

*Automobile Physical Damage Ratemaking*, by LUTHER L. TARBELL, JR.

The Automobile Physical Damage line of insurance embraces the more commonly known coverages of Automobile Fire, Automobile Fire and Theft, Automobile Comprehensive (which encompasses Fire and Theft plus additional coverages) and Automobile Collision. The manual rates for these coverages are made for a great majority of insurance companies by the National Automobile Underwriters Association. The present ratemaking procedure of the NAUA was established in 1952. Prior to its adoption, automobile physical damage rates had been developed under a so-called "50/50 formula" wherein all expenses (except claim expense which was handled as an element of loss) were stated as a percentage of the premium dollar and indicated state rate changes were developed by comparing a permissible loss ratio (50 %) with an experience loss ratio. This paper proposes to set forth the procedures now followed under the "needed premium revenue" method of ratemaking presently in effect. This paper illustrates with exhibits the steps which are involved in preparing an actual rate revision.

*An Actuarial Note on the Credibility of Experience of a Single Private Passenger Car* by ROBERT A. BAILEY and LEROY J. SIMON.

This note, which was an investigation preliminary to the "Two Studies in Automobile Insurance Ratemaking" published on pages 192-217 of Volume I, Part IV, of the ASTIN Bulletin, leads the authors to the following conclusions:

- (1) The experience for one car for one year has significant and measurable credibility for experience rating.
- (2) In a highly refined private passenger rating classification system which reflects inherent hazard, there would not be much accuracy in an individual risk merit rating plan, but where a wide range of hazard is encompassed within a classification, credibility is much larger.
- (3) If we are given one year's experience and add a second year, we increase the credibility roughly two-fifths. Given two years' experience, a third year will increase the credibility by one-sixth of its two-year value.

*Some Considerations on Automobile Rating Systems Utilizing Individual Driving Records*, by LESTER B. DROPKIN.

The author points out that while in discussions of the distribution of risks by number of accidents it has been traditional to base such discussions on the Poisson frequency function, a test of the goodness of fit by the chi-square distribution will, however, often indicate that the frequency function known as the Negative Binomial distribution will give a better fit. If we assume that the distribution of the probability of having an accident is constant, then the distribution of risks by number of accidents follows the Poisson distribution; but if we assume that distribution of the probability of having an accident is a Pearson Type III curve, then the distribution of risks by number of accidents follows the Negative Binomial distribution.

*The Actuarial Aspects of Blue Cross Plans*, by J. EDWARD FAUST, JR.

The Blue Cross plans provide insurance against hospital expenses for a large proportion of the population of the United States. Blue Cross contracts may differ in detail from one Blue Cross plan to another but all of them in