RISK MINIMIZATION AS A NEW PARADIGM FOR SUSTAINABLE ECONOMIC GROWTH

Baymuratov Tursunbay Makhkambaevich

***-** candidate of economics sciences, professor*

Tashkent State the University of Economics

E-mail: bay_tur58@mail.ru

ORCID:0000-0002-1386-4364

Abstract. In the last decades of the 21st century, the process of forming a platform economy has been gaining momentum in the world as a new paradigm of economic development. At the present stage, a platform economy is being formed in many countries as a new driver of economic growth, however, taking into account intercountry peculiarities, it can be argued that a universal model does not yet exist.

Based on this, the article analyzes the features of the choice of methodology, which, the world community perceives this process as a new paradigm of economic growth, which is intertwined with the globalization of society, so it will take some time to understand the development of modern trends.

The author notes that the general trend determines the problem of economic risk management becoming one of the highest priorities. In this case, the intensified processes of globalization have largely influenced the nature of the development of modern society, where risk in the broad sense of the word is becoming the most common feature and basis of modernity. In this context, the author cites conceptual and applied institutional foundations that the adoption of a particular economic development strategy is the basis for self-formation of the basic concepts of risk minimization and the choice of appropriate risk management methods in general.

Keywords: risk, risk interpretation, economic interpretation of risk, economic risk, risk processes, risk minimization, risk level, starting risk level, final risk level,

optimal risk level, optimally acceptable risk level, basic risk concepts, risk minimization concept, risk as a threat concept, risk as a chance concept, risk as a resource concept, risk assessment methods, risk management methods, risk management methodology, choice of risk management methodology.

INTRODUCTION

Any purposeful activity of the subject, in essence, is directed into the future, i.e. there is always a certain time gap in the system process between the initial efforts, accompanied by the expenditure of resources and the final cyclical final result (efficiency). In this context, to minimize the risk, and ideally - to avoid it as much as possible - this is what the adherents of the risk minimization concept see as their main task, this is how optimality is interpreted when making management decisions. It follows that the final result is obviously not determined, i.e. it is not reliably predictable due to the impact of a number of likely expected factors.

A new methodology is currently being formed, based on the understanding that the methodology of any study is unique and conditional in its own way. It is built for a specific study, developing a special strategy based on the characteristics of a specific object under study and the specific conditions of the cognition process itself. In this regard, the polyparadigmatic approach, the methodological possibilities of which are actively discussed in modern science, is interesting not because it allows for the existence of many approaches.

Despite the noticeable popularity of risk research, there is still no consensus in economic science on the definition of risk. At the same time, an analysis of theoretical developments and practical experience allows us to fit all the diversity of existing approaches into the following basic concepts: "the concept of risk as a threat" - "the concept of risk as a chance" - "the concept of risk as a resource".

In this cycle, the concept of risk as a resource includes the concept of risk as a threat and the concept of risk as a chance, to a certain extent systemically combining and transforming them. The adoption of a particular risk concept is the basis for the formation of a risk minimization concept for a specific economic entity and the selection of appropriate risk management methods in general.

Literature review.

To date, especially within the framework of the concept of sustainable development, there is no unambiguous understanding of the essence of the category "risk". From the very first attempts to systematically comprehend the many phenomena described by the word "risk", it becomes clear that risk is a multidimensional, multi-aspect phenomenon that changes over time. In this case, it is evident that "... according to some estimates, riskography has at least a thousand significant risks in its annals. According to others, their total number is about six thousand [1]."

Since the time of A. Arnauld (Antoine Arnauld, 1612-1694), it has been customary to assess risks in a continuum (from the Latin continuum) "small - moderate - high - extreme - fatal", based on a combination of assessments of their two fundamental parameters:

- the probability of an event that threatens this risk;

- the severity of the potential consequences of this event [2].

In this case, the term "continuum (from Latin continuum)" refers to a set of closely related processes and phenomena [3].

This continuum is explained, in particular, by the fact that "... risk is a complex phenomenon with many different and sometimes opposite real foundations, which gives grounds for the existence of many interpretations of this category[4]." Understanding, and especially manipulating such objects, certainly requires a holistic systems approach.

