

given data for ratemaking. If the formula does not give excessive credibility, the points should fall close to the line for higher credibilities. The extreme variation is in the more hazardous groups B and C, but the annual loss ratios of the least hazardous group, A, seem also to vary more than was contemplated when assigning credibility.

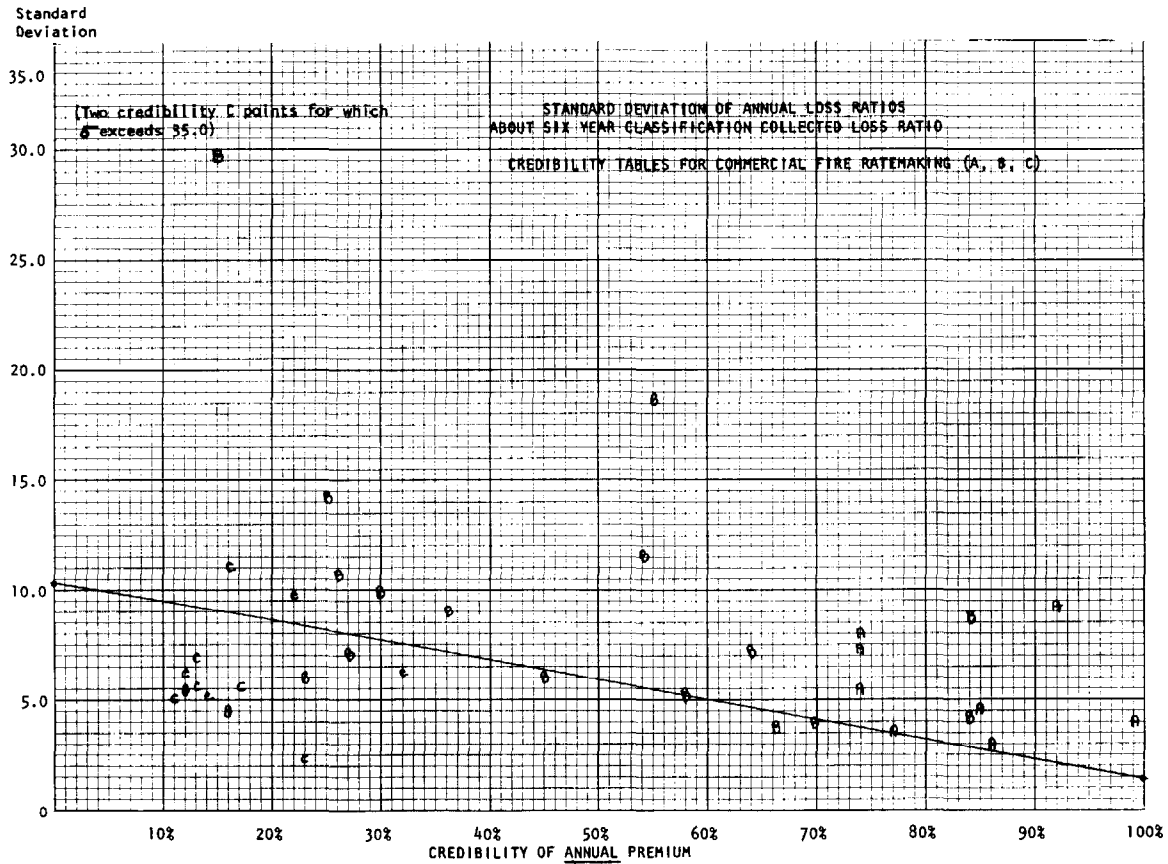
The credibility assigned is one of the more important features of any rate revision. A derivation of a fire table would involve extensive theory and data on the split between "basic" and "peak" or "trivial and non-trivial" losses. The great variation in size of fire claims complicates any theoretical derivation of a credibility standard. Presumably, the effect would be to increase the requirement from those in the *PCAS XLI* paper even more than the liability and automobile numbers of claims were increased when size of claim was introduced in similar formulas. The paper might have mentioned any empiric tests made of the present formula. To what extent, for example, does actual variation in loss ratios support the different constants for the three groups?

Mr. Hurley points out excessive efforts "to 'true up' rates with the vagaries of class loss experience" can imperil rate adequacy. This, and the successful results produced by the ratemaking methods so well described in his paper perhaps show there is no need for any revision, but some basis of comparing credibility standards in commercial fire to those used in other lines would have been of interest.

AUTHOR'S REVIEW OF DISCUSSIONS

It was a happy stroke that the reviewers, Messrs. Amlie and Schneiker, while neither neglected an overview of the paper, each singled out somewhat different aspects for critical analyses and further commentary thereon.

After supplying valuable background on the formation and activities of the National Insurance and Statistical Association, Mr. Schneiker prefaced certain timely and pertinent commentary on present fire ratemaking practices with a valid distinction between manual class rating on many casualty lines and class adjustments in fire insurance when each insured's rate differs contingent on the schedule rating of the physical hazards of the particular risk.



Mr. Schneiker then proceeded to investigate various phases of commercial fire ratemaking wherein further actuarial research is needed. At most points, I found myself in full agreement with his observations. In a few instances, my accord, if not complete, was substantial.

On one item only, do I wish to offer a cautionary note. While it is agreed that further research should (and undoubtedly will) be conducted into what effect inflationary cycles may have on insurable values, we would not wish to slight, in any way, the quick and potential disastrous effect on fire insurance loss payments of breakaway inflationary pressures.

Mr. Amlie's review added certain ideas which should also be helpful to those who wish to contribute to the solution of commercial fire insurance rating problems. His comments on the difficulty and the awkwardness of certain of the algebraic notation are none the less challenging for having been offered in so kindly a manner. Mr. Amlie noted that the algebra could be simplified and the techniques reformed for greater actuarial consistency among the various lines of insurance. Some starts are being made in this direction. We have heard from other actuaries on this aspect of the paper and trust that the members of the Society will be able to find the time to contribute their ideas for publication in the *Proceedings*.

Both reviews called attention to the credibility problems in the commercial fire insurance field. Neither expect that theoretically satisfactory solutions will be found without involving extensive actuarial investigations. Both suggested the need for some reorientations in our basic concepts and each pointed to the likelihood that the ultimate answer may be found in a dual credibility treatment for Normal and Excess losses.

It is believed that both Mr. Amlie and Mr. Schneiker have suggested ideas and approaches which should be helpful for future actuarial research into commercial fire insurance rating methods.