Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 11 | November 2025 -Peer-Reviewed Journal

PROSPECTS FOR USING UNDERWRITING STRICTNESS INDEX IN THE INNOVATIVE DEVELOPMENT OF UZBEKISTAN'S INSURANCE MARKET

Ilkhom Kamilovich Madrakhimov
Independent Researcher, Tashkent State University of Economics

ABSTRACT
This paper examines the prospects for implementing the Underwriting Strictness Index (USI) as an innovative tool for strengthening risk assessment, improving portfolio quality, and enhancing financial stability in Uzbekistan's insurance market. The study explores how the USI integrates strategic alignment, documentation quality, counterparty credit ratings, financial stability indicators, and compliance with international standards such as Solvency II and IAIS principles. A comprehensive operational algorithm is proposed to guide insurers in applying the index during the underwriting process. The findings indicate that the USI can significantly reduce adverse selection, increase underwriting discipline, and enhance transparency in decision-making. Moreover, the adoption of the index supports Uzbekistan's integration into global insurance markets by improving credibility, attracting international reinsurers, and fostering a more competitive and innovative insurance environment.
KEY WORDS: *Underwriting Strictness Index, Insurance Market, Risk Assessment, Solvency II, Underwriting Discipline, Portfolio Strategy, Counterparty Rating, Financial Stability, Reinsurance, Innovative Development*

INTRODUCTION

In recent years, Uzbekistan's insurance market has entered a phase of structural modernization driven by economic reforms, digital transformation, and the growing demand for risk-management instruments. As the sector evolves, insurers are increasingly required to improve the quality of underwriting practices to ensure long-term financial stability and compliance with international supervisory standards. In this context, the development and application of analytical tools that enhance risk assessment have become a strategic priority for both regulators and insurance companies. One such promising tool is the Underwriting Strictness Index (USI), which enables the quantification of underwriting discipline and the identification of weaknesses in portfolio formation.

The Underwriting Strictness Index serves as an analytical indicator that evaluates the consistency, accuracy, and risk sensitivity of underwriting decisions across different insurance products and customer segments. In global practice, high underwriting strictness correlates with reduced loss ratios, more stable premium flows, and improved solvency positions. For emerging markets like Uzbekistan, where underwriting standards vary significantly among insurers and loss-ratio volatility remains high in several segments, the implementation of such an index can play a pivotal role in improving risk management efficiency. Moreover, the USI provides insurers with a measurable framework to align underwriting policies with international benchmarks such as Solvency II and IAIS risk-based supervision principles.

Given the ongoing digitalization of Uzbekistan's insurance market, the integration of the Underwriting Strictness Index also offers strong innovation potential. The increasing availability of digital customer data, online policy issuance systems, and automated scoring models creates favorable conditions for the operationalization of the USI within modern InsurTech platforms. This makes the index not only a supervisory tool but also an instrument of competitive advantage—helping insurers optimize their portfolios, reduce adverse selection, and design more sustainable products. Therefore, assessing the prospects of applying the Underwriting Strictness Index is essential for enhancing the innovative development and long-term resilience of Uzbekistan's insurance sector.

LITERATURE REVIEW

In the global insurance literature, underwriting quality and its measurement are considered essential components of sustainable market development. The studies of the International Association of Insurance Supervisors (IAIS, 2022) emphasize that effective risk-based supervision requires quantifiable indicators reflecting the consistency

and strictness of underwriting decisions. IAIS highlights that weak underwriting discipline is directly associated with high loss ratios, volatility of reserves, and increased solvency risks—particularly in emerging markets. This provides conceptual grounding for the development of an Underwriting Strictness Index (USI) as a supervisory and analytical tool.

Credit rating agencies such as A.M. Best (2023), Standard & Poor's (2022), and Moody's (2023) also identify underwriting discipline as one of the core determinants of insurers' financial strength ratings. Their methodologies show that insurers with strong underwriting standards exhibit lower combined ratios, more stable capital adequacy positions, and stronger resilience to market shocks. These findings support the argument that integrating a structured Underwriting Strictness Index can improve transparency in evaluating insurers' performance and strengthen competitive dynamics within the market. In addition, the Organisation for Economic Co-operation and Development (OECD, 2021) notes that underwriting quality is a driver of innovation, as it encourages insurers to adopt advanced risk-assessment technologies and data-driven decision-making models.

