Credibility when Risk Characteristics Vary with Time

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Abstract

The classical regression credibility allows the claim amount to depend linearly on an arbitrary number of risk characteristics (explanatory variables) with coefficients which are functions of one or more not observable vector of random risk parameters. In this paper we extend the regression credibility model and we present the relationship between claim amount and a set of explanatory variables when the regression is purely random. Asymptotic optimality of the empirical linear estimators is presented as well as applications of the above model based on a medical data from a social security organization.