

**TO THE MEMBERS OF THE SCIENTIFIC JURY  
FOR THE PROCEDURE FOR THE ACQUISITION OF  
EDUCATIONAL AND SCIENTIFIC DEGREE "DOCTOR"  
IN THE DOCTORAL PROGRAMME "FINANCE,  
MONEY CIRCULATION, CREDIT AND INSURANCE"  
(FINANCE)**

**REVIEW**

**Reviewer:** Assoc. Prof. Krasimira Borisova Slaveva, PhD, „D. A. Tsenov Academy of Economics“ - Svishtov, Department of Statistics and Applied Mathematics, Scientific area “Statistics and Demography”.

**Author of the dissertation:** Vahan Ahasi Bohosyan, PhD student, training funded by the state, in the field of higher education: 3. Social, economic and legal sciences, professional direction: 3.8. Economy, doctoral program: Finance, money circulation, credit and insurance (Finance).

**Theme of the dissertation work:** "Increasing the value of the insurance company through reinsurance as a capital management tool"

**Scientific adviser:** Prof. Stoyan Prodanov, PhD

**Reason for submitting the review:** participation in the scientific jury for defence of the dissertation paper acc. to Order №50/20.01.2023 by the Rector of „D. A. Tsenov Academy of Economics“ - Svishtov and decision of Faculty Finance Protocol №5/19.01.2023.

This review has been prepared in accordance with the requirements of the existing Law on the Development of the Academic Staff, the Rules for its Application and the Rules for the Development of the „D. A. Tsenov Academy of Economics“ - Svishtov.

**I. General presentation of the dissertation work:**

The dissertation on the topic "Increasing the value of the insurance company through reinsurance as a capital management tool" with author Vahan Ahasi Bohosyan is in a volume of 172 pages, of which 167 pages are the main and 5 pages of bibliographic reference. . In terms of structure, there is an introduction (3 pages), an exposure in three chapters (161 pages), a conclusion (3 pages), bibliographic reference are 97, of which 74 in English language and 23 in Bulgarian, appendices (none). The main text of the study presents 39 figures and 5 tables.

The topic of the dissertation is extremely relevant and significant because adequate capital management and the increase in the value of the insurance company are very important, and consideration of reinsurance as an instrument for achieving and comparing it with other capital and financial instruments is insufficient in this aspect. In the context of increasing Solvency Requirements for Insurers, Risk and Capital Management, investment,

the assets quality, in-depth testing is extremely important and useful and makes solutions with both theoretical and practical-applied nature. The benefits of such a study may be in terms of science, insurance companies, regulators, insured persons, investors and will contribute to increasing the stability of the financial sector and the national economy.

**The object** of the dissertation work and under the focus of the research are the company's assets and capital, in particular the fixed and long-term ones, equity, the insurance portfolio and, above all, the reinsurers' share, both in assets and in liabilities.

**The subject** of the scientific work are the ways to increase the value of the insurance company by improving the capital structure using optimal levels of reinsurance.

The purpose dissertation work is to describe and synthesize knowledge and theoretical models on the subject and to analyze the current status and trends in reinsurance products, to prove hypotheses about the advantages and benefits of reinsurance over the additionally raised capital and offering options for optimizing the reinsurance program and increasing the solvency of the insurance company.

For the fulfillment of the set goal, 4 research tasks have been formulated.

- Comparison and benchmarking of types of capital and reinsurance and their impact.
- Analysis of an insurance portfolio and the effect of reinsurance on the final technical result.
- Determining of parameters for evaluation and measurement of the efficiency of the insurance activity and of the reinsurance products in relation to the needs and capital requirements of the company.
- Offering options for optimizing the reinsurance program and increasing the solvency of the insurance company.

**The thesis** of the dissertation is that by optimizing the levels of reinsurance and in most cases by purchasing additional reinsurance, an increase in the value of the insurance company can be achieved as a result of lowering the regulatory capital requirements for available own funds and/or capital reliefs and reducing the need to raise additional equity capital or subordinated debt.

