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IMPROVEMENT OF CAPITAL REQUIREMENTS IN INSURANCE COMPANIES OF UZBEKISTAN

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Abstract

This article examines approaches to optimizing capital requirements for insurance companies in Uzbekistan. It analyzes existing regulatory frameworks and international standards, including Solvency II. The study explores risks associated with insufficient capitalization and proposes measures to improve capital and reserve management mechanisms. The research aims to adapt advanced regulatory practices to the national insurance market, ensuring its sustainable development.

Keywords: *insurance, insurance company capital, financial stability, Solvency II, risk-based regulation, minimum capital requirements (MCR)*

Introduction

The financial stability of insurance companies is a key factor ensuring the overall stability of the national insurance market and the effective fulfillment of insurers' obligations to policyholders. In the current context of Uzbekistan's economic development, characterized by deeper integration with international financial institutions and reforms in the insurance sector, improving capital management mechanisms and reserve practices in insurance companies is of particular importance. Implementing risk-based solvency standards similar to international models has become a crucial objective of national regulation.

Capital regulation in insurance aims to ensure financial stability and protect policyholders by maintaining a sufficient gap between assets and liabilities to meet obligations, even under adverse conditions. Recent international practices emphasize risk-based capital models, with capital requirements tied to asset and liability risks, as adopted in markets like the EU, UK, Australia, and the US.

Uzbekistan is actively reforming its insurance sector under the "New Uzbekistan – Development Strategy 2022–2026", enhancing solvency control, introducing new actuarial methods, and expanding capital requirements. However, challenges remain, including the need to localize international approaches, address limited historical data, and strengthen methodological and technological capacities.

This article examines capital and reserve management mechanisms in Uzbekistan's insurance sector, analyzes international best practices, and proposes recommendations for adapting global standards to local conditions.

The relevance of the study is supported by Uzbekistan's regulatory documents governing insurance activities, including the Law of the Republic of Uzbekistan "On Insurance Activities" (amended in 2023), the Presidential Decree "On Measures for the Development of the Insurance Market" (No. PQ-4669), as well as regulations issued by the Ministry of Finance and the Central Bank of the Republic of Uzbekistan. The implementation of effective capital and reserve management mechanisms in accordance with international standards will enhance the financial stability of the national insurance sector and strengthen investor and consumer confidence in insurance services.

Literature Review

Scientific research dedicated to the financial stability of insurance organizations provides an extensive analysis of key aspects related to determining and ensuring the financial resilience of insurance companies. Studies emphasize the role of capital regulation in protecting policyholder interests and maintaining the stability of the insurance market. One of the main directions of academic analysis is the examination of approaches to evaluating insurance companies and managing capital in a volatile macroeconomic environment.

According to international studies, such as those by Cummins (1988) and Buzic (1994), the financial stability of insurance companies depends largely on the level of capital and its ability to cover unexpected losses. Sherris (2003) introduced the concept of Dynamic Financial Analysis (DFA) as a method for assessing insurers' capital requirements, allowing for risk-based approaches to asset and liability management.

A major focus of modern literature is the study of Solvency II standards. According to the Insurance Core Principles Working Party (IAA, 2004), contemporary regulatory models incorporate two methods for calculating capital: the standard formula and advanced internal models. This issue is particularly relevant for developing countries, where it is necessary to adapt international requirements to local conditions.

In Uzbekistan, the issue of the financial stability of insurance companies is actively addressed in regulatory documents, including the Law of the Republic of Uzbekistan "On Insurance Activities" and Presidential Decree No. PQ-4669. However, scientific research on adapting international models of capital and reserve management remains at an early stage.

This article aims to examine existing approaches to capital regulation, identify gaps in the national regulatory framework, and develop practical recommendations for improving the management of insurance company capital and reserves in Uzbekistan, taking into account international standards.

Research Methodology

This study is based on a combination of quantitative and qualitative analysis methods, allowing for a comprehensive examination of capital and reserve management mechanisms in insurance companies in Uzbekistan. The research employs the following methodological approaches.

This involves studying the current legislation and regulatory documents of the Republic of Uzbekistan, as well as international insurance regulation standards, including Solvency II and the recommendations of the International Actuarial Association (IAA).

This approach reviews best practices in capital and reserve management from the EU, UK, and Australia to identify key factors affecting financial stability. Statistical methods and econometric models assess the impact of various factors on the capitalization of Uzbek insurers, highlighting the main determinants of solvency. Scenario modeling considers regulatory changes, macroeconomic trends, and new capital management practices. Data from insurers, regulators, and experts evaluate the practical applicability of recommendations. A comprehensive methodology supports both the analysis of current mechanisms and the development of improvement strategies tailored to Uzbekistan's conditions.

Research Analysis

The study examined the capital and reserve management models of foreign insurance companies based on international best practices. These models account for key risks affecting insurers' solvency, including investment risk, insurance risk, credit risk, and operational risk.

Dynamic Financial Analysis (DFA) methods were applied to assess the variability of insurance claims, catastrophic risks, and the impact of macroeconomic factors on insurers' investment portfolios. Additionally, stress-testing was employed to model different insurance market development scenarios and their influence on company capitalization.