Among the most widely known scientific publications, specifically devoted to riskology [5], as well as the problems of risk perception in general, a fairly extensive definition of the category "risk" associated with economic activity is presented, in particular, it is possible to highlight scientific developments, where they are widely represented in foreign scientific literature by such scientists as T. Barton (Barton, Thomas L.), P. Bernstein (P. Bernstein), S. Cleary (S. Cleary), J. Pickford (J. Pickford), P. Walker (P. Walker), V. Abchuk, I. Balabanov, M. Lapusta, B. Reisberg [6-14], and others.

In 1953, Neyman J. together with Oscar Morgenstern published the book "Game Theory and Economic Behavior". Game theory opened a fundamentally new approach to understanding the essence of uncertainty: "the true source of uncertainty is the intentions of others. For economic and social problems, games perform – or should perform – the same role that various geometric and mathematical models successfully perform in the physical sciences [15]." This concept was first voiced in the work of European economists T. Bocskai, D. Mesena, and others: "The essence of risk is not the damage caused by the implementation of a decision, but the possibility of deviation from the goal for the sake of which the decision was made. The possibilities of the manifestation of risk elements can be expressed not only in greater damage, but, first of all, in greater profit – this is precisely why business leaders take risks [16]" (it is the implementation of a positive deviation from the expected result with a favorable outcome that is called a chance in economic literature).

In Uzbekistan, the concepts of risk minimization have been studied by national economists such as M. Mirsodikov, H. Shennaev, T. Baimuratov, I. Abdurakhmonov, S. Sherov and others [17]. It should be noted that these scientific publications present the main range of approaches to interpreting the definition of risk. In particular, based on the presented ranges based on the interpretation of danger and risk, the concept is based on the need to achieve acceptable levels of risk and safety at a given stage [18].

Some scientific publications [19] suggest that risk should be understood as the probability (threat) of the subject losing part of its own resources, losing income, or incurring additional expenses (costs) as a result of the activity as a whole. For example, adherents of mathematical methods are sure that risks are random in nature. Their connection with probability theory seems so profound that complex formulas of mathematical statistics are extolled by them as the only scientific tool for characterizing risks. In this context, in scientific works, risk is understood as a possible danger of losses arising from certain natural phenomena and types of human society activity.

The decision maker considers himself/herself to be aware of the consequences of each decision and orders their consequences, preferring some consequences to others. This simple circumstance served as the basis for risk analysis associated with the approach to risk not as a static, unchangeable parameter, but as a controllable one, the level of which can and should be influenced (Fig. 1).

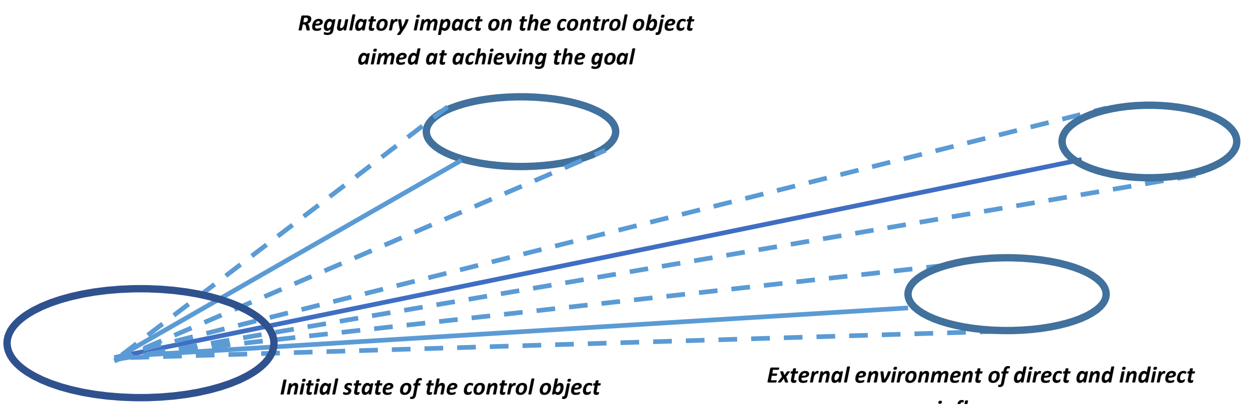

Fig.1. Consequences of the execution of the decision made as a result of regulatory influence and external environmental influences [42]

If any one factor of economic system development is deficient, it goes out of the state of economic equilibrium and functions rather inefficiently. The sustainability of the entity's functioning is its ability to work equally effectively in changing conditions of a competitive market environment.