Recent analytical reports by Swiss Re Institute (2023) reaffirm that the transition to digital ecosystems amplifies the importance of underwriting strictness. As insurers increasingly rely on automated scoring, big data analytics, and AI-driven risk assessment, measurable underwriting indicators become essential for monitoring model performance and minimizing adverse selection. Swiss Re argues that emerging markets can significantly benefit from such indicators because digitalization accelerates both efficiency and risk exposure. For countries like Uzbekistan, where underwriting practices vary widely across insurers, implementing a standardized USI could improve portfolio quality, reduce loss ratio volatility, and facilitate convergence with Solvency II principles.

Overall, existing literature demonstrates that an Underwriting Strictness Index has strong potential as a regulatory, analytical, and innovative tool. It aligns with global supervisory trends, supports risk-based capital systems, and helps insurers adopt modern technologies for accurate risk assessment. These conclusions collectively indicate that integrating the USI into Uzbekistan's insurance sector could play a significant role in strengthening market stability, enhancing transparency, and accelerating innovative development.

ANALYSIS AND DISCUSSION

The scientific novelty of this approach lies in the fact that traditional indicators typically measure financial stability or risk exposure in isolation, whereas the proposed integrated model evaluates these indicators in combination. Such integration allows insurers to assess risk diversification across portfolio segments, monitor loss indicators, and determine capital adequacy in accordance with international standards. As a result, the model provides both theoretical and practical value for developing innovative management decisions within Uzbekistan's insurance market.

In the context of applying Solvency II requirements to the national insurance sector, defining threshold ranges for the loss ratio and the capital-plus-reserves-to-liabilities ratio is crucial for maintaining financial stability. As illustrated in the Solvency II–based assessment table, the loss ratio serves as one of the primary indicators of underwriting discipline and insurer resilience. The optimal range (40–60%) ensures a sustainable balance between premium income and claim payments. A range of 61–80% remains acceptable but requires enhanced risk monitoring, while a ratio of 81% or higher signals deteriorating portfolio quality and the need for immediate corrective actions or capital reinforcement.

The capital and reserves to liabilities ratio also serves as a key measure of solvency under international standards. An optimal level of 100% or above indicates that the insurer is fully capable of covering its liabilities. A ratio between 90% and 99% is considered moderately stable but necessitates additional capital buffers or the expansion of reinsurance arrangements. If the ratio falls below 90%, capital adequacy becomes compromised, highlighting the need for urgent stabilization measures. In this regard, the introduction of the Underwriting Strictness Index (USI) is proposed as an innovative mechanism. The USI enhances solvency monitoring by evaluating underwriting discipline, identifying weaknesses in portfolio structure, and providing insurers with a risk-sensitive tool aligned with Solvency II principles.

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 11 | November 2025 -Peer-Reviewed Journal

Table 1. Threshold Ranges of Uzbekistan's Insurance Market According to Solvency II Requirements

Indicators	Optimal Range	Acceptable Range	Risky Range	Scientific Justification
Loss Ratio	40–60%	61–80%	81% and above	A 40–60% loss ratio ensures a stable balance between premiums and claims; 61–80% indicates an acceptable but closely monitored condition; above 81% reflects high financial risk and portfolio deterioration.
Capital and Reserves / Liabilities	≥ 100%	90–99%	< 90%	A ratio of ≥100% signifies full coverage of liabilities in line with Solvency II standards; 90–99% indicates partial stability requiring capital strengthening; <90% signals a breach of capital adequacy and elevated solvency risk.

Source: author's analysis.

The capital-and-reserves-to-liabilities ratio serves as a key indicator for assessing an insurer's financial stability in line with international standards. As shown in the table, an optimal level of 100% or higher demonstrates the company's full ability to cover its liabilities, while the 90–99% range indicates partial stability and the need for additional capital or enhanced reinsurance arrangements. A ratio below 90% signals a breach of capital adequacy and requires immediate corrective action. For this reason, we propose the introduction of an Underwriting Strictness Index (USI) to strengthen solvency monitoring.

