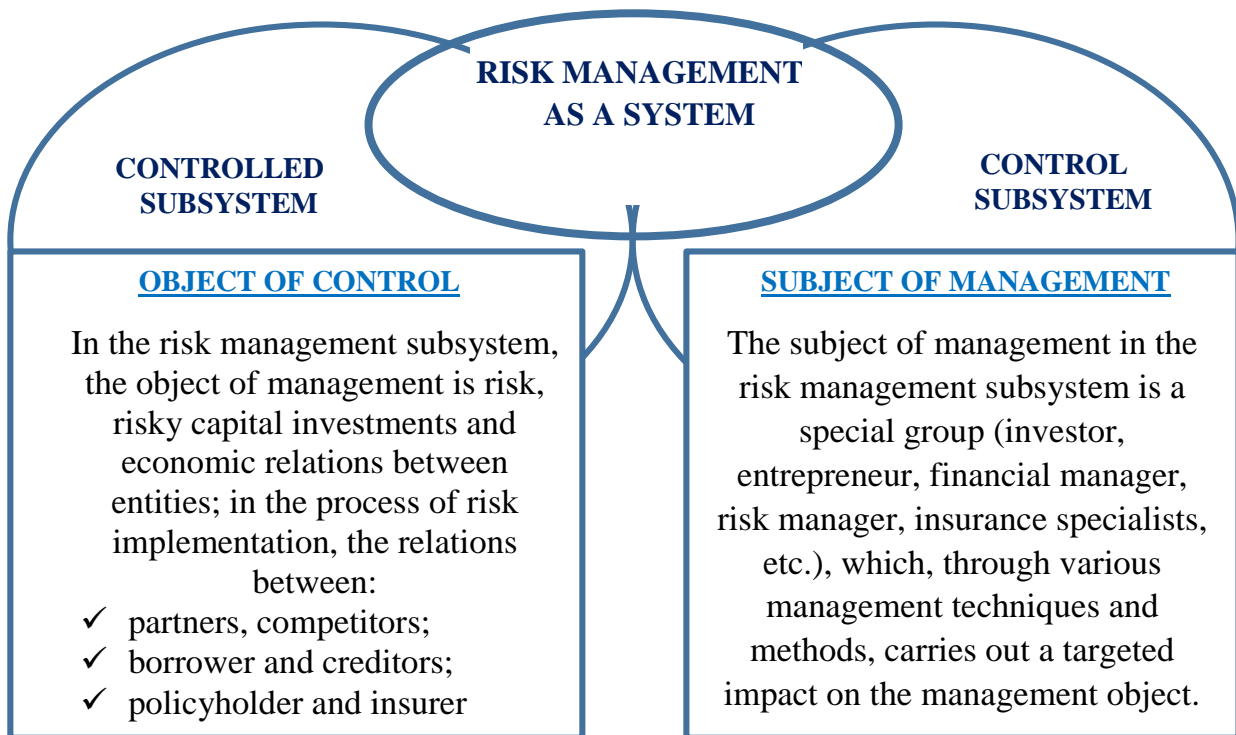
¹¹Developed by the authors based on the synthesis of a number of scientific publications, in particular, Царев В.В. Оценка экономической эффективности инвестиций / В.В. Царев. СПб.: Питер, 2004. -460 с.; Гужин А.А., Ежкова В.Г. Риск-менеджмент и методы управления рисками. // Инновации и инвестиции, № 2, 2017, С.185-189.

understanding of the system of risks that can be called investment risks, and which include all the risks inherent in investment activities in general.

All investment risks are usually divided into systemic and non-systemic, depending on how wide a range of stock market instruments is exposed to the risk of their impact in each specific case.

Risk management as a system consists of two subsystems (Fig. 2):

- controlled subsystem (management object);
- managing subsystem (management subject).



*Fig. 2. Risk management as a system*¹²

In the risk management system, the management object is risk, risky capital investments and economic relations between subjects, in the process of risk implementation, relations between:

- ✓ partners, competitors;
- ✓ borrower and creditors;
- ✓ policyholder and insurer.

The subject of management in the risk management system is a special group of people (entrepreneur, financial manager, risk manager, insurance specialists, etc.), who, through various methods and techniques of management, carry out a targeted impact on the management object.

¹²Developed by the authors based on the synthesis of a number of scientific publications, in particular, Tsarev V.V. "Оценка экономической эффективности инвестиций" / СПб.: Питер, 2004. -460 p.; Guzhin A.A., Ezhkova V.G. "Риск-менеджмент и методы управления рисками. // Инновации и инвестиции", № 2, 2017, 185-189 p.