One of the features of risk management is that the management object is exposed to the influence of factors of the following types:

- the first type includes influences undertaken by the management entity itself (in relation to the management object, the source of environmental influence can be internal);

- the second type includes influences caused by the fact that the management object is a subsystem of some more complex system (due to the fact that the management object itself, as a rule, is a complex system, the state of which can change uncontrollably due to the interaction of its subsystems).

Within the framework of the classical theory of decision-making under uncertainty, it is assumed that the occurrence of a specific consequence can be reliably predicted if the state of the environment is precisely known.

In the interpretation of the consequence of the execution of the decision taken as a result of the control action and the impact of the external environment, the vector of environmental influence has an uncertain nature, as a result of which the resulting vector is also not determined. In this case, the non-determinacy of the consequences of decisions taken is due to the possibility of various states of the environment, since at the time of decision-making the future state of the environment that could influence the consequences is unknown.

In this case, risk factors are not specific states of the environment, but the possibility that the environment will be in one of several of these states. They often coexist and interact. Therefore, in this context, the following definition can be used: risk factors are the reasons that ensure the possibility of various states of the environment and, as a consequence, the non-determinacy of the consequences of decisions taken.

Along with the concept of "risk factors", general risk theory operates with such categories as "level" and "measure" of risk. The term "risk level" as a subjective assessment characteristic is associated with the spread of possible consequences of the decisions under consideration from the most negative to the most positive, risk measure - quantitative and qualitative values of risks to indicate the degree of dangers and threats to the safety of humans, technosphere objects and the environment. To summarize, we can conclude that the formation of a risk management system begins with the definition of objects and subjects of the integrated system, as well as the management process. Then the necessary regulatory and methodological framework is developed, and the technical task for further digital transformation as a whole is formed.

Among the methods on the basis of which risk management is carried out, the following concepts can be conceptually distinguished:

- the concept of risk minimization;
- the concept of acceptable risk;
- the concept of risk as a resource

(Fig. 2).

