

omists-financiers and managers familiar with the basic concepts and methods of control for all types of business risks.

Find different types of risk is closely connected with the development of combinatorics and probability theory. In the Middle ages the development of mathematics was determined, in particular, the direct interest of the gambling – slot cards, dominoes (bony plates), the «loaded» the bones. The most lively began to study theoretical and methodological aspects of risk at the end of the XIX – beginning of XX century.

Risk management is the process of working out a compromise, the situation, which would satisfy all, aimed at achieving a balance between the benefits of risk reduction and necessary for this expenditure, as well as decisions about what actions to be taken.

If earlier for the command-and-planned economy the problem of risk simply ignored, that in the modern world more and more enterprises should be to create in its organizational structure of the unit as the risk management Department, which would be quite natural addition to the traditionally independent functional units.

Risk assessment is a set of analytical activities, allowing to predict the possibility of additional entrepreneurial income or a certain amount of the damage arising from the risk situation and the late adoption of measures to prevent risk.

To assess the degree of risk the risk management Department may apply both objective and subjective methods of risk assessment. The results can be presented graphically using the curve of probability of occurrence of a certain level of losses. To avoid business risks and the losses that may arise enterprises may opt out of the most risky operations on the market. When the «crusade of the risk of» we need to find reserves and sources of funds to cover potential losses. It may be the means of the enterprise or the attracted credit resources.

Each participant of the business has its own tastes and preferences, directed associated with the risk or receipt of compensation, and shall identify the risks, which is exposed to decide which of the risks are acceptable to him and, finally, to find ways and means how to avoid unwanted risks, as well as to be able to evaluate, in which the financial costs of this will go and does this have any meaning.

The system of risk management primarily involves their assessment, the results of which allow in the future to choose the optimal way of reducing risk.

One of the possible ways to reduce risks is to hedge, which means insurance business risks, the protection of property interests of enterprises in the implementation of dubious reliability of operations due to educated funds of funds by making insurance premiums.

The enterprises of the agricultural complex, are subject to risk themselves should create directly in the business entity insurance funds, to reduce the financial losses associated with the influence of economic, social, climatic, technological and other factors. This

will allow to promptly in the shortest possible time to overcome the difficulties. Definition of the structure of the provision for unforeseen expenditure is recommended to carry out on the basis of the identification of unforeseen expenditures by type of expenditure, for example, on wages in mind the downtime brigades, the additional costs of conversion in the case of a sharp change of the structure of freight traffic, subcontracts. Such differentiation will determine the degree of risk associated with each category of costs, which can then be extended to the individual phases of the production.

Effective way of neutralizing the risk – diversification, including the use of alternative opportunities and sources differ from each other, generating revenue at different levels of risk.

The most optimal way of risk management is their transfer to other persons by contract of factoring or guarantee. In these cases are concluded a contract with commercial banks, the credit organizations or third parties allowing to compensate for the resulting financial losses.

Success in the business world critically depends on the correctness and validity of the chosen strategy of economic and business activities and with the obligatory account should be taken of the probability of occurrence of critical situations.

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**FACILITAING MODIFIED RATE
OF COMPLEX PERCENT AS AN INDEX
OF ECONOMIC EFFICIENCY
OF INVESTMENTS INTO INNOVATIVE
PROJECTS**

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In this article the authors reason facilitation of modified rate of complex percent as an index of efficiency of investments into innovative projects, as it allow one to compare a level of economic efficiency of innovative projects with market income rates of other investment tools.

According to modern popular indexes of economic efficiency of investments into innovative projects that have spread widely (clean money flow, recoupment period, and clean concluded income), it is impossible to define an expediency of investing into a project. None of these indexes has the totality of features that are typical for a universal index of economic efficiency of investments into innovative projects, particularly:

- 1) consideration of time factor;
- 2) comparing income rate of projects with different realization period;

3) comparing income rate of projects of different scales;

4) comparing income indexes with market tools of investment.

In this case we find it reasonable of use modified rate of complex percent (MRCP) as an index of economic efficiency of investments into innovative projects:

$$MRCP = \begin{cases} \sqrt[n]{\frac{NCF}{I_0}} - 1, & NCF \geq I_0; \\ -\sqrt[n]{2 - \frac{NCF}{I_0}} + 1, & NCF \leq I_0. \end{cases} \quad (1)$$

The function has the range of definition $(-\infty; +\infty)$ and is odd. Table 1 provides systematized possible variations of an innovative project results according to using the index of MCPR as a criterion of economic efficiency of investments into an innovative project.

