TITLE: Optimal reinsurance retentions under joint survivorship of both insurer and reinsurer

SPEAKER: Kai Li, Central University of Finance and Economics, China,
CO-AUTHOR(S): Ken Seng Tan, University of Waterloo

ABSTRACT: An interesting problem to both insurer and reinsurer is the study of optimal reinsurance design. The insurer is attempting to transfer as much risk as possible while subject to paying as little reinsurance premium as possible. On the other hand, the reinsurer is hoping to accept as little risk as possible while charging as high as possible. In view of the apparent conflicting objectives, in this paper we present an optimal reinsurance model that is based on maximizing the joint survivorship of both insurer and reinsurer. We demonstrate that the optimal change-loss reinsurance cover can be determined via the normal power approximation. Some numerical examples are provided to illustrate the efficiency of our proposed method.