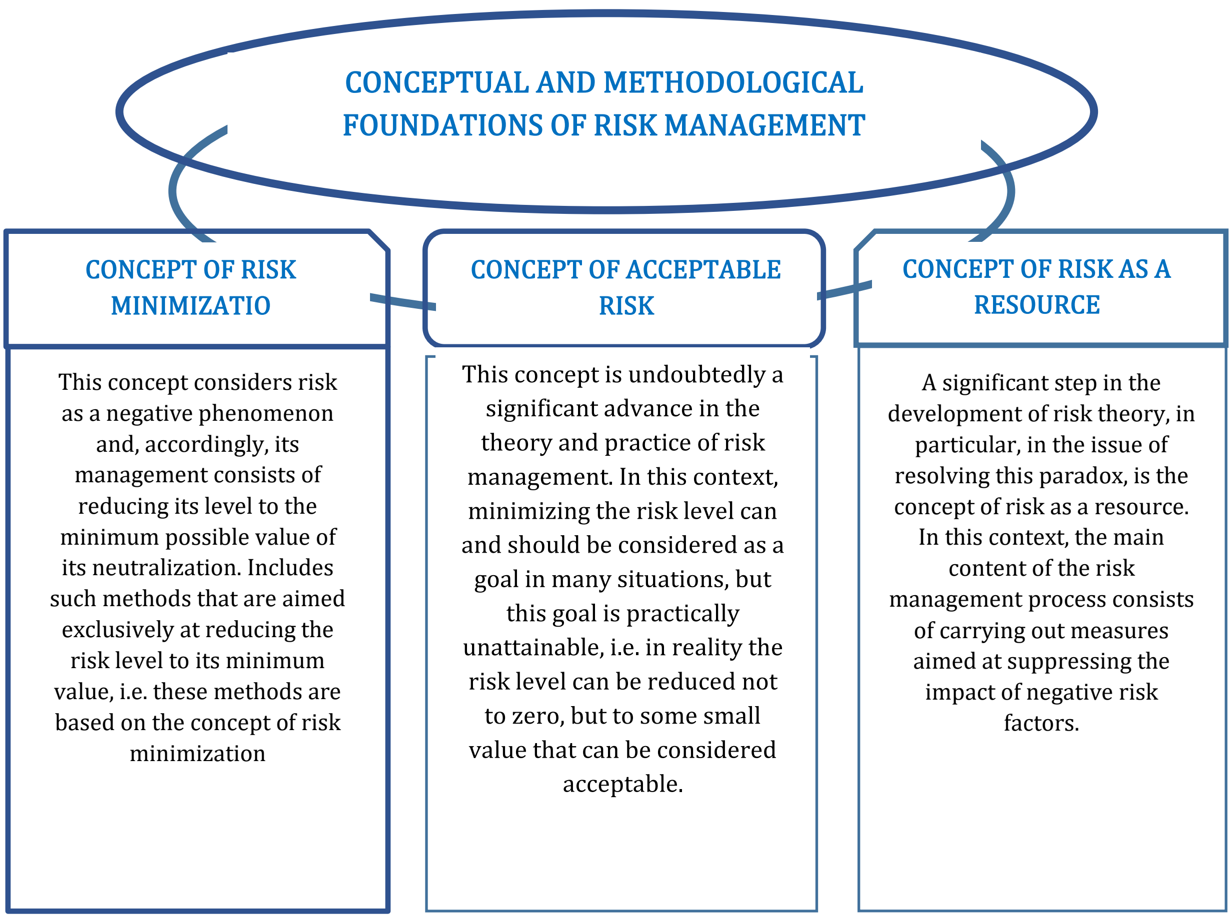

Fig. 2. Conceptual and methodological foundations of risk management [44]

Risk minimization concept. This group consists of methods based on the traditional approach to risk as a purely negative component of economic activity. These methods are aimed at reducing the risk level to the minimum possible value. Conventionally, we can say that these methods are based on the concept of risk minimization.

It should be noted that if the activity is directed only in one direction, then it is impossible to develop risk minimization methods here, you can only calculate the risk value.

If the activity is carried out in several directions, then we can talk about risk minimization, which is determined by the following formula:

$$\sigma = \sqrt{\sum_{i=1}^{n} a_i^2 D_i + 2\sum_{i \neq j} a_i a_j r_{ij} \sigma_i^2 \sigma_j^2}$$

here, $\sigma -$ the standard deviation (risk); $a -$ the share of activity, i $0 \le a_i \le 1,\ \sum a_i = 1$; $D_i = \sigma_i^2 -$ dispersion.

In this case, each direction of activity can be considered as random variables, therefore, when minimizing risk, it is necessary to take into account the correlations between these values, for example, in a two-dimensional case:

$$r_{xy} = \frac{\sum (x - \bar{x})(y - \bar{y})}{n\sigma_x \sigma_y}$$

here $x, y -$ random variables; $\bar{x}, \bar{y} -$ average value.

Since , $-1 \le r_{xy} \le 1$ it is necessary to consider three situations:

- full positive correlation ($r_{xy} = +1$);
- full negative correlation $(r_{xy} = -1)$;
- zero correlation ($r_{xy} = 0$).

In the first case ($r_{xy} = +1$), when there is a complete positive correlation, it is almost impossible or impossible to manage risk in general (Fig. 3.1.):

$$\sigma_x < \sigma = \sqrt{a_x^2\sigma_x^2 + a_y^2\sigma_y^2 + 2a_x a_y} = a_x\sigma_x + a_y\sigma_y < \sigma_y .$$

