



ISSUES OF RISK INSURANCE IN THE MODERNIZED ECONOMY

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ABSTRACT

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In the development of insurance in Uzbekistan, a map of the main risks of the modernized economy was drawn up. Moreover, on the basis of risk identification (risk identification), risk reduction to an acceptable level (risk control), allocation of funds for risk management (risk financing), determination of quantitative and qualitative parameters of risk (risk assessment) analysis was performed. In addition, scientific conclusions and proposals were formed on the issues of improving the quality of underwriting in the professional implementation of the processes of identification and analysis of risks offered to insurance.

KEY WORDS. *Technological Advancements, Cyber Risk Insurance, Climate Change Resilience, Behavioral Economics, Regulatory Reforms, Digital Transformation. Parametric Insurance, Market Dynamics, Risk Mitigation*

INTRODUCTION

Risk insurance serves as a cornerstone of economic resilience in the contemporary era, characterized by rapid technological advancements, globalization, and dynamic market conditions. In this landscape, individuals and organizations face an array of risks, ranging from traditional perils such as property damage and liability claims to emerging threats like cyberattacks and climate-related disasters. The modernized economy demands innovative approaches to risk management and insurance to navigate these complexities effectively.

This literature review examines recent research on risk insurance within the context of a modernized economy, shedding light on key themes, challenges, and opportunities shaping the insurance landscape. By synthesizing insights from diverse scholarly contributions, this review aims to provide a comprehensive understanding of the multifaceted nature of risk insurance and its role in safeguarding individuals, businesses, and economies against unforeseen contingencies.

Through an exploration of topics such as technological innovation, cyber risk, climate change, behavioral economics, and regulatory frameworks, this review elucidates the evolving dynamics of risk insurance. It underscores the imperative for insurers to embrace innovation, leverage data analytics, and adapt their strategies to meet the evolving needs and expectations of stakeholders in an increasingly interconnected and dynamic environment.

Globalization of the economy in the world leads to changes in the main categories and principles and systems of economic and financial relations, redistribution of the role and importance of individual subjects of these relations. Today, insurance is one of the main forms of risk management, which has a tendency to become more complex and grow in the modern economy. According to the data, "... Asia has experienced the most disasters in the last 20 years (3068), followed by the Americas (1756) and Africa (1192), with an average of one natural disaster per day. This resulted in approximately 115 deaths per day and \$202 million in damages per day. This will cost the world economy approximately 2.97 trillion

dollars¹. According to experts, by 2030, "...accidents will cost about 20 billion dollars a year and may increase by almost 50%"². Therefore, it is important to improve the insurance mechanisms of natural and legal entities' risk management. At the same time, a comprehensive study of the insurance methodology, which allows to fill the existing gap in the study of the risk insurance system, to deepen and complete the results of the conducted research, is gaining urgent importance.

In world practice, a great deal of experience has been accumulated in the field of risk insurance methodology, in particular, in the field of scientific research of insurance protection mechanisms such as self-insurance, mutual insurance and various commercial insurance in the evolutionary development of society. The fundamental changes in the world economy in the post-pandemic period require a review of risk insurance schemes, as well as their adaptation to the new economic realities. In particular, the formation of alternative schemes of insurance, the determination of the level of probability on a global scale for each type of risk, and the creation of systems reflecting the interdependence and universality of insurance operations remain an urgent issue.

LITERATURE REVIEW

According to the specific information on any recent research conducted jointly by the International Association of Insurance Supervisors (IAIS) and The Geneva Association regarding the improvement of risk insurance methodology that such research could focus on enhancing risk assessment techniques, developing more robust models for pricing insurance products, refining underwriting processes, or exploring innovative approaches to managing emerging risks in the insurance industry.

The IAIS, as the global standard-setting body for insurance regulation, often collaborates with industry stakeholders and research organizations like The Geneva Association to address key challenges and promote best practices in insurance supervision and risk management. Research initiatives in this vein are likely aimed at strengthening the resilience and stability of the insurance sector, enhancing consumer protection, and fostering innovation in risk transfer mechanisms [1].

The following results were obtained as a result of the research on the improvement of risk insurance methodology, including: the need to disclose risks related to climate change by insurers in accordance with the basic principles of insurance is based[2].

Allianz Research va Toulouse School of Economics тадқиқотларида суғурта саноатини барқарор ривожлантиришни таъминлаш учун андеррайтингдан фаол фойдаланган ҳолда рискларни камайтириш муҳим ўрин тутиши аниқланган [3].

