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DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

Departmental Seminar

Dr. Pengyu WEI

School of Risk and Actuarial Studies and ARC Centre of Excellence in Population Ageing Research (CEPAR), UNSW Business School, Australia
and
Oxford-Man Institute of Quantitative Finance, University of Oxford

will give a talk
entitled

OPTIMAL DYNAMIC REINSURANCE POLICIES UNDER MEAN-CVaR - A GENERALIZED DENNEBERG'S ABSOLUTE DEVIATION PRINCIPLE

Abstract

This paper studies the optimal dynamic reinsurance policy for an insurance company whose surplus is modeled by the diffusion approximation of the classical Cramer-Lundberg model. We assume the reinsurance premium is calculated according to a proposed Mean-CVaR premium principle which generalizes Denneberg's absolute deviation principle and expected value principle. Moreover, we require that both ceded loss and retention functions are non-decreasing to rule out moral hazard. Under the objective of minimizing the ruin probability, we obtain the optimal reinsurance policy explicitly and we denote the resulting treaty as the dual excess-of-loss reinsurance. This form of the optimal treaty is new to the literature and lends support to the fact that reinsurance contracts in practice often involve layers. It also demonstrates that reinsurance treaties such as the proportional and the standard excess-of-loss, which are typically found to be optimal in the dynamic reinsurance model, need not be optimal when we consider a more general optimization model. Finally, we show that similar treaties are optimal even if we extend the model in allowing the insurer to manage its business not only through reinsurance but also via investment.

on

Monday, January 7, 2019

(Refreshments will be served from 11:00 a.m. outside Room 301 Run Run Shaw Building)

11:15 a.m. – 12:15 p.m.

at

Room 301, Run Run Shaw Building

Visitors Please Note that the University has limited parking space. If you are driving please call the Department at 3917 2466 for parking arrangement.

All interested are welcome