

## DISCUSSIONS OF PAPERS PUBLISHED IN VOLUME LX

COMMERCIAL FIRE INSURANCE RATEMAKING  
PROCEDURESROBERT L. HURLEY  
VOLUME LX, PAGE 208

DISCUSSION BY HENRY C. SCHNEIKER

Mr. Hurley's paper fills a major void in the educational material available in our *Proceedings* on the subject of basic ratemaking techniques. The latest general treatment of fire insurance rate revision procedures appeared sixteen years ago. A comparison of the methods described by Hurley in 1973 with those set forth by Magrath in 1958 reveals the obvious improvements made over that period. Nevertheless, the student who studies Mr. Hurley's paper after reading Stern on automobile insurance or Lange on general liability cannot escape the feeling that actuarial methods in fire insurance are rudimentary, indeed. It is scarcely an exaggeration to describe the field as unexplored, virgin wilderness.

This is not as surprising as it may first appear to the uninitiated. Mr. Hurley has supplied some useful historical background and describes the entry of actuaries into the property insurance field in 1958 with the publication of the Inter Regional Insurance Conference's "Recommended Procedure for Fire Rate Level Adjustments." As he hints, the recommended procedure did not immediately become an accepted procedure, and it was not until several years later that actuarial influence began to pervade the fire field. In 1963, deteriorating fire underwriting results contributed to the formation of an ad hoc committee of company chief executives to consider the statistical and ratemaking organization of the fire insurance business. At the same time there was appointed a Subcommittee of Actuaries under the auspices of the National Board of Fire Underwriters which, as its first order of business, gave its attention to the rate level review formula and the way it was administered by the several regional and state rating bureaus. A number of improvements were initiated, foremost of which was the introduction in fire insurance for the first time of the principle of loss trending.

The work of that Subcommittee and the support given it by company managements led to a considerably greater degree of fidelity on the parts of the bureaus to the "Recommended Procedure", which fidelity was cemented in 1971 by their merger into Insurance Services Office (I.S.O.).

The activities of the chief executives and the Subcommittee of Actuaries culminated in the formation in early 1965 of National Insurance Actuarial and Statistical Association, now part of I.S.O., and subsequently in the publication of new statistical plans for fire, allied lines, homeowners and commercial multiple peril insurance. The statistical revolution represented by those plans has opened a clearing in the property insurance wilderness and revealed new trails of actuarial exploration.

If one might pick a quarrel with Mr. Hurley's paper, it would be with its title: "Commercial Fire Insurance Ratemaking Procedures". The perceptive student who comes to Hurley after reading Stern or Lange will quickly realize that, except for the limited area in which class rating is applicable, the fire insurance actuary does not really "makes rates". He merely tests the aggregate results of rates for individual properties determined by fire inspection engineers in applying the numerous rating schedules in use throughout the United States. There exist today no actuarial methods by which one could reproduce the rate applicable to a building such as that in which we are meeting today. In effect, each specifically rated property represents a unique classification, the statistical identification of which has thus far eluded us. This feature of fire insurance, which prevents the actuary from employing pure premium methods, creates some of the most serious difficulties which currently arise in fire insurance rate level adjustment procedures.

A number of the more conspicuous problems associated with the present procedure are discussed below:

### *The Experience Base*

Mr. Hurley refers to the virtually universal use of the fire schedule rate as the starting point in determining the premium for commercial fire insurance policies and the fire component of commercial multiple peril policies. However, he indicates only inferentially that in applying the described rate level review procedure, only that portion of the fire insurance business which is written under ordinary fire insurance policies contributes to the statistical base. Although approximately a billion dollars of fire insurance premiums are now written under multiple peril policies, this business is ignored in the reviews of the rates on which it depends. This is due partly to a previous incompatibility of the statistical plans used for the two segments of the business. It is further due to a failure of actuaries and underwriters alike to agree on whether and how multiple peril policy statistics should be reflected in the rate level review procedure.

