Multivariate stochastic comparisons in actuarial science and applications

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Abstract

In this talk, I will first introduce the notions of univariate stochastic orderings, a technique by which two random variables can be compared. I will then describe some multivariate orderings. I will then consider the total claim amount from two portfolios in an actuarial setup and apply these univariate and multivariate orderings to present some results. Finally, I will also present a multivariate stochastic ordering result for the whole set of order statistics drawn from a distribution. I will present some illustrative examples through out to explain the results obtained.