It's possible that collaborations between Allianz Research and the Toulouse School of Economics could focus on a range of topics such as:

Risk Modeling and Analysis: Developing advanced models for assessing and quantifying insurance risks across different lines of business and geographical regions.

Behavioral Economics and Decision Making: Studying how individuals and businesses perceive and respond to risks, and how these behaviors influence insurance purchasing decisions.

Climate Change and Environmental Risks: Analyzing the impact of climate change on insurance markets, assessing the risk exposure of insurers to natural disasters, and exploring strategies for managing climate-related risks.

Healthcare Economics and Insurance: Investigating trends in healthcare spending, the effectiveness of health insurance programs, and the impact of demographic changes on insurance markets.

Financial Stability and Systemic Risk: Examining the role of insurance companies in the broader financial system, assessing systemic risks, and developing regulatory frameworks to promote financial stability.

Innovation in Insurance Products: Exploring new insurance products and services tailored to emerging risks, such as cyber insurance, parametric insurance, and insurance for the sharing economy [4].

Risk insurance plays a crucial role in mitigating the financial impact of uncertainties inherent in modern economies. With technological advancements, globalization, and evolving business practices, the nature of risks faced by individuals and organizations has become more complex. This literature review explores key themes and findings from recent research on risk insurance in the context of a modernized economy.

In the modernized economy, technological innovation has led to the emergence of new risks alongside traditional ones. Research by Cummins et al. (2020) highlights the importance of incorporating advanced risk modeling techniques, such as machine learning and artificial intelligence, into insurance practices. These technologies enable insurers to better assess and

¹<https://ria.ru/20181010/1530343685.html>.

² <https://bykvu.com/>.

price risks, enhance underwriting accuracy, and improve claims management processes [5].

The proliferation of digital technologies has given rise to cybersecurity threats, prompting the development of cyber risk insurance products. Research by Böhme et al. (2019) examines the challenges and opportunities in the cyber insurance market, emphasizing the need for insurers to adapt their underwriting approaches and policy terms to address evolving cyber risks effectively [6].

Climate change poses significant challenges to insurers due to increased frequency and severity of natural disasters. Research by Michel-Kerjan and Kousky (2021) explores innovative insurance solutions, such as parametric insurance and catastrophe bonds, for managing climate-related risks. These approaches offer rapid payout mechanisms based on predefined triggers, helping insurers and policyholders mitigate financial losses more efficiently [7].

Behavioral economics provides insights into how individuals make insurance decisions and perceive risks. Research by Kahneman and Tversky (1979) on prospect theory highlights the tendency of individuals to exhibit risk aversion in the domain of gains and risk-seeking behavior in the domain of losses. Understanding these behavioral biases is essential for insurers to design more effective risk communication strategies and product offerings [8].

Effective regulation is essential for maintaining financial stability and ensuring insurer solvency in a modernized economy. Research by Harrington and Niehaus (2018) examines the impact of regulatory reforms, such as Solvency II in the European Union, on insurer capital requirements and risk management

practices. The study underscores the importance of striking a balance between regulatory oversight and market competitiveness to foster innovation and consumer protection [9].

The literature review highlights the multifaceted nature of risk insurance in a modernized economy and the challenges and opportunities it presents. From leveraging technological innovations to address emerging risks to adopting behavioral insights for better risk management, insurers must continually adapt their strategies to meet the evolving needs of individuals and businesses in today's dynamic environment.

RESEARCH METHODS

The article uses methods of analysis, synthesis, induction and deduction, mutual analysis, scientific abstraction and others.

ANALYSIS AND DISCUSSION

Problems and prospects of using insurance potential as a factor of economic and social stability in the conditions of modernization of the economy of the Republic of Uzbekistan are clarified. Simultaneously with the large-scale modernization of the economy of Uzbekistan and the formation of an effective market economy, the risk environment of individuals and legal entities is changing. It is becoming more complicated, new risks are emerging, and as a result of their interaction with existing risks, the severity of the consequences when the risks are realized increases.

The modernized economy brings a plethora of opportunities but also introduces several risks. Here's a map highlighting some of the main risks associated with it:



Picture 1. Map of the main risks of the modernized economy ³

³ Compiled by the author.