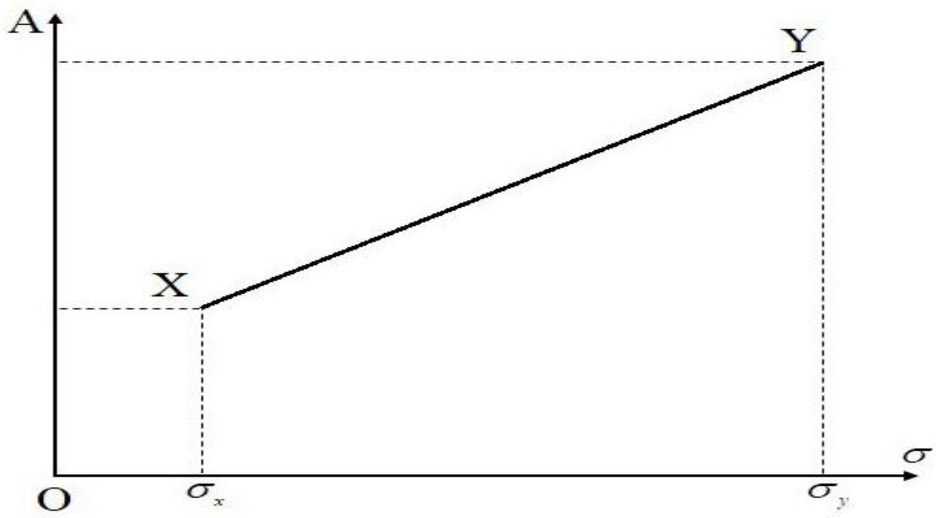

Fig. 3.1. Manifestation of risk with complete positive correlation

In this case, positive correlation indicates that when one variable increases, the other also increases. This means that these two variables behave in a coordinated direction, and their values change simultaneously.

In the second case ($r_{xy} = -1$), when there is a complete negative correlation, the dynamics of risk are more complex (Fig. 3.2.).

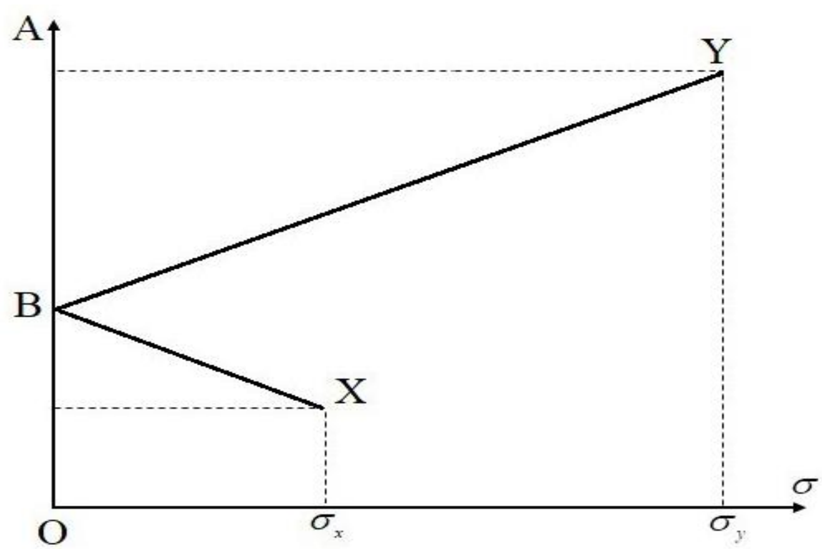

Fig. 3.2. Risk dynamics with full negative correlation

In this case, by managing the activities of the directions, it is possible to reduce the risk to zero:

$$\sigma = \sqrt{a_x^2\sigma_x^2 + a_y^2\sigma_y^2 - 2a_x a_y} = a_x\sigma_x - a_y\sigma_y$$

.Negative correlation means that two variables change in opposite directions: when one variable increases, the other decreases, and vice versa. Negative correlation can have various consequences in different areas.

In the third case ($r_{xy} = 0$), when there is zero (or close to 0) correlation, the risk dynamics are manageable (Fig. 3.3). In this case, by managing the activities of the directions, it is possible to reduce the risk to a minimum σ_m.

$$\sigma = \sqrt{a_x^2\sigma_x^2 + a_y^2\sigma_y^2} .$$

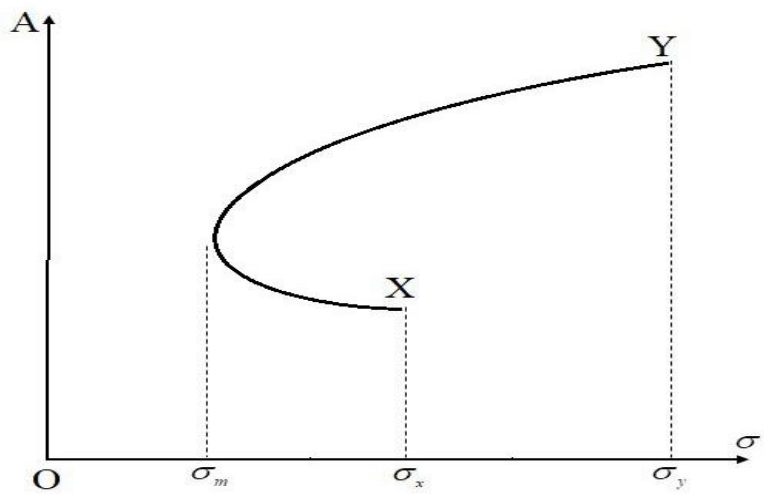

Fig. 3.3. Risk dynamics with zero (neutral) correlation

Zero-order correlation is usually used in various fields, including economics, to identify potential relationships between variables.

