AMERICAN JOURNALS
Open Access, Peer Reviewed Journals

American Journal of Business Management, Economics and Banking
ISSN (E): 2832-8078 Volume 43, December - 2025

MODERN METHODS OF ASSESSING THE RISKS OF INSURANCE ORGANIZATIONS

Sattorov Shokhrukh Makhmudjon ugli
Independent Researcher of the Tashkent State University of Economics
ORCID: 0009-0005-3793-6712,
E-mail: Shohruxs@list.ru

ABSTRACT

This article presents the results of a study on the existing risks in the activities of insurance organizations, the main purpose of risk assessment, assessment invaders, as well as on the foreign methodology for choosing modern methods of assessment, which are used in determining and eliminating risk. Including statistical and expert methods of risk assessment in insurance, risk-free (risk-free) as part of the financial stability loss Risk Assessment Scale, accepted risk, critical risk, catastrophic risk zones, international risk assessment methods risk analysis, stress-test, event tree, Monte Carlo, theoretical opinions and considerations about The Baes trust network are formulated. A comparative analysis of assessment methods was carried out and practical recommendations for their application were formulated. At the same time, in international practice, detailed information about the new stress-testing method of risk assessment, one-variable and multifactorial factors of the method and one-factor and multi-factor models, advantages and disadvantages of the method are presented.

KEYWORDS

Risk, risk assessment method, risk management, critical-risk zone, stress-testing, Bayes trust network, tariff policy, financial stability scale, one-factor model.

Introduction

Insurance is a unique, socially oriented development mechanism that contributes to the development of the national economy. It has a positive effect on the economic development of the country and reduces the level of influence of the global factor. Currently, the economic changes in the insurance activity describe the existence of some shortcomings encountered in the process of perfecting the system. At the same time, state regulation of insurance activities is one of the important aspects of the insurance market. In this case, the state exercises control over the financial stability of insurance companies, establishes mandatory licensing of companies, which allows effective regulation of the insurance market mechanism. Insurance organizations offer market participants an opportunity to increase financial efficiency by minimizing risks.

In accordance with the general characteristics of insurance risks or their groups and obligations related to them, insurance areas are divided into insurance types (classes). Types (classes) of insurance are determined by the Cabinet of Ministers of the Republic of Uzbekistan [2].

Review

Evaluation activity is also an important component necessary to achieve the most optimal results in the economic transformation of the regions in the creation of the infrastructure of developed countries. In the republic, a solid legal framework regulating evaluation activities has been formed, extensive work has been done to develop the evaluation services market, to increase responsibility for the results and objectivity of evaluation work [10]. In international practice, evaluation occupies a worthy place in the market management system. In the past decade, the results of risk assessment have served as the basis for most decisions in the private and public sectors. The main purpose of risk assessment is to ensure the financial stability of the enterprise and its competitiveness. It is known that the main goal and task of any organization is to increase profit and minimize risks affecting financial efficiency, ensuring successful operation of activities. Considering that the risk may arise at any time, the evaluator must first determine the current state of the economic environment. Today, the fact that there are more than two hundred evaluation organizations operating in the market of evaluation services in the country, with about a thousand evaluators with qualification certificates, indicates that evaluation activities are becoming an indispensable tool in the arsenal of modern entrepreneurship, finance and managers [11,12].

Material and Method

The most important and problematic aspect of insurance implementation in insurance companies is risk assessment. Because as a result of the wrong assessment of risks, insurance companies may face large financial losses. Today, risk assessment is a complex area that needs to be researched not only in the insurance market of our country, but also in the world. The scientific theory and researches of foreign scientists on the subject of insurance risk assessment were first studied in the coverage of this research work. In particular, Han Haiyun, one of the representatives of a group of Chinese scientists, analyzed the indicators of insurance risk assessment divided into three levels, where the first level includes 3 indicators, the second level includes 9 indicators, and the third level includes 30 indicators [7]. In addition, Shuo Chen et al., in their research on insurance risk assessment and improvement under pandemic conditions, investigated the changes in the insurance market based on data from before and after the outbreak of COVID-19 [8]. The assessment of insurance risks warns about situations related to the instability of the financial efficiency of the enterprise. Also, economists in our country have put forward their scientific theories on several topics related to this research work. In particular, in the opinion of PhD in Economics, Associate Professor Guliraykhan Baymuratova, the formation of conceptual approaches to risk assessment is relevant and directly or indirectly affects the results of the company's financial activity, and the main task of management when choosing a risk management method is to assess and analyze potential risk, identify factors that increase it, and reduce risks. is interpreted as the choice of methods [9].

The first step in risk assessment is to identify the existing risk. This stage includes identification and description of risks that may affect the achievement of the final goal. In the second stage, the source and cause of the identified risk is analyzed, and in the third stage, the damages resulting from the impact

of the risk are assessed. In this case, it is concluded that the assessed insurance risk is acceptable, permissible or unacceptable [4]. The method of risk assessment in insurance is divided into two groups:
- Statistical method
- expert method

The statistical method allows to determine the risk, the amount of damage, the probability of occurrence of unpleasant events. When using this method, it is necessary for the evaluator to have a large data source. Two statistical methods are mainly used in practice: scenario analysis and dynamic financial analysis.