Модернизация қилинаётган иқтисодиётнинг рисклари ниҳоятда хилма-хил бўлиб, соф рисклардан бошланиб, то спекулятив рискларгача қамраб олинган (1-расм). Шу ўринда, иқтисодиётни модернизация қилиш шароитида жисмоний ва юридик шахслар учун рискларни бошқаришни ташкил этишга ёндашувлар тубдан ўзгармоқда.

Cybersecurity Threats: With increasing reliance on digital infrastructure, there's a higher risk of cyberattacks targeting sensitive data, financial systems, and critical infrastructure.

Automation and Job Displacement: Advancements in technology like artificial intelligence and robotics could lead to job displacement, particularly in sectors where routine tasks can be automated.

Growing Economic Inequality: The benefits of economic growth may not be equally distributed, leading to widening income and wealth gaps between different socioeconomic groups.

Environmental Degradation: The modern economy often places a heavy burden on the environment through pollution, resource depletion, and climate change, posing significant risks to ecosystems and human health.

Market Volatility and Financial Instability: Rapid technological advancements can lead to market disruptions, speculative bubbles, and financial crises, impacting stability and investor confidence.

Data Privacy Concerns: Increased data collection and surveillance in the digital economy raise concerns about privacy violations, identity theft, and misuse of personal information.

Geopolitical Tensions: The globalized nature of the modern economy can exacerbate geopolitical tensions,

trade disputes, and conflicts over resources, posing risks to international stability and cooperation.

Social Fragmentation and Disconnection: Overreliance on technology and social media can contribute to social isolation, mental health issues, and polarization, undermining community cohesion and trust.

Ethical Dilemmas: The pursuit of profit and efficiency in the modern economy may raise ethical dilemmas related to worker rights, consumer safety, and corporate responsibility.

Dependency on Complex Supply Chains: Globalized supply chains are susceptible to disruptions from natural disasters, political unrest, or trade conflicts, leading to shortages, price fluctuations, and production delays.

Navigating these risks requires a comprehensive approach involving government regulations, corporate responsibility, technological innovation, and societal awareness to ensure a sustainable and inclusive modern economy.

At the same time, as our working hypothesis, the effectiveness of the risk management system for individuals and legal entities in the context of economic modernization is largely determined by the quality and completeness of the stage of risk identification and analysis. We believe that the preferred method of managing the risks of individuals and legal entities is carried out at a professional level by persons trained according to predetermined methods. The development of insurance as an element of the risk management system for legal entities and individuals is determined by the characteristics of the main processes occurring in risk management (Fig. 2). In this case, these processes arise from each other, they do not have a clear hierarchical order and differentiation, they are characterized by a strong interaction.

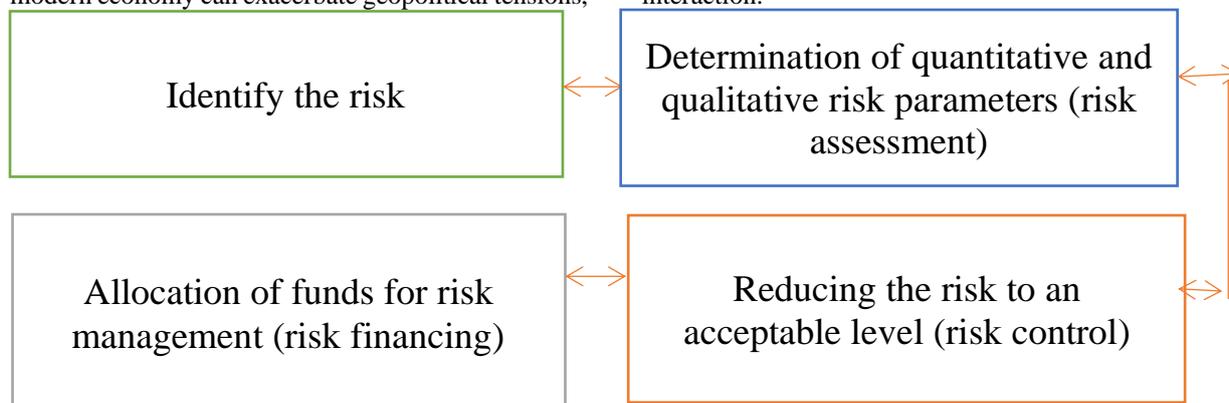


Figure 2. Basic processes of risk management ⁴

⁴ The literature was compiled by the author based on the study.

The main purpose of risk identification and analysis is to form a complete picture of the risks that threaten entrepreneurship, the property interests of individuals and legal entities, the obligations arising in the course of business relations, the rights of third parties, and the lives and health of people. The most professional and competent process of risk identification and analysis is carried out by the method of risk management when taking insurance, because the efficiency of the insurer's business depends on it.

