

February 24, 2014
KAP 414
2:00 PM

Prof. Francesca Biagini
(University of Munich/UCSB)

“Risk-Minimization for Life Insurance Liabilities”

Abstract: In this talk we present a study on the pricing and hedging of typical life insurance payment processes for a homogeneous insurance portfolio by means of the well-known risk-minimization approach. We find the price and risk-minimizing strategy in a financial market where we allow for investments in a risky asset and a bank account, as well as a hedging instrument based on a longevity index, representing the systematic mortality risk.

Main features of this work are that we allow for hedging of the risk inherent in the life insurance liabilities by investing not only in the risky asset and the money market account, but also in an instrument representing the systematic mortality risk.

Thereby we take into account and model the basis risk that arises due to the fact that the insurance company cannot perfectly hedge its exposure by investing in a hedging instrument that is based on the longevity index, not on the insurance portfolio itself.