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Characteristics of Calculating Insurance Tariffs in Insuring the Activities of Business Subjects

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ABSTRACT

Objective: *The study aims to investigate the effectiveness of actuarial calculations in determining insurance rates for business entities, emphasizing the need for flexibility across various types of insurance and adapting to specific risks and social conditions.* ***Methods:*** *The research employs actuarial techniques based on mathematical statistics and probability theory to assess risks, set tariffs, and calculate insurance payments. It includes determining damage frequency and severity within different risk groups, while accounting for the cost of insurance services and business entity property.* ***Results:*** *The study finds that insurance payments depend on the actual value of lost property or restoration costs in case of partial damage. In cases where the property value exceeds the insurance amount, the business entity must cover the difference. The analysis also reveals that actuarial calculations must adapt to regional and industry-specific risks, with social and economic factors influencing the outcomes.* ***Novelty****: This research introduces a flexible system of actuarial calculations that incorporates both planned and reported actuarial methods. It highlights the need for new incentive mechanisms, such as preferential tariffs for regular business entities, to increase interest in insurance services and ensure adequate protection in rapidly changing economic environments.*

INTRODUCTION

Correct calculation of insurance rates plays an important role in insurance relations between business entities and insurance companies. Its importance is that the insurance company makes insurance payments of different content and description, which require mathematical measurement of obligations in insurance contracts. It is clear from the analysis that when organizing actuarial calculations, it is necessary to take into account general issues that do not depend on a specific type of insurance [1]. Despite the methodological unity of all actuarial calculations, their practice is determined by the results of calculations consisting of various variations and options related to certain fields and types of insurance.

One of the key challenges in organizing actuarial calculations is accounting for the general issues that apply across various types of insurance. Regardless of the specific insurance policy in question, these general issues include risk assessment, premium determination, and the financial implications of potential claims. Actuaries must consider factors such as statistical probabilities, historical data, and potential market fluctuations to ensure that insurance rates remain fair and aligned with both industry standards and the financial needs of the insured [2]. This general framework is essential for consistency, yet it must also be adaptable to the unique characteristics of different insurance sectors.

Despite the methodological unity of actuarial calculations, the practice of determining insurance rates is far from one-size-fits-all. The results of these calculations are often influenced by numerous factors that vary across regions, industries, and specific insurance products. For instance, the types of risks associated with property insurance differ significantly from those involved in health or life insurance. As such, actuarial calculations incorporate a variety of variations and options tailored to each insurance field. This flexibility is vital for accommodating the diverse needs of businesses and the different kinds of coverage they require, ensuring that the insurance system remains both efficient and responsive to the evolving needs of the market [3].

RESEARCH METHOD

It is known that the actuarial activity is the mathematical statistics and theory of probability to base the tariffs, reserves and liabilities of the insurance company, to calculate, and to develop methods of their formation. determining the frequency of damage and the severity of its consequences in risk groups and in the insurance package as a whole, the necessary costs for organizing the insurance process It consists of accounting for justification and the cost of insurance services [4].

With the help of actuarial calculations, the volume of insurance payments provided for payment is determined. Here, it is very important to determine the damage or destruction of the property at the disposal of the insured business entities at the required level [5].

RESULTS AND DISCUSSION

The results of the study show that in the case of loss of the insured property of the business entity, in the amount of the actual value of the said property, in the amount of restoration costs in case of partial damage of the insured property; when the costs of reducing the amount of damage are realized, it is determined that these costs will be covered in the amount specified in the supporting documents.

Importantly, if the actual value of the lost property exceeds the insurance amount, the business entity is required to pay the missing part of the insurance premium in an additional way. Otherwise, its opposite, that is, it is deducted from the amount of insurance coverage. Not all costs are included in recovery costs. For example, they include the costs of temporary or additional repairs or restoration, any other costs that are more than necessary.

