

# PROCEEDINGS

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## ACTUARIAL ASPECTS OF INDUSTRY PROBLEMS

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The work of the actuary in property and casualty insurance is so very diverse that he should have something to contribute to the solution of nearly every industry problem. Unfortunately for many an actuary the pressures of his day to day tasks give him little time to turn to broad industry problems unless their solution becomes his particular charge. The President of a sister organization, in an address a few years ago said, "Any profession or occupation gives to its practitioners some special emphasis on life; we play one instrument in the orchestra. To play our part worthily we need more than dexterity upon our own instrument, for we are part of the whole." If we are to play our part worthily in the insurance field, we must contribute to the solution of industry problems so that insurance can provide broader coverages, better service and more economical charges to the public it serves.

Henry Beers in his speech at our Spring Meeting discussed the present and future work of the actuary and stressed the actuary's ability to solve the "impossible" problem. The actuary's special ability in this field stems at least in part from his logical training and often lies in his skill in reducing intangibles to numerical form so that the most probable result of any action can be measured and the range of variation from the most probable result determined. Many of the "impossible" problems in our industry are "impossible" because the real problem has not been sufficiently clearly defined and one of the most important services the actuary can perform is to define and to redefine a difficult problem until it comes so clearly into focus that the solution is comparatively straightforward. The work of crystalizing the nature of a problem in this way requires the logical thinking which is so strongly stressed in actuarial training. The logical analysis of a problem is an actuarial solution just as much as a study full of mathematical symbols and tables of figures.

In addressing you as President of the Casualty Actuarial Society, I want to draw your attention to five industry problems which, I believe, offer important opportunities for actuarial research. The first problem which I want to mention is the determination of what hazards are insurable. This is certainly not a new problem to actuaries as it was one of the main topics of discussion at the Fourteenth International Congress of Actuaries which was held in Madrid in 1954. Twenty separate papers on the problem were contributed at that time from actuaries all over the world. It is tempting to

dismiss the problem with the statement that we already insure every hazard which is insurable, but we should then remind ourselves that there was a time when wind damage was considered uninsurable. There is particular interest in this problem at the present time because of a strong public demand for flood and wave damage insurance.

Some people have suggested that flood and wave damage coverage should be provided by means of an assigned risk plan or other compulsory machinery. However, such a plan would encourage the construction of dwellings and other buildings in areas where their frequent destruction by the elements would be a waste of the National wealth and would not be in the over-all public interest. The task for the actuary is to devise a plan which would avoid this pitfall and still make insurance available to the vast majority of the public. My own thought is that a solution might lie in broadening extended coverage to include a large number of perils at present difficult to insure. Thus we might be able to pool earthquakes in California, hurricanes in Florida, sewer back-up in Illinois, high tides in New Jersey and floods in Pennsylvania. Nationwide pooling arrangements to protect the small local company would be an essential part of the plan and cooperation between the States in rating and form approval might be needed. I believe such a development of our business should not be dismissed lightly but should be a subject of careful actuarial analysis. No plan should attempt to protect the foolhardy construction of buildings in inappropriate locations, but, just because all risks cannot be insured, there is no reason to dismiss the hazard as uninsurable. With flood insurance part of the standard extended coverage, its exclusion in certain locations would provide a useful "beware" warning to builders, purchasers and mortgagees.

The next problem on which I want to touch is that generally referred to as the Surplus Line or Non-Admitted business. Estimates as high as \$500,000,000 in direct premiums have been given for the size of this market and concern must be expressed as to the reasons this business seeks protection outside the United States. Many problems are involved: regulation, taxation, ethics, equality of opportunity, etc. All of these problems are of concern to the actuary, but his special talents should be used to study the financial effect of the situation on both insurance companies and the insuring public and to suggest how equality of opportunity can best be established.

It would be very wrong to attempt to shut out the non-admitted market, thus making insurance more expensive or less convenient to the needs of the public. Rather, we must find means of making it possible for admitted companies to compete for this business by providing coverage on terms and rates which will be at least as attractive as those which can be offered by the non-admitted market.