**The methodology** on the basis of which dissertation work has been carried out is founded on a number of scientific research methods such as: deductive method, method of analysis and synthesis, descriptive statistics and historical method, comparative analysis with schematic illustration and tabular presentation, as well as established statistical tools.

## **II. Assessment of the form and content of the dissertation.**

The dissertation follows the established as a standard structure, including an introduction, three chapters, a conclusion, a bibliographic reference. The title is well formulated and directs the problems that will be discussed - reinsurance, and its ability to risk and the capital management of insurance companies. The author gives a thorough answer to the questions about what are the main determinants, what are the appropriate methods for modeling and analyzing, what are the expected effects.

The dissertation is characterized by the depth of the study, the logical attachment between the individual chapters, followed by the logical sequence of research - first clarify the methodological foundations of capital and risk management in an insurance company, then proceed to characterize reinsurance as a strategic tool for the management of assets and liabilities of an insurance company and finally present opportunities for the design of an optimal reinsurance program.

**In the introduction** the author justifies the relevance of the topic. All formal requirements regarding the mandatory elements have been fulfilled and the object, the subject,



the aim, the tasks, the main thesis of the research, the limiting conditions have been very correctly defined.

**The first chapter** of the dissertation presents the theoretical and methodological foundations of capital and risk management in an insurance company, on the one hand, with a thorough review of the theoretical concepts clarified the essence of the capital structure, and on the other, they are considered in the context of the current regulatory framework and its specific features. Emphasis is placed on the sources of capital, the price of the capital, the creation and measurement of value in the insurance company, the strategies for the management and optimization of the capital. The regulatory approach to the financial analysis of the insurance company and the impact of reinsurance has been traced. The basic principles of risk management at the insurance company and the transfer of risk are clarified, focusing on the nature and methods of risk assessment, the importance of risk management in the context of the Solvency II Directive. The types of risks and the methods applied for managing them through hedging, transfer, diversification, as well as integration of risk management and capital management are presented. Particular attention is paid to the characterization of the moral risk and the impact of the "principal-agent" conflict.

**The second chapter** is devoted to clarifying reinsurance as a strategic tool for the management of assets and liabilities of an insurance company. The essence, emergence and philosophy of reinsurance, reinsurance and coverage parameters, traditional reinsurance through standard contracts, non -traditional reinsurance through alternative structured solutions are thoroughly and argued. The consideration of reinsurance as a method of capital management and competent and reasoned presentation of the characteristics, peculiarities and benefits of applying such an approach is extremely high cognitive importance.

**The third chapter** presents the possibilities for optimizing the reinsurance program. The added value of reinsurance was clarified by presenting key performance and value indicators, as well as assessing the impact of reinsurance on the value of the insurance company and an economic assessment of the added value of reinsurance. The cognitive nature and usefulness of the study is increased by the presentation of various models for evaluating reinsurance products and the highlighting of their advantages and disadvantages, the characterization of the main stages in the process of optimizing the reinsurance structure for increasing the value of the insurance company, analyzing the needs of capital and the possibilities for securing it, the preparation of a model for assessing reinsurance impact, risk assessment and the necessary capital for its coverage, ways to calculate the price of capital and evaluation the necessary reinsurance coverage, optimization of the capital structure.

**In the conclusion**, the main conclusions of the research are presented in a synthesized form. The formulated conclusions correspond to the set tasks, show their implementation and very accurately reflect the work done by the author.

A total of 97 literary sources are included in the bibliographic reference, of which 23 are in Bulgarian, 74 in English. The terms, definitions, opinions, data, methods, etc. used in the dissertation. are used correctly and are reflected by citation on the relevant page and in the list of references. With the rich bibliographic reference, the author shows a high degree of knowledge of the publications on the topic studied. The technical design is at a high level.

