

Bivariate Ratemaking models for counts

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Abstract

A typical problem in actuarial literature relates to ratemaking, i.e. to calculate a fair premium for the policyholders based on their characteristics. While the literature on the univariate case, i.e. when one type of claims is treated is vast, less is developed for the case of bivariate/multivariate counts, i.e. when more types of claims are examined together and hence the cross-correlation needs to be taken into account. To this direction, this talk aims at presenting some models and new results towards ratemaking for multiple type of claims.

In particular we present models that can take into account issues like time dependence and cross dependence that have been treated as separate entities so far. We have developed models to take them into account together. Applications with real data will be discussed.