Effective investment risk management allows economic entities to obtain significant benefits, including:

- reducing the number of sudden shock situations and unpleasant surprises;
- more efficient use of resources;
- improving the quality of service provision;
- reducing the amount of time and increasing the likelihood of successful implementation of changes.

Uncertainties and risks must be minimized in the process of determining the cost of an investment project. At each stage of the project life cycle, the types of risks that affect the effectiveness of the project are variable, as is the probability of risk occurrence and the level of risk impact on the investment project.

It should be noted that the existence of risk as an integral element of the economic process, as well as the specificity of the management actions used in this area, have led to the fact that risk management in a number of cases has become an independent type of professional activity. This type of activity is performed by professional institutes of specialists, insurance companies, as well as financial managers, risk managers, and insurance specialists.

The main tasks of risk specialists are:

- detection of high-risk areas;
- risk assessment; analysis of the acceptability of a given risk level for economic entities;
- development, if necessary, of measures to prevent or reduce risk;
- in the event that a risk event has occurred, taking measures to compensate for the damage caused to the greatest possible extent.

Specific methods and techniques used in making and implementing decisions under risk conditions largely depend on the specifics of investment activities, the adopted strategy for achieving the set goals, and the specific situation.

At the same time, the theory and practice of risk management has developed a number of fundamental principles that should be followed by the management entity.

Among the main principles of investment risk management, the following can be distinguished:

- you can't risk more than your own capital can afford;
- you need to think about the consequences of the risk;
- you can't risk a lot for a little.¹³

The implementation of the first principle means that before making a decision under risk conditions, an economic entity must:

¹³ Балабанов И.Т. Основы финансового менеджмента: Учеб. пособие. М.: Финансы и статистика, 2002..528 с.

- determine the maximum possible amount of loss in the event of a risk event;
- compare it with the amount of invested capital and all of its own financial resources and determine whether these losses will lead to its bankruptcy.

The implementation of the second principle requires that the economic entity, knowing the maximum possible amount of loss, determine what it may lead to. Based on this information, it is necessary to make a decision on accepting the risk on its own responsibility, transferring the risk to another person (case of risk insurance) or refusing the risk (i.e. the event). The implementation of the third principle assumes that before making a decision on the implementation of an event containing a risk, it is necessary to measure the expected result (return) with the possible losses that the entrepreneur will suffer in the event of a risk event. Only if the ratio of return and possible losses is acceptable for the economic entity should a decision be made on the implementation of a risky project.¹⁴

In this context, it should be noted that in each specific case the acceptability of the above ratio is different and depends on many factors, the goals and objectives of the project; the policy, strategy and tactics of the economic entity in the area of risk, its financial status and other indicators.

This principle also assumes the comparison of the amount of possible reduction of losses as a result of measures taken to reduce the degree of risk, or the transfer of risk to another person, with additional costs associated with the implementation of these measures. For example, the comparison of the insurance amount and the insurance premium. When disclosing the content of the principles considered, risk management techniques (risk resolution tools) are to a certain extent touched upon, the main ones being risk avoidance, risk reduction, and risk acceptance.

The application of other fit-for-purpose principles ensures that relevant risks are identified and prioritised correctly. For example, the contextual principle involves taking into account the internal and external environment when managing risks.

This principle is implemented when developing an approach to risk management and takes into account, among external factors:

- the investor's industry;
- market specifics;
- the technologies used;
- geographical location;
- external regulatory restrictions.

Among internal factors, it is necessary to take into account:

- ✓ organizational culture;

¹⁴ Зелль А. Бизнес-план: Инвестиции и финансирование, планирование и оценка проектов. М.: Ось-89, 2001. 240 с.

- ✓ formal and informal structures;
- ✓ stakeholder relationships;
- ✓ processes used.

As with the organization's goals, the environment can change. Therefore, a regular risk management process is necessary, among other things, to track changes in the context.

Together, the eight principles below form a unified whole for successful risk management.¹⁵

The principle of stakeholder engagement is to take into account different perspectives on risk. Individuals who are affected by an organization's activities and who can influence the organization's activities have different opinions about the nature of the risk, its cause, the extent of its impact on objectives, and the likelihood of its occurrence. Effective risk management practices reduce the inevitable subjectivity and bias of individual stakeholders.

Good practices to help align opinions and assessments:

- use of uniform terminology;
- determination of the individual level and style of communications with each stakeholder;
- proactive and timely involvement of stakeholders in the processes of risk identification and assessment, approval of response plans and implementation of risk management activities.