Using modified rate of complex percent as an index of economic efficiency of investments into innovative projects allow us to solve the problem of comparing income rate of projects with different periods of realization and of different scales. Besides, a received value of average annual income rate of owned capital can be compared to other tools of investments (bank deposit, investments into shares or obligations, etc.), as it demonstrates average annual growth of an investor's capital.

Table 1

Scenarios of economic activity of investments

NCF	Income rate	Final result
$NCF > I_0$	$MRCP > r_0$	Income over the required level
$NCF > I_0$	$0 < MRCP < r_0$	Income below the required level
$0 < NCF < I_0$	$MRCP < 0$	Losses in terms of investments
$NCF < 0$	$MRCP < 1 - \sqrt[n]{2}$, n is a period of a project realization	Project bankruptcy

In order to solve the problem of defining economic efficiency of investments into an innovative project, we use innovative-investment project JSC «Geomash». Schigrovskoye JSC «Geomash» specializes in projecting and producing commercial drilling machines. The company produces a wide range of mobile drilling facilities and equipment for drilling hydrogeological slits, engineering searches, static probabon of soils, drilling for constructions

of all types of piles in building, spying for firm raw minerals, seismic measurements of oil and gas on continents and shelf sea, and also aggregates for deepening vent screw anchors while fixing standing ropes of drilling towers.

Table 2 represents comparison of some plan and expected values of basic efficiency indexes of investing into the project JSC «Geomash», considering risk factors [1].

Table 2

Basic indexes of economic efficiency of innovative-investment project JSC «Geomash»

Index	Unit of measurement	Plan	Expected value, considering risks	Range of oscillation (p = 95%)	
				Bottom limit	Top limit
NCF	Millions rubles	297,2	177,1	-101,1	417,4
$NPV_{r=10\%}$	Millions rubles	146,5	73,3	-96,1	216,3
Period of expediency	years	4	4,5	-	3,5
MRCP	%	18,2	11,6	-7,8	22,3

As calculations show, expected values of investment's economic efficiency considering risk factors are significantly lower than planned values are.

Results of modeling investment process show us a significant underestimation of possible risks that can occur while constructing a basic plan of money flow.

Implementation of the suggested approach towards carrying out the process of modeling multiple scenarios of realizing an investment project helps us to form a complete evaluation of economic efficiency of an innovative project. Besides, information on probabilistic characteristics of investment results create a basis for a high-quality estimation of a project's investment risk.

References

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**EXPLAINING THE NECESSITY
TO ORGANISE A PROCESS OF MANAGING
RISKS AT ENTERPRISES
IN MODERN CONDITIONS**

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The process of managing and estimating risks while making decisions in an innovative activity of enterprises has a great significance, as it allows one to estimate possible losses, plan some procedures for their possible decrease, and also define an economic effect of managing risks.

In terms of market economy each economic subject that is directed towards economic growth, always develop a strategy of an innovative activity as a necessary condition of achieving a long-term objective. It is absolutely reasonable, as a development level of a single enterprise and a country's economy as a whole are mostly characterized by volumes and forms of realizing investment programmes. At the same time, a success of enterprises that carry out innovative activity depends on the way a system of selecting innovative projects is organized. First of all, a leadership faces a problem of selecting criterions of projects' efficiency. Besides, it is necessary to use not only methods of quantitative estimation (calculation of future money flows, project expenditure period, and other indexes), but also consider factors of qualitative nature.

While carrying out the process of managing risks of an investment project, one should consider a definite sequence of actions.

First of all, it is necessary to fix risks, in other words, limit a number of existing risks according to the principle of «reasonable sufficiency». Interviewing and questioning specialists is carried out in order to meet this recommendation as well as any experience of introduction of similar projects. Elements that define a risk situation are: possibility of not achieving the set objective, uncertainty of achieving the set objective, possibility of negative events under realization some actions in terms of uncertainty, material or other costs, expectation of danger under realization of a selected alternative.

Secondly, it is necessary to carry out quantitative estimation of the revealed risks that can be expressed by a relative or absolute level of costs and is evaluated by a possibility of risk and a degree of its possible impact.

Depending on a risk level we define a method of its processing: moderation, acceptance, evasion, or transfer.

After carrying out measures of procession, we should calculate indexes that describe risks, define financial indexes, and results of their management.

Consequence of creation and development of a system of risk management in an innovative activity of food industry enterprises provides for an increase in results of risk-management throughout the area of production.

Thus, we can see the obvious necessity of studying theoretic and methodical basics of managing risks in an innovative activity of food industry enterprises, development of practical recommendations on developing an efficient, scientifically-grounded system of risk-management.

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