Let's now combine all three graphs in one (Fig. 4). The relationship between the variables can have a significant impact on the information contained in the data set.

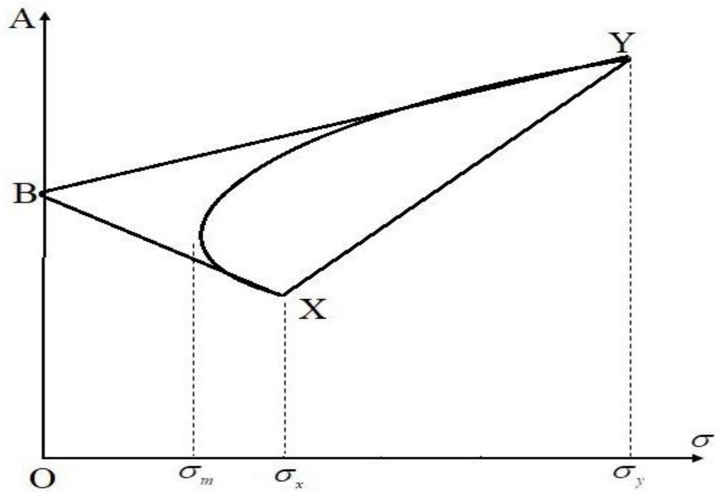

Fig. 4. Possible options for minimizing risk when correlating values in a two-dimensional case

Studying the degree of dependence between different indicators allows you to identify trends, make forecasts and make informed decisions based on data. In this case, all possible options for minimizing risk are in the XBY triangle.

From the above, we can conclude that diversification efficiency is observed only with negative or zero correlation.

It should be noted that correlation analysis allows you to identify key factors that influence the data under study, and also helps to predict and optimize results based on the information obtained. In this context, correlation-based forecasting allows you to make more accurate decisions based on data, as well as predict possible trends and events. Understanding the relationships between variables helps you better understand ongoing changes and make informed decisions.

Using correlation in business allows you to optimize processes, improve marketing strategies and increase business efficiency, in particular, in the field of finance, correlation helps to predict changes in the market, manage investments and minimize risks.

The most illustrative examples in this regard are the securities market. As a rule, high-yield stocks are also characterized by a high level of volatility of quotes, i.e. a high level of risk. Low-risk and highly liquid securities, as a rule, do not provide high returns. This circumstance was once called the risk-return paradox [45].

The paradox is that the risk level should not be increased, since the risk level increases the possibility of losses, on the other hand, when the risk level decreases, the chances of receiving high returns decrease.

If risk reduction is achieved not by simply choosing the least risky solution, but by carrying out special measures, then the inefficiency of risk minimization becomes even more obvious, since the costs of reducing the risk level to a minimum may exceed the amount of preventable losses.

We can give an exaggerated, but quite explainable example: the owner of a cheap car, based on the minimization of the probability of loss as a result of theft of the car, must purchase a guarded garage for it, install an expensive alarm system and, in addition, insure it. Moreover, the costs of carrying out anti-risk measures, which constitute a significant amount of expenses, will be several times higher than the cost of possible damage.

At the same time, there are many situations where the risk level should certainly be reduced to the lowest possible value. First of all, these are the risks of various catastrophic events. For example, the risk of an accident at a nuclear power plant must be reduced to a minimum, regardless of the costs.

On the other hand, just as there are practically no random events whose probability is zero, the risk level is practically impossible to reduce to zero: even after the most expensive measures have been taken, the probability of a nuclear reactor accident remains positive. We can only say that this probability will be below the significance level, i.e. it will be so small that an accident can be considered a virtually impossible event.

In a risky situation, where the losses - the possible consequences of the decision taken - in the event of a negative risk realization are so great that they are not comparable with the costs of anti-risk measures, the most effective risk management methods will be those based on the concept of risk minimization. For example, the risk of a fire in a finished goods warehouse of a manufacturing enterprise should be minimized by carrying out preventive measures that are, in principle, capable of minimizing it: compliance with fire safety measures when storing products (checking the serviceability of electrical wiring, briefing personnel, etc.), providing the warehouse with fire-fighting equipment (security and fire alarms, access to fire hydrants, etc.). If an economic entity has the opportunity to insure products in case of fire, this must also be done, since the losses in case of fire are not comparable with the costs of preventive measures.