The main insurable risks of the modernized economy In the modernized economy, where technology plays a central role and businesses operate in complex global networks, several insurable risks emerge. These risks can vary across industries and sectors, but some of the main insurable risks include:

1.Cybersecurity Incidents: Cyberattacks, data breaches, and other forms of cyber threats can lead to financial losses, legal liabilities, and damage to reputation. Cyber insurance helps cover costs related to incident response, data recovery, and legal defense.

2.Business Interruption: Disruptions caused by natural disasters, equipment failures, or supply chain issues can lead to downtime and revenue loss. Business interruption insurance compensates for lost income and helps cover ongoing expenses during the recovery period.

3.Property Damage: Physical assets such as buildings, machinery, and inventory are susceptible to damage from fire, theft, vandalism, and natural disasters. Property insurance provides coverage for repair or replacement costs.

4.Professional Liability: Professionals such as doctors, lawyers, and consultants face the risk of lawsuits alleging errors, omissions, or negligence in their services. Professional liability insurance, also known as errors and omissions insurance, covers legal defense costs and settlements.

5.Product Liability: Manufacturers, distributors, and retailers may be held liable for injuries or damages caused by defective products. Product liability insurance protects businesses from financial losses arising from product-related lawsuits.

6.Directors and Officers Liability: Executives and board members can be personally liable for decisions that result in financial losses or legal disputes. Directors and officers (D&O) liability insurance provides coverage for legal defense costs and settlements.

7.Employment Practices Liability: Claims related to wrongful termination, discrimination, harassment, or wage violations can result in costly legal proceedings. Employment practices liability insurance (EPLI) covers defense costs and damages awarded to employees.

8.Supply Chain Risks: Businesses rely on interconnected supply chains that can be disrupted by events such as supplier failures, transportation delays, or geopolitical conflicts. Supply chain insurance helps

mitigate financial losses caused by supply chain disruptions.

9.Environmental Liability: Companies may face liabilities for pollution, contamination, or environmental damage caused by their operations. Environmental liability insurance provides coverage for cleanup costs, legal expenses, and damages.

10. Terrorism and Political Risk: Political instability, acts of terrorism, or civil unrest can disrupt business operations and lead to property damage or business interruption. Terrorism and political risk insurance offers protection against such events.

Insuring against these risks helps businesses mitigate financial losses and protect their assets, enabling them to operate with greater resilience in the modernized economy.

All of the above requires professional implementation of the processes of identification and analysis of risks offered to insurance in order to determine the possibility and conditions of insurance - to improve the quality of underwriting. At the stage of economic modernization, the main functions of underwriting in the insurance sector are to identify profitable areas of the insurance business and to identify opportunities for insuring them on individual terms, considering new risks or risk groups.

In our opinion, the first function of underwriting is carried out by developing the main insurance products in the main areas of the insurer's activity and training the employees of the insurer involved in the conclusion and execution of the main insurance contracts, as well as continuous risk control. The second function of underwriting is the professional insurance examination of new risks, the determination of insurance possibilities and acceptable terms of the insurance contract based on the principles of insurance.

Studies show that in the stage of modernization of the country's economy, in order to use insurance as an effective method of risk management for individuals and legal entities, the appropriate quality of risk management is required from the insurer itself, that is, management of solvency and compliance risks. The main function of compliance risk management in insurance is to maintain order, that is, to ensure compliance by the insurance company and its employees with the norms established by the applicable legislation. The purpose of compliance risk management in insurance is to prevent risks and losses that may occur to the insurance company as a result of violations of certain norms and rules.

At the same time, solvency risks can be managed directly by the insurer, and compliance risks are determined by the state and development prospects of the system of state regulation of insurance activities as

an element of the risk management system of legal entities and individuals.

As an element of the system of state regulation of insurance activity, the system of risk management of legal and natural persons, the modern state of the practice of setting the rules, norms and standards mandatory for its participants, licensing insurance activity, determining the standards of financial stability and solvency of insurers is analyzed. This made it possible to form the basic norms of civil, administrative, state, financial and international law in the field of insurance business and to determine the sources of compliance risks (compliance risks) for domestic insurers.

