Hedging in Insurance

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This compact lecture course addresses the problem of hedging and pricing insurance contracts which combine traditional actuarial risk and financial risk. One example is a unit-linked life insurance contract where the insurance benefits are linked to the development of some financial assets, for example a stock index. Other examples considered are so-called integrated risk management solutions, such as financial stop-loss contracts and double barrier stop-loss contracts. In our analysis of these contracts, we discuss and apply the criterion of risk-minimization, mean-variance hedging, super-hedging and financial counterparts of the classical actuarial variance and standard deviation principles.

Tentative schedule

Lecture 1 Interplay between insurance and finance, (Møller, 2002)
Lecture 2 Introduction to the hedging of unit-linked contracts, (Møller, 2001a)
Lecture 3 Risk-minimization and unit-linked contracts,
(Föllmer and Sondermann, 1986); (Møller, 1998)
Lecture 4 Risk-minimization and payment streams, (Møller, 2001c)
Lecture 5 Transforming actuarial valuation principles,
(Schweizer, 2001); (Møller, 2001b)

References