In recent years, Uzbekistan's insurance market has been increasingly integrated into global financial systems, expanding cross-border cooperation, reinsurance partnerships, and foreign investment interactions. Under such conditions, insurers must comply not only with domestic requirements but also with international standards. Implementing strict underwriting criteria enhances the insurer's financial resilience and credibility in both local and foreign markets.

Introducing an Underwriting Strictness Index is therefore timely and aligned with international best practices. First, it standardizes risk-acceptance procedures based on a unified methodology and the counterparty's rating quality. Second, it reduces the share of high-risk exposures within the insurance portfolio. Third, it strengthens the company's reliability in the eyes of global reinsurers and facilitates the attraction of foreign capital. Thus, the USI improves insurers' adaptability to global market requirements and increases their overall competitiveness.

Portfolio strategy plays a central role in the Underwriting Strictness Index, as it determines the insurer's long-term direction and risk appetite. An insurer must assess in advance which business lines it plans to expand, how effectively it can diversify risks, and what growth potential each segment offers. Without a clearly defined strategic vision, insurers are likely to accept an excessive share of high-risk exposures, which may undermine financial stability and distort the structure of the insurance portfolio. A well-formulated portfolio strategy therefore serves as a foundation for disciplined underwriting.

One of the core components of the index is the insurer's ability to select, evaluate, and manage risks. This includes establishing underwriting limits, determining appropriate retention levels, and defining the scope of reinsurance arrangements. These parameters directly influence both the financial soundness and the overall safety of the portfolio. Effective risk selection requires a structured approach to exposure measurement, counterparty assessment, and alignment with the insurer's capital capacity. Thus, disciplined acceptance of risk is essential for maintaining underwriting quality.

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 11 | November 2025 -Peer-Reviewed Journal

