

EAA Seminar

“Advanced Non-Life Pricing: Practical Implementation of Modern Techniques in R”

11/12 April 2016 | Prague, Czech Republic



Organised by the EAA – European Actuarial Academy GmbH.

1. Introduction

Non-Life insurance is facing many challenges ranging from fierce competition on the market or evolution in the distribution channel used by the consumers to evolution of the regulatory environment (Solvency II, IFRS, etc.).

Pricing is the central link between solvency, profitability and market shares (volume). Improving pricing practice encompasses several dimensions:

- Technical: is our pricing adequate to cover the underlying cost of risk of my policyholders and the other costs we are facing? Which are the key variables driving the risk? Are they adequately taken into account in our pricing?
- Competition: at what price will we attract the segments that we target and price out those that we do not want? Is the positioning of our competitors influencing our pricing practice?
- Elasticity: what (new) price are our existing customers prepared to accept?
- Segmentation: is our segmentation granular enough for our purposes?

The aim of this seminar is to present some advanced actuarial/statistical techniques used in non-life pricing. The seminar focuses on some practical problems faced by pricing actuaries and product managers via a business game and presents some new techniques used in non-life pricing in order to open new perspectives for product development.

2. Participants

The seminar is developed for non-life actuaries or statisticians but also for managers working in product development or risk management departments. It is designed as a follow-up workshop to the EAA seminars “Introduction to Non-Life Pricing” held in the years 2013-2015. Participation to this introductory seminar is not a prerequisite but participants should have basic knowledge of non-life pricing. A short introduction will be performed to recall the key messages of the introductory seminar.

Attendees are encouraged to bring a laptop computer with R installed as well as some useful packages (all the information will be provided after subscription). A basic knowledge of the R software is useful.

3. Purpose and Nature

The seminar will alternate between methodological concepts, practical examples and a business game in order to ensure a comprehensive understanding of some of the techniques presented.

The business game will be organised as follows: the participants will be separated in several fictitious insurance companies operating in the same market. Starting with their current tariff and positioning, each fictitious company will have to review its tariff taking into account its expected profitability (technical tariff), the objectives of the management (positioning), the tariff of the competitors (via a dispersion analysis) and the behavior of its customers (elasticity to price changes).

The business game will be performed with the help of a R-based tool that automates some processes avoiding loss of time of a full implementation in R base and easier aggregation of results to determine the winner of the business game.

4. Language

The language of the seminar will be English.

5. Lecturers

SAMUEL MAHY (Reacfin)

Samuel graduated as a Civil Engineer in Applied Mathematics with an additional minor in Economy and holds a Master in Actuarial Sciences, as well. He is a qualified actuary of the Institute of Actuaries in Belgium (IA|BE) and involved in the Reinsurance and Non-Life Workgroup of the IA|BE. He is the Head of the Non-Life Center of Excellence at Reacfin. Samuel has been active 5 years in the reinsurance sector where he was involved in reinsurance pricing model developments. At the same time he was also the main responsible of the UK market portfolio profitability follow-up. Samuel joined Reacfin in June 2010 as a specialist in Non-Life Insurance and Reinsurance and he has acquired a sound knowledge of Solvency 2 frameworks (Non-Life, Health). As a director, he is involved in various missions as in the modelling, implementation and validation of pillar I deliverables (standard approach and (Partial) Internal models), reinsurance optimization, model documentation, non-life pricing model development for several lines of business, etc..

