Errata for

"The Complement of Credibility"

By Joseph A. Boor, FCAS

***Proceedings of the Casualty Actuarial Society*, LXXXIII, 1996**

Updated: 4 August 2004

Page 19

Under Section B, Complement's Qualities, the last sentence of the first paragraph has been replaced with the two highlighted sentences below.

B. Complement's Qualities

This complement is not as desirable as the previous complements, but sometimes it may be the only alternative. It is less accurate for loss costs with high process variance. Process variance is presumably reflected in last year's rate. That is why it is primarily used for countrywide indications or state indications with voluminous data. It is unbiased in the sense that pure trended loss costs (i.e., with no updating for more current loss costs) are unbiased. **As long as the base statistic's data is not already reflected in the present loss costs, the present loss costs should not have any of the base statistic's process variance. Therefore, the present loss costs should be mostly independent of the base statistic.**

Page 32

In the seventh line of the last paragraph, "1 + F" was changed to "1 – F" (see next page).

TABLE 5

LIMITS ANALYSIS FOR LAYER BETWEEN $250,000 AND $500,000

Limit of Liability	Premium	Times 70% Loss Ratio	Increased Limits Factor	% in Layer	Loss in Layer
$ 250,000	$ 600,000	$420,000	1.9	0.00%	$ —
$ 500,000	$ 300,000	$210,000	2.5	24.00%	$50,400
$1,000,000	$ 300,000	$210,000	3.5	17.14%	$36,000
Total	$1,200,000	$840,000			$86,400

be counterbalanced against the fact that individual insureds' large claims histories usually lack credibility.

By fitting a family of loss severity curves to the distribution, actuaries make the most of the large claim data that is available. If the loss history shows no claims beyond the attachment point but many claims that are very near to the attachment point, a fitted curve will usually reflect that and project high loss costs in the subject layer. On the other hand, if there are few large claims close to the attachment point, the fitted curve will project low loss costs for the layer.

The details of how to fit curves are beyond the scope of this paper (see [4]), but it will provide an outline of how to use fitted curves in practice. After fitting and trending the curve, an actuary will use the curve to estimate what percentage of the curve's total loss costs lie in the subject layer. He may do this by evaluating the difference between the limited mean function $\int_{-\infty}^{L} xf(x)dx + (1-F(L))L$ at the attachment point and the attachment point plus the limit of liability. He would then divide the result by the total mean (or the mean when claims are capped at the typical policy limit) to get the percentage of the total loss costs that lie in the layer. Multiplying that percentage by the total claims cost yields the estimate of claim costs in the layer (for details, see [4]).