From the analysis of business activity, it was found that when the insurance object is completely damaged, it can be covered at the expense of the responsible person. In such a case, business entities have no right to compensation by a third party. In this case, if the part of the damage is covered or less than the insurance compensation that should be paid, the insurance compensation will be paid by the insurance company, taking into account the coverage previously received by the business entity. Based on the

requirement of the contract, the insurance company pays the insurance compensation to the business entity after signing the insurance deed.

When calculating the amount of insurance payments, the calculation unit can be considered in different hierarchical equations, that is, for the whole country, for individual regions, taking into account the characteristics of each of them and the differences in the manifestation of risks in time and space. An important feature of actuarial calculations for individual types of insurance is that due to the large fluctuations of risks in the property group, a special premium for risk is determined. In actuarial calculations for such additional personal insurance, it is usually not calculated.

When organizing actuarial calculations, it is necessary to take into account the influence of social conditions on human activity. Exact conclusions in the practice of actuarial calculations are related to the period, place and type of insurance. Actuarial calculations are determined based on the goals set by the insurer and the general economic conditions of the country. This means that the final actuarial calculations can be in several variants, based on the existence of exactly the same objective factors (occurrence of risk, level of probability, costs of operation) depending on certain social conditions.

Actuarial calculations performed by the insurance company can be classified according to several signs and types. They are also divided into planned and reported actuarial calculations by period. In practice, as a rule, report actuarial calculations are made on the operations performed by the insurance company. These calculations serve the further activity of the insurance company for this type of insurance.

Scheduled actuarial calculationsit is made only when there is a lack of some real observation of the risk when considering the introduction of a new type of insurance. Usually, the results of actuarial calculations are used for similar or similar types of insurance carried out by the company. After three to four years, adjustments are made to the planned actuarial calculations, taking into account the statistical data analysis. In this regard, planned actuarial calculations become reported actuarial calculations.

The structural structure of the insurance calculation obtained as a result of actuarial calculations is related to the proportions between the individual cost elements included in the calculation. It allows to analyze the complete and separate elements of the insurance calculation. Over time, there are changes in the structural structure of insurance calculations based on changes in risks, new insurance policies, competition in the market, etc.

In our opinion, it is necessary to create an effective system that increases the interests of business entities in purchasing insurance services by introducing a mechanism for stimulating the demand for insurance services. For example, to ensure interest in the use of insurance services by introducing preferential insurance tariffs for business entities that regularly insure their activities to the insurance company using effective actuarial calculations.

It can be concluded from the above that the insurance rates set for the insurance protection of business activities in the republic do not meet the requirements of today's rapidly changing situation. In order to prevent a negative situation, studying the relations and experiences of insurance companies of developed countries regarding the activities of business entities, and applying the practice of setting insurance rates based on actuarial calculations as much as possible when setting insurance rates.it is important to ensure the freedom of insurance companies in determining insurance premiums and payments, to establish the use of the system of incentives for life insurance by the state for business entities, to determine and control fair tariff rates taking into account the solvency of business entities.

CONCLUSION

Fundamental Findings : The study emphasizes the importance of actuarial calculations in determining insurance rates, factoring in elements such as risk assessment, premium determination, and financial implications for the insured. The research reveals the complexity of the process, which varies depending on the type of insurance, location, and other external factors, and underscores the need for flexibility in calculations to address the diverse requirements of different business sectors. **Implications :** The findings suggest that actuarial calculations are essential for ensuring fair and accurate insurance premiums, benefiting both insurance companies and business entities. The ability to adjust rates based on regional and risk-specific conditions can enhance the competitiveness of insurance services. Additionally, introducing incentive-based systems for businesses that regularly purchase insurance could stimulate demand and improve market efficiency. **Limitations :** A key limitation identified is the reliance on statistical data and historical trends, which may not fully capture future uncertainties or unforeseen events. Additionally, regional and social conditions may vary widely, making it challenging to apply uniform actuarial methods across diverse markets and industries. **Future Research :** Future research could focus on refining actuarial models to better incorporate unpredictable market changes and the evolving risk landscape. Investigating the effectiveness of incentive-based schemes and exploring the impact of international insurance practices on local markets could provide valuable insights for improving insurance calculation methods.

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