In 1973, I.S.O. announced that it would soon begin to determine package discounts for the several Special Multi-Peril (S.M.P.) policy programs by relating package loss and expense experience to the comparable monoline experience for each coverage. This is a useful development, but it must be regarded as a first step. While certain package policies cover relatively homogeneous exposures, others run the gamut of American business activities. Both the effects of package policy selection and the distributions of package and monoline business vary by class of risk. A single differential may not adequately deal with this variation. Further, while I.S.O. has a direct responsibility for establishing S.M.P. rate levels in most states, S.M.P. policies are by no means the only multiple peril programs which depend upon published rates.

A second dilution of the experience base may occur as a result of the failure of part of the industry to adopt the essentials of the Commercial Risks Statistical Plan (C.R.S.P.). In order to provide for continuity of statistical and rating operations while C.R.S.P. data is building up to a useable volume, I.S.O. has converted C.R.S.P. experience back into the coding structure of the Standard Classification of Occupancy Hazards (S.C.O.H.) and has continued to compile statistics in the old S.C.O.H. format. Therefore, the fact that some companies are still contributing statistics under the S.C.O.H. has not yet had a visible effect, but the evolving use of C.R.S.P. data may make the available S.C.O.H. experience obsolete. Longley-Cook has warned of the dangers of combining non-homogeneous experience in the ratemaking base.<sup>1</sup> However, a minimum goal should be the inclusion of the experience of all agency companies which use the published fire rates. Some of those omitted are giants of the industry. These companies are known to have basic philosophical quarrels with the C.R.S.P. which have perhaps not been clearly stated. An initiative on their part toward defining and resolving such differences should be welcomed in the interest of statistical ecumenism.

### *Credibility*

The glaring omission in the statewide rate level formula is a measurement of credibility. In effect, the experience in Idaho is accorded the same respect as that of New York. Obviously a certain amount of prudent judgment is required in applying the results. In third party lines, the stability of

---

<sup>1</sup> L. H. Longley-Cook, "Underwriting Profit in Fire Bureau Rates" *P.C.A.S.*, LIII (1966).

ratemaking statistics is enhanced by limiting the data base to the premiums and losses attributable to a comparatively low standard limit of liability. The availability of policy amount coding under C.R.S.P. on losses as well as premiums offers the opportunity to investigate a comparable technique in the commercial property lines.

### *Trend Adjustment*

The method described by Mr. Hurley for adjustment of past incurred losses to prospective cost levels seems, within the present state of our knowledge, to deal adequately with this aspect of the formula. However, little is known about and no formal recognition is given to the effects, if any, of inflation on insured values. Research in this direction is urgently needed.

### *Adjustment of Premiums*

The adjustment of premiums to reflect the current level of the rates under review is a standard procedure in any rate level review computation which is based upon the use of collected premiums. It is not difficult to do this when we know both the level at which the past premiums were written and the subsequent history of changes. The prevalent practice in the fire insurance business of recording term policies written on an installment basis as the installments come due tends to blur the average written premium level. When C.R.S.P. data are utilized to their full potential, the "installment number" code, which is a feature of that plan, will permit a more precise definition of the levels at which premiums were rated.

An ancillary problem is the adjustment to current tariff level of premiums written at other than the tariff rates. There is not universal agreement that this is desirable, and C.R.S.P. does not provide for identification of "deviations". This is becoming a pressing problem in at least two of the states with open competition type regulatory laws where independent rate levels, varying by class and territory, have become commonplace. Although in these states no "tariff" rate level exists, the interests of the industry, regulators and public alike would be served by the availability of industry statistics which relate to some recognizable premium base. I.S.O. is currently attempting to accomplish this by informal means, but a long range solution which employs an exposure base rather than collected premiums is highly desirable. Research now being conducted by I.S.O. which looks to the establishment of greater uniformity in fire rating schedules and an expansion of class rating offers some possibilities in this direction.