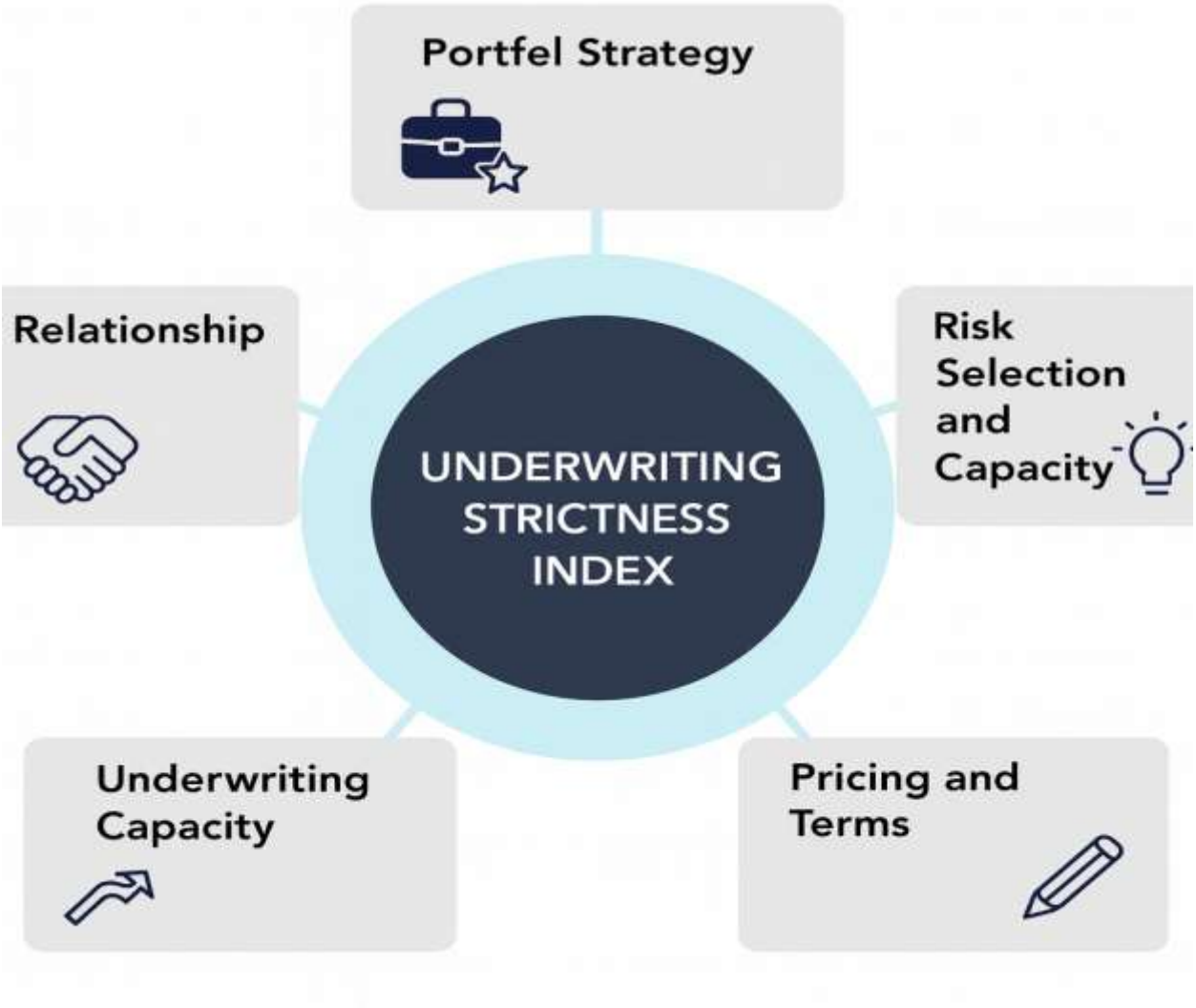


Figure 1. Description of the factors involved in the underwriting strictness index[1]

Identifying the right balance between coverage breadth and premium pricing is a key requirement of the Underwriting Strictness Index. Premiums set too low reduce the company's profitability and weaken its solvency position, while excessively high premiums may drive customers away and reduce market competitiveness. Therefore, pricing must be aligned with risk levels, actuarial assessments, and market dynamics. Well-designed policy terms, exclusions, deductibles, and limits also form part of pricing discipline and contribute to sustainable underwriting results.

Strong and transparent relationships between the insurer, brokers, and policyholders represent another critical dimension of the index. Professional cooperation, honest communication, and responsiveness to customer needs help build trust and enhance the insurer's market reputation. These factors positively influence rating assessments and strengthen long-term customer loyalty. Ethical conduct and service quality also reduce disputes and support a healthier underwriting environment.

To effectively implement the index, insurers must possess adequate underwriting capacity, including expertise, experience, human capital, and technological tools. These resources enable accurate risk assessment, data-driven decision-making, and alignment with international risk-based standards. Robust underwriting capacity allows insurers to identify emerging risks, prevent adverse selection, and maintain a stable and diversified portfolio. In the digital era, advanced analytics and automation significantly strengthen this capacity.

[1] *Author's Own Conceptual Framework.*

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 11 | November 2025 -Peer-Reviewed Journal

Table 2. Criteria and scoring system of the "underwriting strictness index" for assessing risks in insurance companies[2]

№	Criteria	Assessment Indicator	Score Range
1	**Alignment with Risk Strategy**	Fully aligned – 20 points; Partially aligned – 10 points; Not aligned – 0 points	0–20
2	**Quality Standards**	Complete documentation with high accuracy – 20; Average – 10; Low – 5	0–20
3	**Counterparty International Rating**	AAA–A: 20 points; BBB–B: 15 points; CCC–C: 10 points; D: 0 points	0–20
4	**Financial Stability Indicator**	Capital adequacy >2 times – 15; 1.5–2 times – 10; 1–1.5 times – 5	0–15
5	**Compliance with International Standards** (IAIS, Solvency II, IFRS)	Fully compliant – 15; Partially compliant – 10; Not compliant – 0	0–15
6	**Claims Performance Indicators**	On-time and satisfied claims >90% – 10; 70–89% – 5; <70% – 0	0–10

Total: 100 points

Index Interpretation Scale

86–100 points → High Underwriting Strictness (Risk is accepted quickly; policy terms are prepared efficiently.)
66–85 points → Medium Strictness (Senior underwriter reviews the case before approval.)
46–65 points → Low Strictness (Detailed expert analysis is required; risk may be rejected.)
0–45 points → Very Low Strictness (Application is rejected immediately.)