Special attention was given to the interdependence between different business lines of insurance companies. In this regard, modern stochastic models such as copulas were used to more accurately model the probability distribution of extreme risks, which is particularly important for Uzbekistan's insurance market, given its relatively small size and high risk concentration in certain segments

The study identified key challenges in capital management within Uzbekistan's insurance sector, including limited access to actuarial data, insufficient diversification of investment portfolios, and the need to improve regulatory requirements for reserve formation. The developed recommendations focus on optimizing capital requirements and adapting international standards to national conditions, aiming to enhance the stability of the country's insurance sector.

Similar trends in capital allocation were observed in Uzbekistan's insurance market, though some significant differences remain. Notably, compulsory insurance of civil liability for vehicle owners (CICLVO) continues to dominate, but due to relatively low premium volumes and limited actuarial data, capital requirements for this segment may differ.

Property insurance, including residential and commercial real estate, construction, and infrastructure projects, requires greater attention to risk assessment in Uzbekistan, given market growth. This may lead to an increase in the share of capital allocated to this segment.

Adapting international capital allocation models to national conditions requires consideration of the unique characteristics of the economic environment, regulatory standards, and the availability of actuarial data.

Table 1. *Capital Allocation Across Business Lines in the Baseline Scenario*

Business Line	Capital (thousand USD)	Share of Total Capital (%)
Domestic Motor Insurance	28,291	9.1%
Home Insurance	60,965	19.7%
Fire and Industrial Risk Insurance	11,550	3.7%
Civil Liability Insurance	7,266	2.3%
Compulsory Motor Third-Party Liability (CMTPLI)	201,323	65.1%

This table presents the allocation of the Minimum Capital Requirement (MCR) across various business lines of an insurance company under the baseline scenario. The largest share of capital, 65.1%, is allocated to the compulsory motor third-party liability insurance (CMTPLI), reflecting the high proportion of risks associated with long-term liabilities and payment uncertainties.

Home insurance accounts for the second-largest share (19.7%) due to the high volatility of loss costs and significant potential claims. Meanwhile, despite its widespread coverage, domestic motor insurance demonstrates lower capital requirements (9.1%), which is linked to the relatively short claims settlement period.

The level of Minimum Capital Requirement (MCR) for insurance companies is significantly influenced by assumptions regarding the volatility of insurance liabilities. In particular, differences in methods for calculating the coefficient of variation (CV) have a considerable impact on the volume of required capital. Companies with lower risk profiles are less likely to use internal models for MCR calculation, whereas insurers facing higher volatility tend to apply such models to optimize capital requirements.

In Uzbekistan, the use of internal models for capital calculation is not yet widespread. This is partly because the current regulatory approach often leads to lower capital requirements compared to what could be achieved through internal modeling. However, such an approach may expose insurers to the risk of underestimating liabilities, potentially resulting in undervalued insurance premiums and reduced financial stability of the sector in the future.

One of the key regulatory challenges is the calibration of capital requirements. International practices, such as Solvency II, employ a risk-based approach that considers each insurer's specific characteristics, liability portfolio, and risk environment. In contrast, Uzbekistan's current standards do not yet provide for a differentiated approach to MCR calculation, which limits system flexibility and increases the risk of underestimating capital needs.

Existing regulations do not always ensure adequate solvency across all insurers, regardless of business size or portfolio structure. International practices increasingly require higher capital for liabilities with greater volatility to better prepare for adverse scenarios. In Uzbekistan, the revision of capital requirements may become necessary, particularly amid integration with international standards.

It is also crucial to account for diversification effects. Larger insurers benefit from lower capital burdens through diversified portfolios, while smaller, specialized companies may be underestimated under current regulations, highlighting the need for adjustments based on business scale and diversification.

Investment risk regulation remains essential, as current standards often fail to fully capture the effects of investment decisions or encourage well-diversified portfolios. Addressing these gaps is critical for ensuring the long-term financial stability of insurers in Uzbekistan.

Adopting a risk-based approach, aligning capital standards with international practices, and considering diversification would enhance the resilience of Uzbekistan's insurance sector, reducing the risks of capital shortfalls and financial instability.

Conclusion and Recommendations

Based on the analysis, several important conclusions can be drawn regarding the improvement of capital and reserve management mechanisms for insurance companies in Uzbekistan.

First, the current regulatory framework requires modernization towards a risk-based approach similar to Solvency II, allowing for better consideration of the individual characteristics of insurance portfolios and improving the accuracy of capital requirement assessments.

Second, the use of internal models for calculating the Minimum Capital Requirement (MCR) remains limited among Uzbek insurance companies. This is largely because standardized methods often impose lower capital requirements than internal models would. Introducing a more flexible methodology that reflects the true variability of insurance liabilities could enhance market stability.

Third, the regulatory capital requirements should be revised to account for the degree of diversification among Uzbek insurers. Under the current system, smaller insurers with narrow specialization may be underestimated, increasing their financial risks. Adjustments that consider business scale would ensure a fairer distribution of capital requirements.

Fourth, the regulation of investment risks remains a critical aspect of maintaining the financial stability of insurance companies. Incentivizing the formation of diversified investment portfolios and revising capital requirements for high-risk assets would help mitigate systemic risks.

Thus, the proposed measures for improving capital and reserve management mechanisms in Uzbekistan's insurance sector would strengthen the sector's financial resilience, enhance public trust in insurance companies, and ensure their long-term solvency.

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