



Actuarial Profession Assessment
Bosnia and Herzegovina

Actuarial Profession Assessment

Jurij Gorišek

and

Mojca Rome

February 2004



Actuarial Profession Assessment Bosnia and Herzegovina

TABLE OF CONTENTS

1. Introduction	5
2. Current Actuarial Legal Framework in BiH	5
2.1. Legal Requirements in the FBiH	6
2.2. Legal Requirements in the RS	6
2.3. Proposed Insurance Legislation	7
3. Current Situation of the Actuarial Profession	7
3.1. Actuarial Association of Sarajevo (FBiH)	8
3.2. Actuarial Educational Program in the FBiH - the School	9
3.3. Syllabus and the List of Reading Material	9
4. Recommendations	10
4.1. Actuarial Association	10
4.2. Actuarial School Syllabus	11
4.3. Reading Material and Lecturers	12
5. Conclusion	13



Actuarial Profession Assessment Bosnia and Herzegovina

Abbreviations Used in This Report

BiH	Bosnia and Herzegovina
FBiH	Federation of Bosnia and Herzegovina
RS	Republic of Srpska
EU	European Union
EC	European Commission
USAID	United States Agency for International Development
FSVC	Financial Services Volunteer Corps
IAIS	International Association of Insurance Supervisors
IAA	International Association of Actuaries



Actuarial Profession Assessment Bosnia and Herzegovina

Disclaimer

The Financial Services Volunteer Corps (FSVC) prepared this report at the request of the United States Agency for International Development (USAID). It is for the private use of USAID and is not intended for general public consumption. It may not be quoted or reproduced in any way without the written permission of FSVC or USAID.

The conclusions and opinions expressed in this report are those of the authors and do not necessarily reflect the views of FSVC or USAID. The report is based on the information provided by various sources whose accuracy cannot be fully verified. FSVC has made a good faith effort to ensure the accuracy and reliability of the information and recommendations contained herein. However, FSVC and USAID may not be held liable for any discrepancies, inaccuracies or other oversights contained in this report. Neither FSVC nor USAID assume responsibility for any actions taken by third parties based on the conclusions and recommendations in this report.

Volunteer Participants

At the request of the Financial Services Volunteer Corps (FSVC), an assessment was made of the actuarial professional field in Bosnia and Herzegovina by two advisors during January 2003. One advisor is head of Insurance Supervisory Authority in Republic of Slovenia. The other adviser is a certified actuary employed by the Insurance Supervisory Authority in Republic of Slovenia and a member of Slovene Actuarial Association.



Actuarial Profession Assessment Bosnia and Herzegovina

1. Introduction

The role of an actuary, both within the insurance company and in the position of a supervisor, is critical for the maintenance of financially sound insurance companies and also the insurance industry as a whole. The insurance concept to spread risk is the basis for financial stability of the country. So, it is essential to ensure that insurance companies possess the competence and qualifications required for risk identification and control.

The application of actuarial expertise is a key component in the operation of insurers, insurance market and insurance supervisory authorities. The definition of actuary, as adopted by IAIS, states:

“An actuary is a professional trained in evaluating the financial implications of contingent events. Actuaries require an understanding of the stochastic nature of insurance, the risks inherent in assets and the use of statistical models. The skills are often, for example, used in establishing premiums and technical provisions for insurance products, using the combination of discounted cash flows and probabilities.”

Actuarial skills should comprise risk assessment, ability to determine the adequacy of premiums (tariffs) and establish technical provisions for both life and non-life insurance. These skills include a detailed understanding of probabilities of insurance risks (e.g. mortality, morbidity, claim frequencies and severities), the use of statistical models, the use of discounted cash flows, understanding and assessment of the use of derivatives and an understanding of volatility and adverse deviation.

2. Current Actuarial Legal Framework in BiH

Presently there are only two trained actuaries in Bosnia and Herzegovina, one in the Federation of Bosnia and Herzegovina (FBiH) and one in the Republika Srpska (RS). The actuary from FBiH is employed by an insurance company, while the other actuary is a staff member of the Insurance Department in the RS Ministry of Finance. Some companies have personnel that perform the role



Actuarial Profession Assessment Bosnia and Herzegovina

of actuaries. Nonetheless, these personnel are not certified actuaries. Foreign owned insurance companies usually to some extent rely on the mother company abroad to provide them with necessary actuarial skills.

