

DISCUSSIONS OF PAPERS READ AT THE
NOVEMBER 1951 MEETING

PROBLEMS OF FIRE INSURANCE RATE MAKING—L. H. LONGLEY-COOK

A CASUALTY MAN LOOKS AT FIRE INSURANCE RATE MAKING—M. H. MCCONNELL

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WRITTEN DISCUSSION BY FRED DOREMUS

You have graciously invited me to comment on the two papers recently prepared on the subject of Fire Insurance Rate Making.

I have carefully reviewed "Problems of Fire Insurance Rate Making" by Mr. L. H. Longley-Cook and "A Casualty Man Looks at Fire Insurance Rate Making" by Mr. M. H. McConnell.

Both papers are stimulating to one familiar with the rating background and current problems confronting the fire insurance rate makers. Each author sets forth on known highways, yet detours on occasional by-paths that need further exploration. Each paper reflects the thoughtful preparation of men schooled in the tenets of the Society. Some suggested faults in the system are outlined. Some comparisons are drawn. Some general suggestions are made.

Each is a worthy contribution to the first "Chapter" now that the Society has added the broad subject of Fire Insurance Rate Making to its studies.

Rather than attempt a specific review of either or both papers, the thought was expressed that your membership would be more interested in some general comments looking towards the expansion of the whole subject. The challenge of generalization might inspire the preparation of additional papers, each dealing with a separate facet of this broad field.

In approaching the problem from the standpoint of the Society and its contribution to the thinking on the subject, it might be said that—

1. Fire Insurance Rating does not inspire mathematical precision because the element of judgment is too deeply rooted in the structure;
2. We deal with fixed property risks;
3. We insure owners; therefore the indemnity is direct and not to third parties involved in questions of negligence;
4. We are considering the peril of Fire, however caused.*

The historical background of Fire Insurance Rate Making revolves around the use of judgment. This single factor remains potent today, even though technical schedules were adopted many years ago for the determination of rate levels by measuring hazards. Judgment still prevails in setting debits for deficiencies and credits for proficiencies in the various types of rating schedules used throughout the country. Any attempt to measure the actuarial precision of these credits and debits would involve a cost of statistical preparation that would far outweigh any benefit derived. Therefore, Fire Insurance Rate Making cannot be made an exact science. No two risks are exactly the same

* Even though the fire insurance policy can be extended by endorsement to include many additional perils, some overlapping the field of Casualty insurance, each such extension or combinations thereof is worthy of separate research and study without confusing them with the rating of the basic fire peril.

in every degree of occupancy protection, construction, exposure and location.

Furthermore, while the fire insurance underwriter may use rate as a criterion in determining the acceptability of a risk, he is more interested in obtaining an average amount upon many risks of the same grouping but spread over a large geographical area. The principles of average and spread have always worked for the fire underwriters in their attempts to obtain an underwriting profit.

Another deterrent to actuarial precision in Fire Insurance Rate Making is the physical impossibility of acquiring statistical data as to amounts of liability exposed to loss; therefore, no burning rate can be established. Even if such data were available, it is submitted that the determination of the burning rate by class of occupancy, protection, construction and exposure would lead us down an actuarial pathway involving such a degree of mathematical accuracy that by the time the calculations had been made they would be useless for the guidance of rate makers.

A few decades have elapsed since text writers prepared objective treatment of present day Fire Insurance Rate Making methods.

None has developed the subject since the passage of "all industry" type of rate making legislation. Neither has anyone explored the facets of fire rate making as related to Multiple Line Operations.

The field of actuarial study leavened by practical aspects of the problems involved is wide open.

Messrs. Longley-Cook and McConnell are to be complimented upon their realistic treatment of the subject matter and under the guidance of the Society we can look forward to others, who will develop the many facets of Fire Insurance Rate Making in the same thoughtful and constructively critical manner.

WRITTEN DISCUSSION BY H. D. RICE

The distinction accorded me by election to Fellowship in your Society is very much appreciated, especially because of the opportunity afforded for participation in your studies and discussions. Today we specifically propose to discuss the two papers on fire insurance rating recently presented to you by Mr. Longley-Cook and Mr. McConnell. I have been very much impressed by these two papers expressing as they do the informed viewpoint of casualty men on our fire insurance rating practices. Your understandings and interpretations of our operations are becoming increasingly important under the current trend to multiple line underwriting, multiple peril policies, package coverages and the other innovations that are confronting us. Our community of interest is broadening and so it seems particularly important that we understand each other so that through coordination of the different phases of the insurance business our service to the public may be improved and increased.