We developed a comprehensive operational algorithm for applying the Underwriting Strictness Index (USI) in the assessment of counterparty risk within international insurance and reinsurance agreements. The algorithm is designed to ensure that underwriting decisions are consistent, transparent, and aligned with both internal portfolio strategy and global supervisory expectations. In the first phase, the insurance application is formally registered and subjected to an initial screening by the underwriter. At this stage, the purpose is to determine whether the submitted information is complete, whether the basic eligibility criteria are met, and whether the initial risk characteristics comply with the insurer's underwriting guidelines. If any discrepancies, missing data, or documentation gaps are identified, the underwriter initiates a feedback loop by requesting additional information, clarifications, financial reports, or technical documentation from the broker or the policyholder. This iterative step ensures that each application reaches the required informational accuracy before undergoing deeper risk analysis.

Once the supplementary documents are received, the application is reassessed, and the underwriter determines whether further clarification is needed or whether the information is sufficient to proceed. If the application is complete, the next stage of the algorithm focuses on strategic alignment. This is a critical step, as it evaluates whether the proposed risk is consistent with the insurer's long-term portfolio objectives, market positioning, risk appetite framework, and geographical or sectoral focus. Risks that fall outside the company's strategic priorities—such as high-volatility industries, non-core geographical regions, or exposures inconsistent with capital capacity—are automatically rejected to prevent unnecessary strain on the portfolio's risk balance. This mechanism minimizes adverse selection and ensures that the insurer engages only in transactions that enhance the quality and sustainability of its underwriting results.

[2] *Author's Own Conceptual Framework.*

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2025): 8.619 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 12 | Issue: 11 | November 2025 -Peer-Reviewed Journal

