



METHODS OF ASSESSING FINANCIAL RISKS IN THE INSURANCE SECTOR

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Abstract. Financial risks represent one of the most significant challenges faced by insurance companies in modern economic conditions. The effectiveness of insurance organizations largely depends on their ability to identify, assess, and manage financial risks. This article examines the theoretical foundations of financial risk assessment and analyzes the main methods used in the insurance sector. Special attention is paid to economic-statistical, expert, and comparative assessment methods. The study demonstrates that the application of comprehensive risk assessment techniques contributes to improving financial stability and increasing the efficiency of insurance organizations.

Keywords: financial risk, insurance sector, risk assessment, risk management, insurance companies, financial stability.

Introduction. The development of the global economy has increased the importance of risk management in all sectors, particularly in the insurance industry. Insurance companies operate in an environment characterized by uncertainty, market fluctuations, changing regulations, and increasing competition. Under such conditions, financial risk assessment becomes an essential component of effective management [1].

Financial risks directly influence the profitability, solvency, and sustainability of insurance organizations. The inability to accurately assess risks may result in financial losses, liquidity problems, and even bankruptcy. Therefore, insurance



companies must continuously improve their risk assessment systems and implement modern analytical tools.

The concept of financial risk is closely related to uncertainty. Financial risk reflects the probability of obtaining results that differ from expected outcomes due to internal and external factors affecting financial activities [2]. As a result, risk assessment is necessary not only for identifying threats but also for recognizing potential opportunities associated with financial operations.

The objective of this study is to analyze the major methods used in assessing financial risks in the insurance sector and to evaluate their significance in ensuring organizational stability and sustainable development.

Financial risk has been studied extensively in economic literature. Researchers have proposed different definitions depending on the context and objectives of analysis.

According to risk represents measurable uncertainty associated with economic activities and decision-making processes [2]. Mierin defines risk as the probability of failing to achieve planned financial results due to adverse circumstances [3]. In modern financial theory, risk is frequently interpreted as the uncertainty of future returns and financial outcomes [4].

Insurance companies face a variety of financial risks. These include:

- Market risk;
- Credit risk;
- Liquidity risk;
- Investment risk;
- Operational risk;
- Underwriting risk.

Each type of risk has unique characteristics and requires specific assessment approaches. Consequently, effective risk management depends on selecting appropriate methods for evaluating the probability and impact of potential losses.



Risk assessment serves several important functions. It enables managers to estimate potential losses, determine capital requirements, establish pricing strategies, and develop measures aimed at minimizing adverse consequences. Furthermore, accurate risk assessment improves decision-making and contributes to the long-term sustainability of insurance organizations.

Methods. Economic and statistical methods are among the most commonly used approaches in financial risk assessment. These methods rely on historical data and statistical analysis to estimate future risk exposure.

The primary advantage of statistical methods is their ability to provide quantitative measures of risk. Insurance companies collect and analyze information regarding premiums, claims payments, investment returns, and operational expenses. Based on these data, organizations can identify trends and forecast future financial performance [5].

Several statistical indicators are widely used in risk assessment:

Variance and standard deviation measure the degree of dispersion around expected financial results. Higher values indicate greater uncertainty and increased risk.

Analysis. Probability analysis estimates the likelihood of specific events occurring. Insurance companies use probability distributions to evaluate potential claim amounts and financial outcomes.

Correlation analysis examines relationships between different variables affecting risk. Understanding these relationships allows insurers to identify risk concentrations and improve diversification strategies.

Scenario analysis evaluates the impact of various economic conditions on financial performance. Different scenarios, including optimistic, realistic, and pessimistic cases, help organizations prepare for uncertainty.



Economic and statistical methods are particularly valuable because they provide objective and measurable results. However, their effectiveness depends on the availability and reliability of historical data.

In situations where statistical information is limited or unavailable, expert assessment methods become especially important. These methods rely on professional judgments, experience, and specialized knowledge.

Experts evaluate financial risks by analyzing market conditions, organizational performance, regulatory changes, and industry trends. Their assessments help managers identify risks that may not be visible through quantitative analysis alone [6].

Several expert techniques are commonly applied:

The Delphi method involves obtaining opinions from a group of experts through multiple rounds of consultation. The objective is to achieve consensus regarding the likelihood and impact of specific risks.

Structured surveys are used to collect expert opinions concerning potential threats and opportunities within the insurance sector.

Experts rank risks according to their significance and potential consequences. This approach helps organizations prioritize risk management efforts.

The major advantage of expert methods is their flexibility. They can be applied even when historical data are insufficient. However, expert assessments may be influenced by subjective opinions, making it important to combine them with quantitative approaches whenever possible.

Comparative methods assess financial risks by examining similar organizations, historical events, or industry standards. These methods enable insurance companies to compare their performance and risk exposure with those of competitors and market leaders.



Benchmarking has become an important tool in modern risk management. Through benchmarking, organizations identify best practices and evaluate the effectiveness of existing risk control systems [7].

Comparative methods are particularly useful when introducing new products, entering new markets, or responding to emerging risks. By analyzing similar situations, insurance companies can improve forecasting accuracy and reduce uncertainty.

Nevertheless, comparative methods should be applied carefully because differences in organizational structure, market conditions, and regulatory environments may limit the relevance of comparisons.

Financial risk assessment plays a central role in insurance company management. Accurate risk evaluation supports strategic planning and contributes to effective decision-making.

Risk assessment assists insurance organizations in:

- Determining capital adequacy requirements;
- Establishing insurance premiums;
- Managing investment portfolios;
- Ensuring liquidity;
- Improving operational efficiency;
- Maintaining solvency.

In addition, risk assessment enhances corporate governance by providing managers with reliable information regarding potential threats and opportunities. Effective risk management systems also increase stakeholder confidence and improve organizational reputation.

Regulatory authorities increasingly require insurance companies to implement sophisticated risk assessment frameworks. International standards such as Solvency II emphasize the importance of risk-based management and capital adequacy assessment.



Despite significant methodological developments, financial risk assessment remains a challenging task. Several factors contribute to this complexity.

First, economic and financial environments are constantly changing. Market volatility, inflation, interest rate fluctuations, and geopolitical events create new sources of uncertainty.

Second, technological innovation introduces both opportunities and risks. Digitalization, cybersecurity threats, and artificial intelligence have transformed the insurance industry and created new challenges for risk managers.

Third, data quality issues may reduce assessment accuracy. Reliable and comprehensive information is essential for producing meaningful risk estimates.

Finally, human factors and behavioral biases may influence decision-making processes. Therefore, organizations should integrate quantitative models with expert judgment and continuous monitoring systems.

Conclusion

Financial risk assessment is a fundamental component of effective insurance management. Insurance companies operate in a complex and uncertain environment where accurate evaluation of risks is essential for maintaining financial stability and competitiveness.

Economic-statistical methods provide objective quantitative measurements of risk, while expert methods contribute valuable professional insights. Comparative approaches enhance understanding through benchmarking and industry analysis. The combination of these methods improves assessment accuracy and supports informed decision-making.

As financial markets continue to evolve, insurance organizations must strengthen their risk management systems and adopt innovative assessment techniques. Comprehensive financial risk assessment contributes significantly to sustainable development, profitability, and long-term organizational success.



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