As I reviewed the two papers that are the subject of today's discussion, I noted that neither one of them deals with the first fundamentals of rate making in the fire business, but rather with the treatment of the finished product and it might be helpful if I sketch for you some of the operations that take place before a rate can be quoted. First let me say that our Organization, which is one of the larger rating organizations because of the volume of written premiums in the State of New York, employs approximately 465 people dis-

tributed among six offices and spends approximately \$2,000,000 a year of our companies' money. Aside from the function of calculating and promulgating rates, we also review policies written by agencies throughout our territory to make sure that they are written at the correct rate and premium and that the forms and clauses which express the coverage anticipated are in proper conformity with our adopted and filed rules.

We handle through our stamping offices somewhere around 4,000,000 daily reports and endorsements each year. New York City, which does not have a stamping office, but rather depends on a form of spot check for its verification of rates, premiums and forms, would produce an additional 2,000,000 daily reports if and when 100 per cent stamping is undertaken. It seems probable that some day such a stamping operation will be given consideration, although it presents some engineering problems that are not present in the upstate area. Our examination of daily reports and endorsements is made while these papers are in transit between the writing agency and the home office and because in most instances the company has had no notice of liability, we have a limit of forty-eight hours from the date of receipt within which we should dispose of all daily reports and endorsements.

Approximately 5 per cent of these units presented to us for examination are criticized because of incorrect rates, premiums or form details. It is probable that a preponderant majority of these criticisms are due to simple errors in writing the policy or its renewals. Our statute requires that such criticisms as remain uncorrected after a period of 60 days from the advices to the companies of such criticisms, must be reported to the Insurance Department. My recollection is that during the past twelve months it has not been necessary to report more than ten or twelve such cases to the Department and I feel that that evidences pretty complete compliance with our rates and rules.

Fire insurance rates in New York are predicated on physical data on the risk being rated which is gathered by actual inspection of those risks subject to specific rating. The data used include such information as to the detailed construction of the building, its walls, roof, roof covering, floors, floor openings and exposures; also such occupancy details as the description of the occupant, their finished products, raw materials, processes used, equipment used, the inherent hazard of such processes or materials and the degree or quality of protection afforded against the inherent hazards of the processes or materials. This information is collected by inspectors who then report at length on the risk being rated so that a rate can be calculated from a comparison of the inspector's report with the standards set up in our various schedules. The resultant rates are then printed on cards and distributed to the writing offices whose normal territory includes the risk in question.

Another phase of our activity in connection with the making of specific rates involves a service to the insuring public through the use of our facilities to make it possible for them to anticipate the features of rate charge and credit in connection with new buildings contemplated or in the course of construction. All of our several offices are busy almost continuously with architectural engineers who have plans or designs for new structures or detailed features of buildings or detailed plans for the construction of building and contents perhaps through the application of automatic sprinklers, and our services are

given freely so that the public may know in advance how their structures can be so built as to achieve the minimum cost of fire insurance.

There are a number of classes of risks, individual members of which present so many physical features and characteristics in common that they may reasonably and economically be rated by classes with broad subdivisions based on construction and protection distinctions. Such risks do not warrant specific rating or promulgation, and writing offices refer to class rate tables for the proper rate, and describe the risk in the policy so that checking is possible in the stamping office. Among the classes so rated are dwellings, gasoline service stations and summer hotels. Obviously the periodic adjustment of class rates is convenient and economical as it requires only the reprinting of manual pages instead of specific rate cards. After a building has been erected and such protective features as automatic sprinklers recognized in rate, periodical reinspections are necessary to insure that the protective devices are being properly maintained. Frequent reinspections also have to be made to bring rating data up to date in respect to occupancy changes which are constantly going on particularly in our larger cities.

New York Statute requirements and, for that matter those of most other states, stipulate that rates must not be excessive, inadequate or unfairly discriminatory. The implication is clear that some means must be available for the testing of rate levels to see that they meet these qualifications. Mr. McConnell's paper deals in detail with a specific test of rate levels. I believe he has very well covered what appears to be a rather intricate procedure, but surely not one beyond the understanding of the members of this Society who are so close to rate making in the other lines of insurance. I would like to make the observation, however, that fire insurance differs from the casualty lines, first, because of its relatively low loss frequency and, second, because of other characteristics of the business such as the preponderance of policies running for three or five year terms and the fact that frequently one company may have a multiplicity of policies on the same risk due to varying expiration dates or due to interim increases in values. So we frequently end up with a considerable number of policies written by different companies and different production offices on the same risk.

