

TITLE: An empirical-based approach to optimal reinsurance

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ABSTRACT: It is well-known that reinsurance can be an effective risk management technique for an insurer. An appropriate use of reinsurance reduces the adverse risk exposure of an insurer and improves the overall viability of the underlying business. The use of reinsurance, on the other hand, incurs additional cost to the insurer in the form of reinsurance premium. This implies that an insurer is faced with a classic tradeoff between risk spreading and risk retaining. The thrust of my research is to propose some reinsurance designs that are optimal from the perspective of an insurer. In this presentation I will describe an empirical approach to optimal reinsurance designs. This new method has the advantage that it does not need to make any explicit assumptions on the distribution of the underlying risk. More importantly, it provides a simple and yet practical way of obtaining solution on a wide range of optimal reinsurance models.