Clearly, there is a deficit of qualified domestic actuaries.

2.1. Legal Requirements in the FBiH

The framework law currently in force in the FBiH is the Property and Persons Insurance Law (hereon: the Federation law). The Federation law and the secondary legislation, adopted by the Office for Supervision of Insurance Companies in the FBiH, require insurance companies to obtain a certified actuarial opinion about the technical reserves (mathematical reserve, outstanding losses, unearned premiums) set up by the insurance companies.

In December 2000, the FBiH Ministry of Finance adopted the Regulations on the Conditions for Acquiring the Licence for Performing the Tasks of a Certified Actuary (Regulations). One of the provisions of the Regulations is that a certified actuary in the FBiH can only be a citizen of BiH.

Because of the lack of qualified and certified actuaries in FBiH, the Office for Supervision of Insurance Companies in the FBiH does not require an actuarial opinion on technical reserves. In order to reduce their operating costs, the companies themselves also do not hire external actuarial experts to estimate and review their technical provisions. The Office of Supervision in the FBiH, itself, does not have either a qualified or a certified actuary among its staff.

2.2. Legal Requirements in the RS

We have not received any regulations (laws, secondary regulations, decisions, etc.) from the RS as of yet.



Actuarial Profession Assessment Bosnia and Herzegovina

2.3. Proposed Insurance Legislation

We had access only to the proposed legislation of the FBiH, but we were assured that the proposed legislation in the RS would be the same and so it can be assumed that the actuarial certification requirements would be the same also.

According to the draft FBiH law, actuary operations will be carried out by authorised actuaries. The Insurance Supervisory Agency of the FBiH will publish a decision regulating the conditions for acquiring and examining the expertise of actuaries and rules prescribing conditions for obtaining the actuary authorisations.

The draft laws maintain the situation of separation between the FBiH and RS in the area of supervision, as well as to some extent, the insurance market. This will lead to separation of insurance experts such as auditors, investors, actuaries, etc. There is also a danger of different interpretation of the same regulations in the FBiH and RS.

3. Current Situation of the Actuarial Profession

The Regulations provide for three options to obtain the actuarial licence. All candidates, however, must be citizens of Bosnia and Herzegovina, have a completed Bachelor degree in Economics, Mathematics, or some other technical field, be free of a criminal investigation, and be a member of the Actuarial Association.

The first option is a passed exam before the five-member examination board of the Actuarial Association to be appointed by the FBiH Ministry of Finance (Article 4 of the Regulations)¹. This examination board is already appointed. The exam consists of nine subjects for which the syllabus and the list of reading material is prescribed by the Actuarial Association.

¹ The same Article 4 dictates that a FBiH Ministry of Finance and FBiH Office of Supervision will each have a member and one university professor will be a member of the examination board



Actuarial Profession Assessment Bosnia and Herzegovina

The second option provided in the Regulations is to demonstrate the expertise with the certificate of passed exams of Postgraduate Master Study in Actuarial and Insurance science (Article 12 of the Regulations).

Article 16 of the Regulations also provides the third option for licensing persons with a University or Higher professional degree and some years of practical experience in the actuarial field (depending on the type and level of education) without having to pass the exam.

The Actuarial Association can also propose to the FBiH Ministry of Finance to recognise a foreign certified actuary licence.

However, the weakness of the Regulations is the vague definition of the Actuarial Association. In the FBiH there is the Actuarial Association of Sarajevo, established in January 2001. Is the Actuarial Association of Sarajevo the organisation mandated by the FBiH Ministry of Finance to develop a detailed syllabus and determine the list of recommended reading materials for students? Although the Regulation is not explicit about the Actuarial Association, it does say that an Association will be in charge of delivering the Actuarial Training.

There is no association of actuaries in the RS.

3.1. Actuarial Association of Sarajevo (FBiH)

The Actuarial Association, as noted above, was set up in January 2001 as a professional association of citizens. The main goal of the Association is the education of actuaries, and development and representation of the profession. Its name is the result of regulations requiring special permission by the Federation of BiH for the use of “FBiH or Federation” as a part of the name of an organisation. Therefore, it was decided to establish the Actuarial Association of Sarajevo as administrative barriers were considerably smaller.