XAVIER MARÉCHAL (Reacfin)

Xavier is founder and Managing partner of Reacfin. As the Head of the Innovation & Quality department, he also leads the Centers of Excellence at Reacfin. Xavier is also one of the co-authors of “Actuarial Modeling of Claim Counts: Risk Classification, Credibility and Bonus-Malus Systems” (Wiley, 2007). Xavier has obtained different academic degrees as Civil Engineer in Applied Mathematics and MSc. Actuarial Sciences and MSc. Management. Xavier is a qualified actuary of the Institute of Actuaries in Belgium (IA|BE) and Member of the Non-Life workgroup of the IA|BE. Xavier has extensive experience in the actuarial field obtained during his 10 years as a principal consultant for many national and multinational insurance companies. He has gained a complementary experience in various fields going from Non-Life ratemaking and provisioning to life modeling and ALM. After several years of intensive modeling activities in life, non-life and ALM, Xavier works now as reviewer and mentor for consultants. He performed several validation assignments and holds the actuarial function for two health insurance companies.

6. Preliminary Programme

Monday, 11 April 2016

08.45 – 09.00	Registration
09.00 – 09.15	Introduction & welcome (EAA)
09.15 – 10.45	Basics of Non-Life Pricing (GLM for frequency and severity modelling, GAM for continuous variables and geographical ratemaking)
10.45 – 11.00	Coffee Break
11.00 – 12.15	Business game: developing the new technical tariff of my company
12.15 – 13.15	Lunch
13.15 – 14.45	Machine learning techniques in non-life pricing (regression trees, boosting, etc.): methodology and examples
14.45 – 15.15	Building a commercial tariff: positioning and dispersion analysis
15.15 – 15.30	Coffee Break
15.30 – 17.00	Business game: developing the new commercial tariff of my company

Tuesday, 12 April 2016

09.00 – 09.45	Client behaviour and elasticity
09.45 – 10.30	Business game: inclusion of competition analysis for reviewing my commercial tariff
10.30 – 10.45	Coffee Break
10.45 – 11.15	Business game: inclusion of competition analysis for reviewing my commercial tariff
11.15 – 12.15	Experience rating: how to adapt individual premium with past claims history?
12.15 – 13.15	Lunch
13.15 – 14.00	Insurance Telematics: benefits and perspective
14.00 – 14.45	Other advanced topics
14.45 – 15.10	Result of the business game and conclusions
15.10 – 15.15	Seminar closing (EAA)

7. Fees & Registration

Please register for the seminar as soon as possible because of the expected demand. If there are more persons interested in this seminar than places available we will give priority to the registrations received first. Please send your registration as soon as possible by using our online registration form at www.actuarial-academy.com.

Your registration is binding. Cancellation is only possible up to 4 weeks before the first day of seminar. If you cancel later, the full seminar fee is due. You may appoint someone to take your place, but must notify us in advance. EAA has the right to cancel the event if the minimum number of participants is not reached.

Please always give your invoice number when you effect payment. All bank charges are to be borne by the participant. We will send you an invoice, please allow a few days for handling.

Your early-bird registration fee is € 790.00 plus 21% VAT until 11 February 2016. After this date the fee will be € 970.00 plus 21% VAT.

8. Venue & Accommodation

The seminar will take place at the

Park Inn Hotel Prague
Svobodova 1
12800 Prague 2, Czech Republic
Phone: +420 225 995 225
www.parkinn.com/hotel-prague

We have arranged special prices for accommodation. The special price is 99 € per night plus 15% VAT, including breakfast. It is valid for bookings by 24 March 2016 out of our allotment "EAA Seminar". Our allotment includes a limited number of rooms. Kindly book your accommodation directly with the hotel, and note the hotel's cancellation policy. A booking form is available on our website.

9. CPD

For this seminar, the following CPD points are available under the CPD scheme of the relevant national actuarial association:

Austria: 11 points
Belgium: 11 points
Bulgaria: 12 points
Czech Republic: 2-3 points (individual accreditation)
Estonia: 11 hours
Germany: 12 hours
Hungary: 12 hours
Italy: approx. 4 credits (GdLA individual accreditation)
Netherlands: approx. 11 PE-points (individual accreditation)
Russia: 40 points
Slovakia: 8 CPD points
Slovenia: 50 points
Switzerland: 15 points

No responsibility is taken for the accuracy of this information.