Scenario analysis is basically the main tool in financial loss analysis. Deterministic models are used in this analysis [5].

Dynamic financial analysis is mainly performed using stochastic models. Today, this analysis is used more and more by western companies. This method was first mentioned in 1989 by a group of scientists from Finland and England in their theories. This theory serves as the basis for the entire evolution of insurance solvency modeling. [4,6]. The advantage of dynamic analysis over scenario analysis is the ability to fully model the insurance portfolio in terms of premiums, cash flows, and reserves. The application of this analysis is considered to be a complex analytical method by its nature, with the help of which various business strategies are evaluated. Any risk must fall into one of the four zones shown in Figure 1 (safe zone, acceptable zone, critical zone, and catastrophic zone).

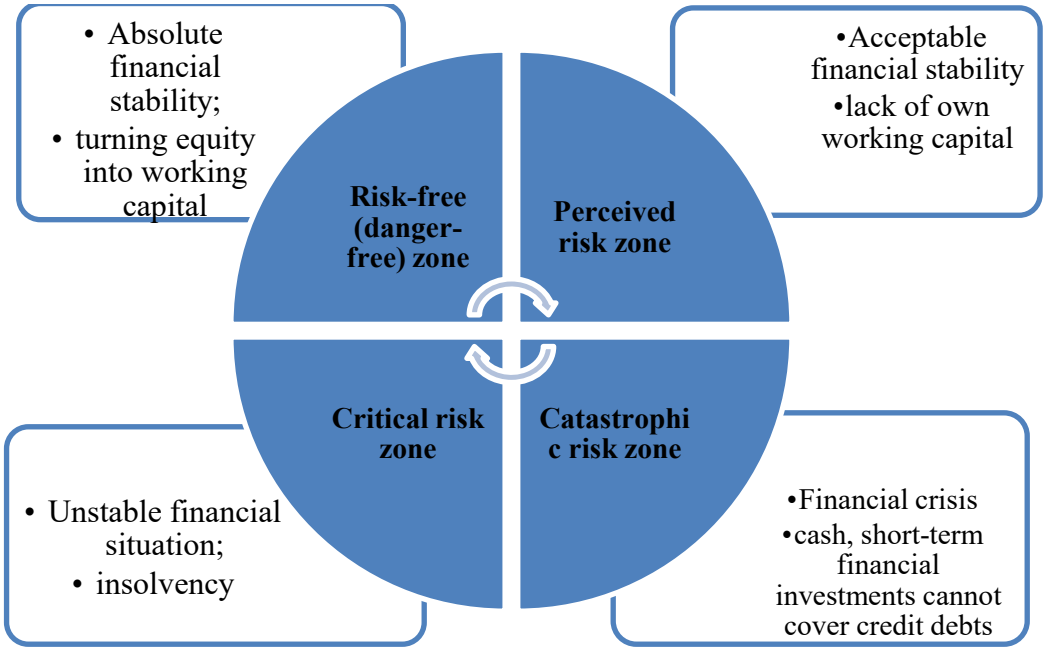

Figure 1. Financial stability risk assessment scale

Based on these zones, the evaluator will determine to what extent the enterprise can respond to market demand and development prospects.

There are many methods of risk assessment in international practice. In the process of risk assessment, it is important to analyze the activity of the enterprise and choose the method that achieves the perfect result. In practice, there are the following common methods of risk assessment: [5,6]

- stress test;
- analysis of event tree;
- Monte Carlo method;
- Bayesian confidence network method;

The stress test is one of the most popular methods and plays an important role in assessing the existing risk to ensure the financial stability of the enterprise. Major international foreign rating organizations use the stress test method and consider it the most appropriate solution for risk assessment.

The stress test method is divided into the following according to risk factors:

- univariate stress test
- multifactorial stress test

The stress test method is represented by two different models.

1. One-factor model - widely used and it is used for routine monitoring.
2. Multifactor model - used based on historical data or hypothetical (based on expert estimates).

When these models are used, the process of conducting hypothetical tests gives positive results. In practice, this method is divided into systematic (correlation method, Monte Carlo method, stochastic modeling and theory of extreme values) and non-systematic (subjective method, method without taking into account secondary factors) stress tests.

The practical application of the stress test method brings positive results, that is, it is distinguished by the ease of use of the method, the possibility of using it for continuous monitoring, and the fact that it does not require the obligation to take into account the influence of complex factors. Like any other method, there are pros and cons to assessing risk through the stress test method.

The insurance risk assessment process begins with a preliminary risk analysis. Using the above-mentioned methods, it is possible to identify risk factors and their impact results, as well as to identify phenomena such as analysis of a known impact. Usually, an adverse event has one or more risk factors. Creating a model of the occurrence of an unpleasant event is called a scenario, and it is desirable to implement it with a probability of zero to one. Usually, preliminary analysis requires consideration and separation of several development scenarios depending on the magnitude of the damage [11,12].