For the time being it is the only Actuarial Association in the FBiH and it represents itself as the Association of Actuaries of the FBiH in international communications. A long-term objective of the Association is a full membership in the International Association of Actuaries (IAA). Should



Actuarial Profession Assessment Bosnia and Herzegovina

it gain full membership status, members of the Sarajevo Actuarial Association would also become full members of the IAA thereby directly qualifying for internationally recognised actuarial licences. However, the IAA has prescribed standards for accepting Actuarial Associations in full membership. One of the main measurements is the professional level of actuarial training and conditions to obtain the licence for performing the tasks of a certified actuary.

3.2. Actuarial Educational Program in the FBiH - the School

The Actuarial Association of Sarajevo has organised a School and developed the syllabus in line with the requirements set out in the Regulations. Substantial work and efforts were taken to make the School operational by the end of 2003. The School offers preliminary training for persons who wish to acquire actuarial knowledge and to start an independent actuarial career. One of the objectives of the School, in addition to development of the actuarial profession in the FBiH and training of new actuaries, is to provide internationally recognised licences/qualifications for its actuaries.

The School is supported by the Insurance Supervision Agency of the FBiH and the majority of insurance companies throughout the FBiH. Altogether 20 students are enrolled, of whom four finance themselves privately to pay the full school fee in the amount of KM 7,000. While eleven companies have decided to do so, some insurance undertakings which hold a permit to perform insurance business in the FBiH have not enrolled their employees in training courses prepared by the Actuarial Association of Sarajevo in the framework of the School. Likewise, there are no students from the RS.

3.3. Syllabus and the List of Reading Material

The School syllabus and subject headings are set out in the “Regulations on the conditions for acquiring the licence for performing the tasks of a certified actuary” (The Regulations): Life and Non-life Insurance Basics; Insurance Economics; Accounting; Theory of Probability and Probability of Survival; Statistics; Insurance Statistics; Financial Mathematics with Investment Models; Actuarial Mathematics; and Insurance Law.



Actuarial Profession Assessment Bosnia and Herzegovina

The exact choice of subjects is arbitrary and the grouping of topics covered under a particular subject heading and the recommended reading lists are left to education organisers (the University and the Actuarial Association). The organiser can also include, under an individual subject heading, topics which are not usually covered, nor obvious in the heading of the subject. We find that the FBiH Ministry of Finance has allowed too great discretion to organisers and individual instructors in this area.

The subjects and the topics, as prepared by the School and required to obtain the licence for performing the tasks of a certified actuary, are general and many of them would represent only a preliminary level in countries with a long-standing actuarial practice and education. The Actuarial Association has plans to introduce an advanced course in addition to its basic course of modules. These modules are not included in the examination for the actuarial license.

4. Recommendations

4.1. Actuarial Association

The precise assessment of the number of required actuaries in the FBiH has not been made as yet, but bearing in mind that each insurance undertaking needs at least two of them, that at least two are required in supervision, plus three actuaries just to be on the safe side, our rough estimate is that the FBiH and RS each need approximately 40 actuaries. Each reform of the pension and health system in BiH will additionally increase the actuary requirements.

An obvious question in organising the actuarial study is by whom the study is to be organised. Should it be through the Actuarial Association or one of the Faculties and if so, which Faculty? In any case, the most important thing is to achieve the proper balance between the mathematical and economic sciences and to set, at the very beginning, an adequate quality level which should not deteriorate but improve over the years. In a country with a population of 4 million, two parallel studies of actuaries is clearly not economical. According to current situation in BiH it is possible that RS might develop its own actuarial education program.



Actuarial Profession Assessment Bosnia and Herzegovina

In a small country, in terms of the number of its inhabitants, it is simply not reasonable to organise and prepare two different studies with the same objective: to train people to be capable of working as actuaries in accordance with the internationally accepted standards. And what is also very important – the quality of study for which there is no sufficient interest could deteriorate very quickly.

We suggest harmonisation of the required expertise for each subject with the internationally accepted syllabus to obtain a licence for performing the tasks of a certified actuary. We also propose the transfer of actuarial education to the University and the syllabus to comply with the requirements of both the RS and the FBiH.

