

## Countering liabilities risk in life insurance

**Background:** Liability risk in life insurance includes errors in the survival probabilities due to selection and dynamic effects, but this important side is here ignored and the emphasis is instead on the new discounting schemes being introduced all over Europe. The old, fixed technical rate is then replaced by market discounting (known as **fair values**) based on the interest rate curves published daily in the financial press. This frees us from an arbitrary, administratively rate, but opens for considerable random fluctuations in pension valuations as the interest rate curve fluctuates randomly. Another source of risk is inflation if the pension follows the future development of the price level.

**Objective:** Firstly, to present fair value discounting, provide examples of the fluctuations following in the footsteps of this kind of valuation and demonstrate how additional risk due to rising prices can be studied. Then, secondly discuss how these sources of error can be reduced by clever investment strategies.

**Material:** Section 3 and 6 in “Integrating risk from many sources”, possibly also Section 5.

**Main points:** The presentation (45) minutes should include

- Fair value accounting
- Inflation modelling
- Computations run on two artificial portfolios with different duration.

**Net** assets when investments have been taken into account should be added. Strategies must then be chosen, for example in terms of equity and/or a suitable mix of bonds. A model for financial assets such as David Wilkies will then be needed. An R implementation is available on request.