Currently, there are several elements that prevent the further development of the market of professional evaluation services in our country and the increase of trust in evaluation organizations. In particular, the presence of conflict of interests arising in the process of state regulation of evaluation activities as a result of assigning the function of state regulation of evaluation activities to the state management body in the field of privatization, the existence of high requirements for the minimum amount of capital of evaluation organizations, restricts the entry of professional specialists into the market of evaluation services, as a result of which the quality of evaluation works shows that they do not correspond to the growing requirements, especially in business evaluation and banking and insurance activities [1,3].

Results and Discussion

The development of the insurance market is closely related to the positive changes in the country's economy, the liberalization of the currency policy, and the improvement of the legislative and regulatory framework aimed at stimulating foreign economic relations. The growth of the insurance market is mainly ensured by the voluntary types of insurance provided by insurance companies and by the rapid development of insurance activities by insurance companies operating in the field of life

insurance [10]. In this regard, the integration of assessment activities with insurance activities in the country remains an important factor.

Below we will consider insurance payments made in the first quarter of 2024.

Table 1 Made by policyholders to insurance organizations information about insurance payments (As of March 2024)

№	Indicators	2023 year		2024 year		Change (%)
		Million.sum	in percent (%)	Million.sum	in percent (%)	
1	Insurance in the field of general insurance organizations,	511450	100%	436519	100%	-14,7%
	including	197349	39%	275001	63%	+39,3%
1.1	Compulsory insurance	51352	10%	62127	14%	+21,0%
1.2	Optional insurance	145997	29%	212874	49%	+45,8%
2	Insurance in the field of life insurance organizations, including	314101	61%	161518	37%	-48,6%
2.1	Compulsory insurance	1928	0%	3060	1%	+58,7%
2.2	Optional insurance	312173	61%	158458	36%	-49,2%

As can be seen from the table, in the fourth quarter of 2022, 197,349 million soums were paid by policyholders to insurance organizations in the field of general insurance in the country for insurance services (compulsory insurance, voluntary insurance), while this figure increased to 275,001 million soums in the first quarter of 2023, respectively. amounting to soum. In insurance organizations in the field of life insurance, this figure will be 314,101 million in 2023. soums, 161518 million in 2024. it can be seen that soum has been paid.

The stress test method is the most relevant mechanism for assessing the organization's financial condition and risks. In addition, it is an effective system in the field of insurance risk management and assessment, which helps to better understand the risks inherent in business. Through this method, it serves to perform the necessary actions on time and to reduce or prevent risks.

When using the event tree analysis method, it is done like using a visual, graphical form of the tree. The process begins with initial events, such as the wounding of a tree, and traces the ways in which outcomes develop along a chain of cause and effect relationships. At each stage of the process development, there are two outcomes, which is the activation or failure of the system. This analysis allows you to determine the likely outcomes of specific decisions or events. Also, within this method, there is an event method, the main difference of which from the event tree analysis method is the absence of graphical representations of the chain of events and the possibility of estimating the probability of each event.

The Monte Carlo method is based on obtaining a large number of realizations of a stochastic process, the probability properties of which correspond to similar values of the problem under consideration. This method is usually used when it is not possible to obtain accurate data or use deterministic

algorithms. However, with this method, it is not possible to analyze the current results of specific decisions or identify adverse events.

The Bayesian confidence network method is a graphical probabilistic model that represents a set of variables and their probabilistic relationships. This method is based on special graphics and is not widely used in practice. Therefore, special attention is paid to the further development and popularization of the method today. If we consider the formation of tariffs developed for life insurance, it can be said that they appeared based on the demand of the insured (client). In order to calculate the net rate for a life insurance contract, a basic source of information related to the potential risks of the insured is collected. These are detailed information about the policyholder's lifestyle, health status, age and employment. In addition, Bayes network evaluation is carried out on the basis of conditional and unconditional probabilities determined by the expert method.

Conclusions and Suggestions

Insurance (reinsurance) organizations are obliged to comply with the requirements for internal control and risk management system established by the authorized state body [2]. The requirements of the competent state body take into account the systemic importance, specific nature, scale and complexity of the type of activity carried out by the insurer (reinsurer). There are many ways to assess insurance risks. Based on the above analysis, we have considered the most commonly used preliminary analysis, event tree, stress test, Monte Carlo and Bayesian confidence network methods. Analytical data show that the stress test method is the most popular method. According to the Bank of International Settlements, although the technique of using the stress test method is excluded by various financial institutions, it includes many methods used to assess possible events (risk).

By analyzing the methods widely used in international practice, we made sure that it is possible to assess the risk with high accuracy and determine the level of possible negative effects. We have considered the need to follow the conditions existing at a certain time when choosing the necessary method of risk assessment, which allows the assessor to find the most relevant and necessary information for making management decisions.

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