Bayesian Modelling for the Prediction of Outstanding Automobile Claim Amounts

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Synopsis

This paper deals with the prediction of the amount of outstanding automobile claims that an insurance company will pay in the near future. We consider two competing models using Bayesian theory and Markov chain Monte Carlo methods. Claim counts are used in order to add a further hierarchical stage in the usual log-normal model. By this way, we incorporate information from both the outstanding claim amounts and counts data resulting to new model formulations. We provide implementation details and illustrations with real insurance data.

Keywords: Log-normal model; Markov chain Monte Carlo; Missing values; Multinomial model.