Taken together, in all these methods, risk management measures are identified with reducing its level and it is assumed that they are more effective, the lower the level of risk achieved as a result of them.

Within the framework of these system methods, the corresponding risk level indicators are selected, for example, the probability of a negative outcome (the probability of an undesirable event). It is known that risk minimization is not a universally effective approach to making rational decisions in risky conditions, even without taking into account the costs of risk reduction: simply choosing the least risky decisions often leads to low income.

Based on the above analysis, it can be noted that risk minimization is the optimal principle for managing such risks that are realized negatively, and the losses as a result of a negative outcome are many times greater than the costs of possible measures to prevent these losses.

Let us assume that an economic entity is implementing an investment project using borrowed funds, the volume of which is comparable to the value of the entity's fixed capital. If the investment project turns out to be unprofitable, then the bankruptcy procedure will be applied to the entity and all its property will be transferred to the lending institution. In this case, it does not matter what the size of the losses from the proposed investment project will be, the very fact of their existence is enough. This risk is catastrophic for the entity, despite the fact that the project may turn out to be unprofitable even in the absence of force majeure circumstances. Of course, catastrophic risks also include risks directly related to possible emergencies (fire, failure of expensive equipment, major thefts, loss of know-how, etc.). In this context, the term "catastrophic risk" is more appropriate than "catastrophe risk", since in this case we are not necessarily talking about all sorts of force majeure circumstances related to accidents, natural disasters, etc. In this case, minimizing the risk level can and should be considered as a goal in many situations, but this goal is practically unattainable, i.e. in reality, the risk level can be reduced not to zero, but to some small value that can be considered acceptable.

Conclusion.

The main goal is to regulate relations in individual economic sectors based on self-organization of basic risk minimization concepts, i.e. without direct government intervention. In this case, the economic entity and the government achieve several positive effects.

In further discussions, it can be substantiated that in fact, it is generally impossible to state the advantages of one of the concepts over the other.

In this context, several key aspects can be identified that characterize the self-formation of basic risk minimization concepts in one way or another:

- in a certain sense, self-formation is synonymous with law enforcement (in its legal forms), including the protection of economic entities' interests in the transfer and transformation of risks, which ultimately concerns ensuring risk minimization;

- self-formation is at the intersection of formal and informal institutions;

- the effectiveness of self-formation is directly related to the "contract culture", "commitments that inspire confidence" and, accordingly, with the evolution of traditions. In particular, such contracts are often called "self-enforced" in scientific literature. The role of "contract culture" in countries with developed market economies is difficult to overestimate. In other words, compliance in practice with the norms established by such a contract is ensured primarily by the mutual benefit of the actions provided for by the agreement [54].

In this case, the functional approach to defining the self-formation (self-organization) of the basic concepts of risk minimization, i.e. definition through a set of functions, is most suitable for applied tasks.

In conclusion, it should be noted that the integration approach in this context consists in the fact that the set of risk factors should be structured by risk types in such a way that for each individual risk type one of three management concepts could be selected depending on the specifics of the manifestation of the factors of a particular risk - minimization, reduction of the risk level to an acceptable value, or maintaining this risk at an optimal acceptable level.

Thus, risk-based management is not about reducing or increasing risk, but about maintaining it at an optimal level, including analysis of the external business environment, the use of artificial intelligence for quantitative risk assessment methods, forecasting potential risks and strategic management of them, coherence and coordination of risk-related value creation activities, as well as real-time risk monitoring and analysis, improves the organization's performance, its sustainability and competitiveness as a whole.

References

1. Рягин Ю. И. Рискология: в 2 ч. учебник для вузов / Ю. И. Рягин. - Москва: Издательство Юрайт, 2020. С.22-23 (- 255 с.). - URL: https://urait.ru/bcode/453238.
2. Арно А., Николь П. Логика, или Искусство мыслить, где помимо обычных правил содержатся некоторые новые соображения, полезные для развития способности суждения. / Пер. с фр. В.П.Гайдамака Авт. послесл.: д. филос. н. А.Л.Субботин]. – М.: Наука, 1991. – 413 с.
3. https://ru.wikipedia.org/wiki/.