4.2. Actuarial School Syllabus

In comparison with requirements of other European countries and the Core Syllabus for Actuarial Training in Europe (Syllabus) adopted by the Groupe Consultatif Actuariel Européen (<http://www.gcactuaries.org/documents/core.pdf>) to obtain the licence of a certified actuary, the subjects prepared by the Actuarial School in Sarajevo do not cover specific topics in the field of life and non-life insurance. To obtain the licence in the FBiH, the candidate is not required to be familiar with the basics and characteristics (contract types, data requirements and verification, product pricing, reserving, risk management, valuing assets, etc.) of life insurance and/or non-life insurance.

In developing the syllabus, the Actuarial Association of Sarajevo, together with the management of the School, should rely more on the topics and standards recommended by the Groupe Consultatif, which are accessible also via Internet. The Group Consultative Syllabus is intended to provide the organisers of the actuarial training – mostly universities – with a tool to develop their own syllabi (programs of the required knowledge and skills to obtain the licence of a certified actuary). The training must be designed in such a way that the actuaries understand the principles of modelling, with the practical considerations for the use of models. Further, there is a major emphasis on various types of risks and actuarial methods of risk management.



Actuarial Profession Assessment Bosnia and Herzegovina

In addition to exams, the Syllabus proposes that an actuary have three years of practical experience to obtain a licence. The FBiH Regulations do not include such a requirement.

The Syllabus provides a generalised framework and leaves to each individual country the development of its own syllabus, taking into account its specific needs and the particular environment in which the actuaries will be working. In any case, the required pre-knowledge or level of education to enrol for the actuarial training is very important. Countries themselves determine the subject headings and the topics they cover depend on knowledge of students, development of insurance market, legislation, etc., but at the end, candidates for an actuarial licence should be familiar with all topics and knowledge suggested by the Syllabus.

4.3. The Lecturers

The choice of a lecturer is of crucial importance for future actuaries. The quality of the study depends, among other factors, deeply on lecturers, instructors and professors. In particular, it is of utmost importance in environments where young actuaries without any practical experience have no opportunity to consult their seniors. It may happen that future actuaries will not receive any practical experience and the firsthand views on the profession, but they will still hold a licence.

Based on a discussion with students from the School, we understand they do wish to meet experienced actuaries. Insurance Supervisory Authority of FBiH could “bring” the actuarial profession into the insurance undertakings through strict requirements for actuarial review in the framework of annual audits or in addition to them and which could also be performed by internationally certified actuaries who do not hold an actuarial certificate in BiH. On the other hand, the School could invite foreign professors and experienced certified actuaries to present the practical side of insurance undertakings, insurance and actuarial tasks.

The director of the School put forward a good theoretical knowledge as one of the training objectives. By all means, the theory is an important part of training. The suggested (prescribed) reading material is a key element for theoretical knowledge and for actuarial expertise the suggested (prescribed) reading material should be as specific and advanced as the profession



Actuarial Profession Assessment Bosnia and Herzegovina

itself. However, insurance undertakings need people with extensive experience to ensure the financial stability of business.

5. Conclusion

The existing developed syllabus for actuaries is a good start to establish the actuarial profession. The syllabus will be – as any other study program – improved and modified in line with the requirements and experience acquired by BiH. However, the quality of study and the resulting competence of actuaries is the first objective which will also contribute to the financial stability of the country. By their primary role, the insurance undertakings are essential for a stable and secure social environment, and the quality of insurance undertakings depends to a great extent on the quality and competence of actuaries.

The wish to join the European recognition agreement (recognition of licences and qualifications of actuaries from BiH) is an additional stimulus to assess and improve the syllabus with the assistance of the Group Consultatif and International Actuarial Associations (IAA). It should also be said that professors without satisfactory experience and knowledge in a particular field of the actuarial profession cannot sufficiently promote the quality of study.



Actuarial Profession Assessment
Bosnia and Herzegovina

APPENDIX

List of Interviews Held

Branislav Bilic, *Director, FBiH Bureau for Insurance Supervision*

Anita Putica, *FBiH Bureau for Insurance Supervision*

Nedim Gavranovic, *Association of Actuaries*

Stiepo Andrijić, *Association of Actuaries*

Željko Šain, *Association of Actuaries*

Fejsal Hrustanovic, *General Manager, Triglav BH Osiguranje*

Amir Zubovic, *Manager, Bosna Osiguranje*

Emina Kadric, *Task Manager, Delegation of the European Commission to BiH*