CORRECTION NOTE TO PREDICTION OF OUTSTANDING LIABILITIES IN NON-LIFE INSURANCE, *AB* **23**, 95-115

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1. In (4 17) a factor W is missing in the numerator of the expression in the middle

2. The predictor of X^{orns} proposed in Paragraph 5B is not unbiased in general as a simple counterexample will show The proposed reserve on an individual *orns* claim with past history $T, U, V > v' = \tau - T - U, \{Y'(v''),$ $0 \le v'' \le v'\}$, is

$$R = E[Y|T, U, Y > Y'(v')] - Y'(v').$$

Suppose that $Y = V$ and $Y'(v'') = Q(v''/V)V, 0 \le v'' \le V$, where Q is a non-decreasing, deterministic function on $[0,1]$ such that $Q(0) = 0$ and $Q(1) = 1$ In this case $R = E[V|T, U, V > Y'(v')] - Y'(v')$. If $Q(s) > s$ for all $s \in (0, 1)$, then $Y'(v') = Q(v'/V)V > v'$, hence

$$R \ge E[V|T, Y, V > v'] - Y'(v')$$

Now, the expression on the right here is an unbiased predictor, confer relation (4 3) and the related text in the follow-up paper Norberg (1999). Thus the proposed reserve is systematically too high. Similarly, if $Q(s) < s$ for all $s \in (0, 1)$, then the proposed reserve is systematically too low.

My thanks are due to Svend Haastrup, who pointed out this problem. For a discussion by him, see Haastrup (1997)

ADDITIONAL REFERENCES

HAASTRUP. S (1997) *Some fully Bayesian micro models for claims reserving* Ph D thesis, Laboratory of Actuarial Mathematics, University of Copenhagen
NORBERG, R (1999) Prediction of outstanding claims II Model variations and extensions *ASTIN Bull* **29**, No 1, 5-25