4. Свиткин М.З. Формирование системы менеджмента риска компании / М.З.Свиткин // Методы менеджмента качества. – 2010. – № 2. – С. 31 – 37.

5. Рискология возникла в 70-е годы XX века и ориентирована на изучение сущности риска, критериев его оправданности, методов анализа, оценки и управления риском. // Рискология: Учебник. I часть /Т.М.Баймуратов; – Т.: «Iqtisod- Moliya», 2023. С. 3. (– 325 с.).

6. Бартон, Томас Л. Риск-менеджмент: практика ведущих компаний / Томас Л.Бартон, Уильям Г.Шенкир, Пол Л. Уокер; [пер. с англ. Т. В. Клекоты и др.]. - Москва [и др.]: Вильямс, 2008. - 207 с.

7. Бернстайн, П. Против богов. Укрощение риска: пер. с англ. / П. Бернстайн. - 2-е изд., стер. - М.: ЗАО Олимп-Бизнес, 2006. - 396 с.: ил. - Библиогр.: с. 373-383. Указ.: с. 384-396. – Пер. изд.: Against the Gods / P. L. Bernstein. – New York et al., 1996.

8. Sean Cleary, Thierry Malleret. Global Risk: Business Success in Turbulent Times. Palgrave Macmillan UK, 2007.- p 270.

9. Пикфорд Дж. Управление рисками / Джеймс Пикфорд; (Пер. с англ. О.Н. Матвеевой). – М.: ООО “Вершина”, 2004. –. 352 с..

10. Бартон Т., Шенкир У., Уокер П. Риск-менеджмент. Практика ведущих компаний / Пер. с англ. – М.: Вильямс, 2008. - 208 с.

11. Абчук, В.А. Риски в бизнесе, менеджменте и маркетинге / В.А.Абчук. – СПб.: Михайлов В.А., 2006. – 476 с.

12. Балабанов, И.Т. Риск-менеджмент: монография / И.Т.Балабанов. – М.: Финансы и статистика, 1996. – 188 с.

13. Лапуста, М.Г. Словарь-справочник менеджера [Текст] / Под ред. М.Г.Лапусты. – М.: ИНФРА-М, 1996. - 608с.

14. Райзберг, Б.А. Хозяйственный риск и антикризисное управление / Б.А.Райзберг, Л.Ш.Лозовский // Курс экономики / под ред. Б.А.Райзберга. – 4-е изд., перераб. и доп. – М., 2006. – С. 525–548.;

15. Нейман, Джон фон и Моргенштерн, Оскар. Теория игр и экономическое поведение / Пер. с англ.; Под ред. и с доб. Н.Н. Воробьева. – М.: Наука, 1970. – 707 с.

16. Хозяйственный риск и методы его измерения: Пер. с венг. / Под ред. Т.Бачкаи, Д.Месена, Д.Мико. М.: Экономика, 1979. (с. 14–15). – 184 с.

17. Мирсадыков М., Садритдинов А. Страховой рынок Узбекистана: итоги и перспективы // Бозор, пул ва кредит. – Т.: 2009. № 2. 57-62 б.; Шеннаев Х.М. Проблемы становления страхового рынка в Узбекистане: Автореферат диссертации на соискание ученой степени к.э.н. М., 1996.; Баймуратов Т.М. Суғурта фаолиятида рисклар трансфери: Монография. – Т.: Iqtisod-Moliya, 2005. -196 б.; Абдурахмонов И.Х. Ўзбекистон Республикасида жавобгарликни суғурталашнинг амалиётини такомиллаштириш. 08.00.07 – “Молия, пул муомаласи ва кредит”: И.ф.н. илмий даражасини олиш учун тақдим этилган диссертация автореферати. – Т.: 2010. – 20 б.; Шеров С.Р. Суғурта институти ва уни инновацион ривожлантириш йўналишлари, 08.00.07 – “Молия, пул муомаласи ва кредит”, иқтисодиёт фанлари бўйича фалсафа доктори (PhD) диссертацияси автореферати. –Т.: 2019. -26 б. и других.

18. Рискология: Учебник. I часть /Т.М. Баймуратов; – Т.: «Iqtisod- Moliya», 2023. С.10. (– 325 с.).

19. Балдин, К.В. Риск-менеджмент: учеб. пособие / К.В.Балдин, С.Н.Воробьев. – М.: Гардарики, 2005. – 285 с.