Right here I would like to say that one of our greatest problems in fire rating lies in the efforts of some well meaning folks who try to demonstrate that fire insurance rating is an exact science. Nothing could be further from the truth, and no branch of the business requires more experienced common sense and informed judgment than fire insurance rating. It also has been said that we do not demonstrate a proper relativity between physical elements in the rate structure. As a matter of fact we do not know what a proper relativity means in this connection. If you try to classify rate elements through their contribution to loss, it is obviously impossible to state as to a specific loss just what the contribution of physical elements has been. The presence of an open stairway or elevator or combustible finish may and frequently does contribute materially to loss, but the extent of such contribution or its relation to other features that may have contributed is indeterminable because after a loss most of the evidence as to the source and much of the evidence as to its progress has been destroyed. All of the scientific exactitude that might be possible could be applied to a given building only perhaps to discover, when it finally

burned, that the loss had been due to some other risk up the street that suffered a fire through some of its inherent hazards, and by the medium of a wind driven fire brand or direct exposure destroyed the risk upon which we had attempted to apply an exact rating science.

There is another characteristic of fire insurance rating that furnishes complications and that lies in the consistent consideration given existing rate levels when a change is in contemplation. It is within my personal recollection, and perhaps at some time I may have contributed to judgment rates, through the medium of a committee which walked down one side of the street and suggested in reference to the corner drug store or grocery store across the street \$.75 or \$1.50 depending upon the impression the risk made on our personal convictions. It is amazing how some of those old levels have stayed with us, particularly because there is a great and normal reluctance to disturb them any more than is absolutely necessary, and this, of course, means that you never get the full benefit of new items without some dilution because of the respect in which existing levels are held.

Reference has been made by Mr. Doremus to the figures collected by the National Board as a Statistical Agency for the New York Department and which we review from year to year to see what the loss experience has been. The method described by Mr. McConnell in his paper is employed in New York State and produces modifications in class and sub-class levels which are given careful study cooperatively by our Organization and the Insurance Department. I might add at this point that up to this time we have been dealing with a twenty-six class system which means with its subdivisions about 104 groups of risks. Under the new system of classification which became effective January 1, 1947, we have 115 classes or something more than 500 groups of risks whose figures will require careful analysis. Under the old classification system, a great majority of the class and subclass indications in New York State were incredible because of inadequate volume and while our efforts to make such appropriate changes in rate level as were indicated by the experience have been fairly reasonable, some curious results have been produced which indicate the fallacy of direct application of experience to rate. May I refer to the historic case of *unprotected* golf or sport clubs which seemed to merit a rate credit of approximately 20 per cent, whereas the *protected* risks of the same class did not appear to deserve such recognition. Rates produced by the application of this credit resulted in a situation where the extension of community protection limits to include the golf club resulted in an increase in rate because as an unprotected golf club it had been entitled to a recognition of its superior experience. I do not regard this kind of a silly situation as anything more than a normal result of the direct application of experience to rate, but in order to avoid it we have to put into our rate structure gimmicks of one kind or another to act as limits so that the protected risk will not rate any higher than it would if it were unprotected and the brick risk will not rate any more than if it were frame. These are artificial and temporary remedies and mainly serve to avoid complications which would confound our statistics. It might be appropriate to say at this point that perhaps this Society is in a position to make an important contribution to the science of fire rate making if the attention of your members or perhaps of our younger men could be focused on such problems as research in the field of credibility and the char-

acteristics of loss frequency as well as some of the other intangible factors with which you seem to be familiar, but which from a rating viewpoint are relatively new to our procedures.

I would like to make the further observation that reasonable stability in rate levels has characterized fire insurance over many years and is still a desirable and important feature of fire insurance rates. The relativities expressed by schedule applications and class rate tables are also the basic fundamentals of underwriting, and so underlie the principles of retention and liability distribution in company practice. Unless the companies are willing to have these principles in a constant state of flux, the frequent modification of rate levels by classes and subclasses to reflect current experience should be avoided or minimized. It is also recognized that from the insured's viewpoint, reasonable stability in fire insurance costs is desirable under contracts written for a term of years.

I have found Mr. Longley-Cook's paper unusually stimulating in the presentation of suggestions and ideas, some of which I must confess I cannot personally accept, but which surely merit careful and thoughtful study and consideration. This type of thinking and discussion is extremely valuable and helpful to the industry.

I hope that we can interest some of our younger men in the possibilities in the activities of your Society. I would like to see the examination which you may prepare as qualification for admission so framed as to direct their thinking to some of these fundamentals which have not as yet had adequate exploration. The development and presentation of more papers of the type under consideration today by your own members will, through their discussion stimulate thinking and help in the development of sound and equitable rating practices that can be kept in tune with modern developments. May I express again my appreciation of your courtesy and hospitality to those of us from the fire end of the business. I hope that it will be possible for us to participate actively with you in the future activities of your Society.