The principle of providing reliable support is to provide clear and consistent advice on the risk management process to the organization's stakeholders. Consultation is provided to a wide range of stakeholders, including customers, partners, suppliers, external regulators, management and employees.

The tools and processes used to manage investment project risks must be logically interconnected with each other and with other processes of the organization. Transparency of the process ensures an understanding of the scope and timing of the necessary actions. As a result of providing reliable support, the organization must be able to compare the results obtained with plans and draw conclusions about the optimal use of resources.

The principle of informing the decision-making process is to provide information for decision-making at all levels of the organization's management. The following are proposed as tools for organizing effective decision-making:

- risk tolerances are the maximum value of risk for a given management level, above which the issue must be escalated to the next management level. The use of

¹⁵ https://www.pmservices.ru/project-management-news/principy-upravleniya-riskami-podxod-m_o_r-2/

risk tolerances presupposes the presence of defined and documented roles and responsibilities;

- key performance indicators are used to assess the degree of achievement of the organization's goals;

- early indicators allow you to establish intermediate values of performance indicators and track the increase in the probability of risk occurrence.

To assess progress in improving investment project risk management processes, it is proposed to use the following two tools:

- the first one is checklists. The risk management guide contains checklists to check the implementation of each of the risk management principles;

- the second tool is the risk management maturity model. It allows you to evaluate current practice and identify areas for improvement.

The risk management maturity model is also included in the risk management guidance.

Implementing the principle of continuous improvement management style ensures that the organization does not repeat the mistakes made and does not miss out on favorable opportunities.

The principle of creating a supportive culture ensures a correct understanding of the essence of uncertainty and supports the conscious acceptance of the risk of an investment project.

A zero level of risk for an economic entity is impossible and undesirable, since it means low profitability.

The task of managing investment project risks is to establish a balance between the desired risk tolerance and the maximum amount of risk that the organization can withstand.

The results of both positive and negative risks should be perceived as areas for further improvement. The presence of a supportive culture indicates that risk management activities are embedded in ongoing work, including recognition of the importance of risk management by senior management. Another important factor is the encouragement of employees for proactive risk management.

The principle of achieving measurable value is to demonstrate the effect of risk management for the subject of investment activity in measurable indicators. The basis of risk management is the rule "prevention is better than elimination". It means that the costs of preventing a potential risk are always lower than recovery after a realized problem. For positive risks (opportunities), preliminary analysis allows you to extract the maximum benefit from their possible implementation.

Despite the obviousness of the stated reasons, in practice it is difficult to demonstrate measurable benefits from project risk management. Many economic

entities limit themselves to assessing the quality of risk management processes, but this is not enough, since investment project risk management is intended to:

- reduce resource losses and the amount of redone work;
- increase customer/user satisfaction;
- improve the standard functioning of the organization.

To remain competitive in today's rapidly changing world, organizations are forced to evolve and adapt.

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As a management system, risk management also involves the implementation of a number of processes and actions that implement a targeted impact on risk.

In this context, risk analysis includes the collection and processing of data on risk aspects, qualitative and quantitative risk analysis. Measures to eliminate and minimize risk include the selection and justification of maximum permissible risk levels, the choice of risk minimization methods, the formation of risky capital investment options, and an assessment of their optimality based on a comparison of the expected return (profit, etc.) and the overall risk value.

Conclusions and suggestions. Collection and processing of data on risk aspects is one of the most important stages of the risk management process, since the management process primarily involves the receipt, processing, transmission and practical use of various types of information.

Specific methods and techniques used in making and implementing decisions under risk conditions largely depend on the specifics of investment activities, the adopted strategy for achieving the set goals, and the specific situation.

When considering the risks of investment projects, it is necessary to identify systemic groups of risk response measures (insurance, avoidance, acceptance and minimization). In our opinion, the most effective way is to minimize the risk to an acceptable level (within the risk appetite).

At the same time, the theory and practice of risk management has developed a number of fundamental principles that an investor (project manager) should follow.

Thus, investment activity cannot proceed in deterministic conditions, and, consequently, the implementation of investment projects is associated with risk, based on this, there is a need to analyze alternative projects for risk and in the event of its discrepancy with risk capital, risk appetite, and a comprehensive detailed assessment should be carried out in order to find opportunities for its minimization.

In this context, the collection and processing of information on risk aspects is carried out throughout the decision-making process. As one stage moves to another,

the need for additional information can be clarified, collected and processed if necessary.

In addition, the results of the work performed at the preceding stages usually serve as the initial information necessary for the implementation of subsequent stages. Information plays a particularly important role in the process of qualitative and quantitative risk analysis of the investment project as a whole.

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