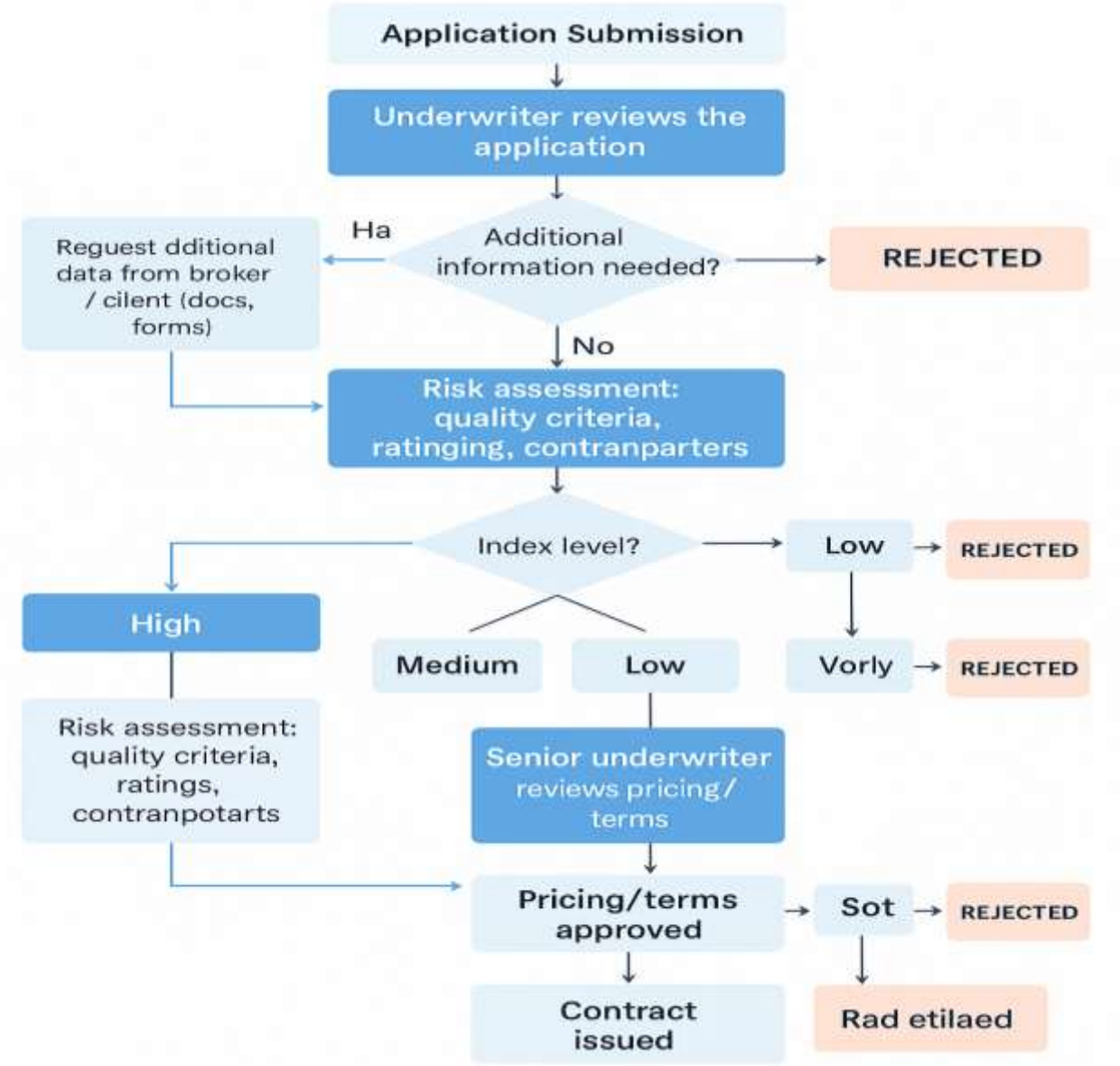


Figure 2. Description of the algorithm for calculating the underwriting strictness index in assessing the risk of international contracts [3]

For applications that successfully pass the strategic alignment filter, the process advances to the detailed risk evaluation phase based on the Underwriting Strictness Index. At this stage, risks are assessed according to multiple predefined criteria, including the completeness and quality of documentation, the counterparty's international credit rating, capital adequacy ratios, compliance with IAIS, Solvency II, and IFRS standards, and the historical performance of claims. Each criterion is evaluated using a structured scoring system that produces an aggregate USI score, which determines the final underwriting decision. High-scoring risks may be accepted under standard terms, moderate-scoring risks require review by senior underwriters or additional reinsurance, while low-scoring risks undergo enhanced due diligence or are declined. This structured algorithm provides insurers with a systematic, data-driven, and globally aligned approach to underwriting, thereby strengthening financial stability, improving portfolio resilience, and enhancing the insurer's competitiveness in the international market.

CONCLUSION

The introduction of the Underwriting Strictness Index presents a significant step forward in enhancing the efficiency, transparency, and stability of Uzbekistan's insurance market. By integrating strategic alignment, documentation quality, counterparty ratings, financial stability indicators, and compliance with international

[3] Author's Own Conceptual Framework.

standards into a unified assessment model, the index provides insurers with a comprehensive tool for evaluating risks with greater accuracy. This approach not only minimizes underwriting errors and adverse selection but also strengthens capital adequacy and supports the long-term sustainability of insurance portfolios aligned with Solvency II and IAIS principles.

Furthermore, the operational algorithm developed for applying the index ensures that underwriting decisions are made systematically, consistently, and in accordance with modern global practices. As Uzbekistan expands its international partnerships and opens new opportunities for foreign investment and reinsurance cooperation, the Underwriting Strictness Index becomes an essential mechanism for improving the market's credibility and competitiveness. By adopting this model, insurers can enhance their reputation, attract highly rated international partners, and contribute to the development of a more resilient, innovative, and globally integrated insurance sector.

REFERENCES

1. *A.M. Best. (2023). Best's Credit Rating Methodology. A.M. Best Company. https://www.ambest.com*
2. *International Association of Insurance Supervisors. (2022). Global Insurance Market Report (GIMAR) 2022. IAIS. https://www.iaisweb.org*
3. *Moody's Investors Service. (2023). Global insurance outlook 2023: Risk, capital and profitability trends. Moody's Analytics. https://www.moodys.com*
4. *Organisation for Economic Co-operation and Development. (2021). Insurance Market Trends 2021. OECD Publishing. https://www.oecd.org*
5. *Standard & Poor's Global Ratings. (2022). Insurance Ratings Methodology. S&P Global. https://www.spglobal.com*
6. *Swiss Re Institute. (2023). World Insurance: Global Review and Outlook 2023. Swiss Re. https://www.swissre.com/institute*