Individual Claim Loss Reserving Conditioned by Case Estimates

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Individual claim loss reserving is considered on the basis of three types of model:
• a model based essentially on just time covariates, e.g. operational time;
• a model in which these are supplemented by other static covariates, e.g. geographical location of the insured;
• a model in which they are supplemented by further dynamic covariates, such as case estimates.

In conventional actuarial concepts, these may be viewed as a “paids” model, an “enhanced paids” model, and an “incurreds” model.

All three types of model are fitted to an example data set and the loss reserve estimated. The stochastic properties of the reserve are estimated in each case, and its statistical efficiency examined in terms of the coefficient of variation. A comparison is also made with a mainstream aggregate actuarial loss reserving method, e.g. Mack method.

The possibility of improving statistical efficiency by blending the results of different individual claim models is investigated. A final single model is developed, which incorporates all available information and is in some sense a blend of the separate models. This provides a unification of the “paids” and “incurreds” individual claim loss reserving models

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