I believe that enough reason to claim that the dissertation work is well structured, has a logically supported statement, which follows the goal and research tasks. A suitable methodology has been used, conclusions, conclusions and recommendations are formulated. The dissertation work is characterized by a serious depth of the scope of the study, both by theoretically and by practical and applied and methodological nature. In the course of the study, the doctoral student revealed the peculiarities and specific features of the subject of study, analyzed in detail the scientific achievements, and successfully achieved highlighting unresolved problems in the field of capital management, reinsurance and risk management in



insurance companies. The dissertation has a good scientific style, the terms used are used correctly and this clearly shows the high degree of knowledge of their nature and content. The methodology of the study is adequate to the goals and tasks set and tasks, there is a thorough knowledge of the studied issue and is clearly seen by the significant practical experience of the doctoral student. The doctoral student has fulfilled the goal and demonstrates skills for handling scientific concepts, formulating conclusions and generalizations, striving for critical analysis and scientific style of the exhibition. The author expresses a position on the problem studied, which he supports with cited literature, summaries and comments. There are author's achievements and contributions. The technical and visuals of the dissertation work is at a high level - suitable forms of presentation are used to visualize important aspects of the study - schemes, tables, graphics.

**The author's summary** is in a volume of 36 pages and is well structured, contains the necessary elements and information that correspond to the content of the dissertation, reflect the results achieved by the author and the main points of contribution

Four publications are attached to the dissertation – 2 articles and 2 papers from national scientific conferences. The presented publications include important parts of the dissertation and contain significant results of the conducted scientific research, which gives reasons to consider that the dissertation is approved and popularized to a high degree.

### **III. Scientific and scientific-applied contributions to the dissertation work**

The presented contributions are well formulated and correctly reflect the author's research achievements. They can be summarized in two directions – contributions of a theoretical nature and contributions of a practical-applied nature.

1. The relevance of the issue in the context of modern regulatory requirements and regimes of accounting of the insurance activity is substantiated.
2. The research compares equity with additional subordinated hybrid debt and reinsurance on a number of metrics such as cost, risk transfer, counterparty risk, liquidity, impact on available capital and regulatory capital requirements affecting capital structure, opportunity for economic growth, smoothing and stabilization of financial result compared to individual reporting periods, which is also among the main purposes and goals of reinsurance.
3. Practical aspects of the benefits of reinsurance for the capital adequacy and financial position of insurance companies are indicated.
4. The peculiarities of financial analysis of an insurance company and the different points of view towards the company's capital are considered.

I believe that the contributions formulated by the author are actually achieved, show the main merits of the dissertation and are related to the enrichment of existing knowledge and its application in practice.

### **IV. Criticisms, recommendations and questions**

Being well acquainted with the dissertation gives me reason to conclude that there are no significant omissions, inaccuracies or contradictions. Regarding this dissertation, its content and the conclusions reached, I have no critical remarks and recommendations. I believe that the dissertation work enriches the available knowledge, contains significant ideas and real results have been achieved that are of a high degree of usefulness.

The question I send is related to guidance for future research work on the topic: Based on your research and your practical experience in the field of insurance, present modern trends in the development of reinsurance tools?

## V. Summary conclusion and opinion

The reviewed dissertation on the topic "Increasing the value of the insurance company through reinsurance as a capital management tool" represents a complete independent scientific study of a theoretical-applied nature on a topical and significant issue. The doctoral student demonstrates solid theoretical knowledge and skills for conducting in-depth scientific research. I believe that the dissertation contains significant scientific and scientific-applied contributions and fully meets the requirements and criteria for obtaining the educational and scientific degree "doctor" from the Law on the Development of the Academic Staff in Bulgaria and the Regulations for its application and the regulations for educational activities at „D. A. Tsenov Academy of Economics“ - Svishtov. All this gives me reason to give a **categorically positive opinion** on the open procedure and to propose to the members of the honorable Scientific jury to award the **educational and scientific degree "Doctor" in the doctoral program "Finance, money circulation, credit and insurance (Finance)"** to **Vahan Ahasi Bohosyan**.

Date: 20.02.2023

Svishtov

Reviewer: .....

(Assoc. Prof. Krasimira Slaveva, PhD)