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*Partial Hedging for Valuation of Finance-Insurance Contracts*

The talk is devoted to hedging methods developed in the modern financial mathematics and their applications to equity-linked life insurance. We study mixed finance-insurance contracts with fixed and flexible guarantees conditioned by survival status of the insured. In our setting, these instruments are based on two risky assets of a diffusion or jump-diffusion market. The first asset is responsible for the maximal size of a future profit while the second, more reliable, asset provides a flexible guarantee for the insured. The insurance company is considered as a hedger of a maximum of these assets conditioned by remaining lifetime of a client. The main attention is paid to quantile hedging, which, together with Black–Scholes (fixed guarantee) and Margrabe (flexible guarantee) formulae, creates effective actuarial analysis of such contracts. Some connections and further developments in mortality modeling and risk measures are discussed. Finally, we give numerical examples based on financial indices to demonstrate how our results can be applied to actuarial risk-management.