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Claims reserving using separate exposure for claims with and without a case reserve

Esbjörn Ohlsson*and Björn Wållberg–Beutelrock†

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Abstract

In the traditional Chain Ladder for non-life claims reserving, the exposure measure (driver) for claims development is cumulative paid or incurred claims. Dahms (2008) suggested replacing this by the outstanding claims amounts, i.e. the sum of the case reserves. For outstanding claims, this is obviously a good alternative. For the unknown claims and for future costs for reopening of closed claims, though, the correlation to the outstanding amounts can be expected to be weak. We suggest that the development of outstanding claims (reported and still open with a non-zero case reserve) is separated from the development on non-outstanding claims (unknown or having case reserve zero). For the latter, we use some volume measure, such as the premium, as exposure. This idea is inspired by Schnieper (1991), who treated unknown claims this way.

Dahms' method has the further advantage of giving consistent reserves based on paid claims and incurred claims, respectively. This problem was previously addressed, but not completely solved, by Quarg & Mack (2004) in the Munich Chain Ladder method. This property carries over to our method.

The new method has several other advantages from an applied perspective, as discussed at end of the paper, were we present an application to personal accident insurance, taken from our own practice.

Key Words: Claims reserving, Case reserves, Development factors methods, Exposure measure.

*Länsförsäkringar AB and Mathematical Statistics, Stockholm University. E-mail: esbj@math.su.se.

†Länsförsäkringar AB. E-mail: bjorn.wallberg.beutelrock@gmail.com.