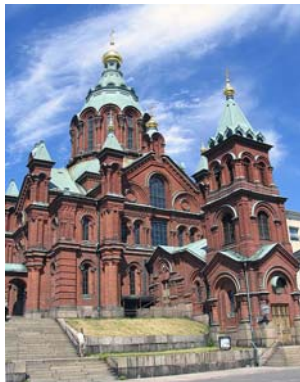# EAA Seminar
Risk Management in Life Insurance and Variable Annuities
07/08 April 2014 | Helsinki, Finland

Organised by the EAA - European Actuarial Academy GmbH in cooperation with the Suomen Aktuaariyhdistys

1. Introduction

Compared with 20 years ago, the current economic environment is characterised by much higher risks and also by a rapid change in the product portfolios of many insurance companies. Whereas interest rates were considerably higher in the 1980's and 1990's, equity markets had very good returns. This is not now the case and in consequence some insurance companies face adversities in terms of ALM and product design.

At the same time products with embedded options, both implicitly given to policyholders (such as in a with-profits fund) and also those which are explicitly sold to the policyholder in the context of variable annuities, have become more and more popular.

Both these trends necessitate a strengthening of risk management in the insurance industry and a better understanding of the underlying concepts. This seminar aims to cover these topics in some greater detail.

2. Participants

The seminar is open to all interested persons, such as actuaries, risk and capital managers, controllers from all types of insurance companies or consultants or supervisors. A basic understanding of pricing and valuation of insurance liabilities and market consistent valuation

is of advantage but not necessary. It is expected that the participants have an understanding of calculus and elementary probability theory.

3. Purpose and Nature

The aim of this seminar is to get an understanding how financial risk management in life insurance companies works and to be able to apply the corresponding theory in the concrete context. On the first day we will focus on risk management in general and the corresponding concepts. Day two will be devoted to variable annuities, namely their product design, their valuation and the risk management intrinsic to them, including the various hedging approaches.

More concretely the aim regarding life insurance risk management is as follows:
- Understand the underlying economic principles for insurance and for financial derivatives
- Understand how to value insurance liabilities including their optionalities
- Be able to calculate financial risks intrinsic to life insurance and to understand the main drives

Regarding variable annuities we aim to cover the following:
- Understand what is a variable annuity.
- Understand the different product features and how they interact.
- Understand the difference between economics of insurance and of financial markets.
- Understand what financial derivatives are and how they are priced.
- Understand the risk management of variable annuities and their hedging.

The key focus of the seminar is to put theory into practice. This means that the seminar is split into two sections, one where theory and concepts are presented, followed by a concrete application and implementation. The former section will be based on my book 'Life Insurance Risk Management Essentials' (published in the EAA Series of Springer) and an additional paper regarding variable annuities. In the practical part you will use your own laptop either by means of excel or python (we expect that python 2.7.6 [freeware] from www.python.org and Microsoft Excel is installed on the participant's laptop). Solutions for the exercises for the practical part will be made available.

All participants will receive a copy of the book 'Life Insurance Risk Management Essentials'.
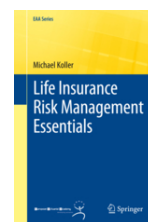
4. Lecturers

Michael Koller joined the Prudential Group in September 2011 as Group Risk Director, Analysis & Control. Prudential plc is an international financial services group with significant operations in Asia, the US and the UK and serves more than 26 million customers. Prudential has £363 billion of assets under management and are listed on stock exchanges in London, Hong Kong, Singapore and New York.

Michael was previously employed with Aviva plc as Europe Chief Risk Officer. He was responsible for embedding operational risk management, de-risking Aviva Europe's entities and implementing financial and ALM risk management for Europe.

Prior to joining Aviva, Michael was Chief Life Actuary with Partner Re. He has also held senior positions with Swiss Re and began his career at the Federal Institute of Technology in Zurich, where he is still a professor of mathematics.

Michael has a PhD in mathematics and is a certified pension scheme expert. He regularly lectures at the Federal Institute of Technology in Zurich and has written two books about risk management and insurance mathematics.

Michael is married with two daughters and his leisure interests include classical opera, black and white photography, skiing and walking in the mountains.

5. Language

The language of the seminar will be English.

6. Preliminary Programme

Monday, 7 April 2014

08.45 - 09.00	Registration
09.00	Introduction & welcome and opening of day 1
09.00 - 10.30	Principles of risk management in Life insurance (chapters 1, 2, 6 of book)
10.30 - 10.45	Coffee Break
10.45 - 12.30	Workshop valuation and risk management of life insurance
12.30 - 13.30	Lunch
13.30 - 15.00	Insurance Products and their risks (chapter 12 of book), valuation of options as a preparation for variable annuities (VA)
15.00 - 15.15	Coffee Break
15.15 - 17.00	Introduction in VA: product design, valuation
approx. 18.30	Dinner

Tuesday, 8 April 2014

09.00 - 10.30	Workshop valuation of VAs including calculation of respective "greeks"
10.30 - 10.45	Coffee Break
10.45 - 12.30	Hedging and risk management of VAs
12.30 - 13.30	Lunch
13.30 - 15.00	Workshop regarding hedging and risk management of VAs
15.00 - 15.15	Concluding remarks, closing of seminar

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 at a later date, the full seminar fee is due. You may appoint someone to take your place, but must notify us in advance. The 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. 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 24% VAT until 10 February 2014. After this date the fee will be €970.00 plus 24% VAT.

8. Venue / Accommodation

The seminar will take place at
The Finnish Centre for Pensions (Eläketurvakeskus)
Kirjurinkatu 3 (Itä-Pasila)
Helsinki, Finland

Hotel in walking distance:
Holiday Inn Helsinki Exhibition and Convention Centre
Messuaukio 1
00520 Helsinki, Finland
www.finland.holidayinn.com/hotellit/helsinki/en_GB/helsinki

We arranged an allotment at the Holiday Inn Helsinki Exhibition and Convention Centre. The special price is 120 € per night, including breakfast and all taxes. This price is valid for bookings before 8 March 2014 out of our allotment (reference "EAA ALLOTMENT"). Kindly book your accommodation as soon as possible directly with the hotel, as our allotment includes only a limited number of rooms, and please note the hotel's cancellation policy.

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
Czechia: 2-3 points (individual accreditation)
Estonia: 11 hours
Finland: 11 points
Germany: 11 hours
Italy: approx. 4 credits (GdLA individual accreditation)
Netherlands: approx. 12 PE-points (individual accreditation)
Russia: 40 points
Slovakia: 8 points
Slovenia: 50 points
Switzerland: 15 points

No responsibility is taken for the accuracy of this information.