As a working hypothesis in our research, the thesis that the local insurance market is a network market for the financial market of the country is a set of professional participants of insurance activities interacting in the technological, informational, economic and managerial spheres. At the same time, the insurance market is in the process of endogenous evolutionary development, its driving factor is its own internal problems, processes and contradictions, and it is appropriate to study it as a system in the process of dynamic development. The insurance market contributes to economic growth and development, its state, structure, scope and diversity of functions, in turn, serve the development of the country's economy, the quality of its institutions and the improvement of the business environment.

Among the main problems of the local insurance market, which prevent the use of insurance as an element of risk management for individuals and legal entities, include:

- Low level of insurance culture among representatives of private and small businesses, as well as the population (in this case, insurance culture means a conscious perception of the appropriateness and necessity of financial expenses for insurance);

- Low level of insurance coverage of the population (extremely small volume of retail sales of optional types);

- Lack of development of compulsory insurance types; weak capitalization of most insurance companies;

- Insufficient development of life insurance;

- Limited types of insurance services offered in practice, which do not reflect the current and prospective needs of legal entities and individuals;

- The absence of a large, well-capitalized, national reinsurance company;

- Lack of mutual insurance; insufficient level of state regulation and control of insurance activities, especially in matters of ratio of obligations and reserves;

- Practical absence of a self-regulating, modern, effective organization of insurance market participants of Uzbekistan.

The strategy of development of the insurance market of Uzbekistan to reach the extractive and developed countries made it possible to create the institutional foundations of the insurance business in the country. But it did not fully meet the expectations: according to the main macroeconomic indicators, the domestic insurance market lags behind not only economically developed countries, but also developing countries. The status of insurance as an element of the risk management system allows the insurance market of Uzbekistan to be included among the "soft" insurance markets characterized by a relatively large number of participants and a low level of insurance premiums. The level of insurance culture in the country is low, the population is excluded from insurance, its insurance needs are mainly met through non-commercial mutual insurance on the basis of partnerships.

To increase the effectiveness of the use of insurance as an element of the risk management system for individuals and legal entities:

- Developing a strategy for the inclusive development of the local insurance market based on the national insurance model, taking into account the specific characteristics of Uzbekistan;

- Increase the requirements for the financial stability and solvency of domestic insurers in general, and in particular for the amount of authorized capital;

- Radically improve underwriting in local companies; we consider it appropriate to create conditions for the rapid digitization of the local insurance business.

CONCLUSION

The literature review provides a comprehensive overview of recent research on risk insurance in the modernized economy, encompassing various dimensions such as technological innovation, cyber risk, climate change, behavioral economics, and regulatory frameworks. It highlights the evolving nature of risks faced by individuals and organizations in today's dynamic environment and the corresponding challenges and opportunities for insurers.

Technological advancements, including machine learning and artificial intelligence, have enabled insurers to enhance risk assessment, underwriting accuracy, and claims management processes. Cyber risk insurance has emerged as a critical component of risk management strategies, given the increasing prevalence of cybersecurity threats in the digital age. Similarly, climate change poses significant challenges to insurers, necessitating innovative solutions such as

parametric insurance and catastrophe bonds to manage climate-related risks effectively.

Behavioral economics offers valuable insights into how individuals make insurance decisions and perceive risks, informing insurers' efforts to design more effective risk communication strategies and product offerings. Moreover, regulatory frameworks play a crucial role in maintaining financial stability and ensuring insurer solvency, with regulatory reforms such as Solvency II shaping insurer capital requirements and risk management practices.

In our opinion, the implementation of the above activities:

urgent tasks for the development of insurance mechanisms for the protection of property interests of individuals and legal entities, to provide a solution, to strengthen the systems of state regulation and control in the insurance sector; to increase the level of protection of the state, enterprises and population from the consequences of various risk groups of the modernizing economy, and to increase the quantity and quality of insurance products offered to manage the risks of individuals and legal entities; to increase the investment attractiveness of the local insurance market in general, and of individual insurers in particular; to create conditions for the rapid development of life insurance and, accordingly, insurance mechanisms for managing the risks of individuals in the modernized economy; allows to create and further develop a legal system of insurance protection of the property interests of the population, enterprises and the state.

At the current stage of development, insurance of the risks of foreign economic activity, including the growing volume of investment projects, is a necessary part of international economic relations. This is related to the protection of partners in foreign economic relations from losses that occur during their activities. In foreign economic activity, insurance is one of the main elements of foreign trade and investment, and it is becoming the most convenient means of quickly covering damages and losses in the process of production, transportation and product use.

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