A careful analysis of the business written by the non-admitted market is the first requirement. While full details are not available, the actuary can make reasonable estimates of the various covers being placed, their approximate volume, how written and how rated. He will be interested to determine how much of the business is written by the non-admitted market because of lack of capacity in the home market; because of underwriters' dislike of the risks; because of the regulatory yoke on admitted companies; because of lack of flexibility in rating; etc. From this study he will go on to inquire to what extent we should revise some of our old customs. Should experience

rating be used freely in property insurance? Should it be made easier for underwriters to take the unusual risk or the poor risk at a price? Further, he may ask would it pay an admitted company to set up a non-admitted subsidiary? What volume could be expected? What would be the cost of such a venture and what the likely profit? Here is a fascinating field for actuarial research.

The third problem to which I wish to turn your attention is in the private passenger automobile field. Here the greatest problem is not merit rating, not assigned risks, not young drivers, not direct writers, but rather the large proportion of the claim dollar which is wasted in legal fees. While actuaries and other members of the industry have given full attention to the former problems, little study has been given to this major problem—the wastage of the loss dollar through legal costs. For some mysterious reason little has been written on this subject by members of the industry and what studies of the problem have appeared have been mainly from legal or educational sources. Estimates which have been made show that hundreds of millions of dollars are wasted in trying to determine who was to blame in any particular accident when, at least in the case of a collision between two insured automobiles involving only physical damage, this determination is of little real importance to the public. The laws of probability show that if every insurance company paid for the damage to every automobile it insured instead of for the damage to every automobile for which its insured driver was liable, it would make no practical difference to the underwriting results of companies. However, it would lead to applicable savings in expense both to insurance companies and to insureds.

In other parts of the world the “knock for knock” agreement had contributed greatly to the reduction in the cost of settling automobile claims. Under such an agreement each carrier pays the costs of the repairs to its own vehicle in the event of a collision. The idea has been extended, at least in Great Britain, to an agreement to share the expense of Bodily Injury and Property Damage claims up to a substantial limit, thus preventing the courts being filled with automobile litigation. Since there are, I believe, difficulties to such agreements under our laws, we might explore a simple addition to the insurance code in each state barring direct or indirect subrogation between insurance companies. This idea is not too revolutionary because at least one Unsatisfied Judgment Fund excludes subrogation claims. Many rating and other changes would result from such a plan but it does not appear to present insurmountable difficulties, and the over-all savings to both insurers and insureds would be enormous.

The fourth industry problem to which I want to refer is the Annual Statement and the related exhibits. The Annual Statement has received little attention from non-life actuaries with a few notable exceptions. We have tended to accept it as certain, like death and taxes, and have left it and its problems to others. On the life side, the company actuary has always been directly concerned with the Statement since he has to sign it and this may explain its comparative freedom from difficulty.

Concern must be expressed for the fact that General Expenses, which consist mainly of Underwriting and Processing costs are higher today for many lines of business than they were 10 years ago, despite the introduction of electronic data processing. These costs could be reduced if the Annual

Statement were designed to suit modern data processing equipment. For example, the Statement still calls for the tabulation of fire premiums-in-force by term of insurance and year written in order that the unearned premium may be calculated by simple multiplication. This requirement is identical today to what it was in 1904 and, for all I know, for many years before that.

While the tabulation mentioned has shown no change, other portions of the exhibit have become excessively complex. Instead of the simple subdivision of property insurance into (a) Fire and (b) Marine and Inland, we now have 26 subdivisions of business of which approximately one-half are property "lines" and the remainder casualty. The subdivision of every item of premium, loss and expense into these 26 "lines" is costly and is actually impossible for a company writing foreign business or excess of loss reinsurance. However, companies are required to force such business into the 26 line breakdown. No other country in the world requires such tremendous detail from its insurers and, in fact, the overhead expenses involved in complying with the Annual Statement makes it almost impossible for a domestic company to transact overseas business profitably except through a non-admitted subsidiary. Another cause of difficulty is the famous, or should I say infamous, Schedule P which except for its fifth part has, I believe, long outlived its usefulness. The Schedule is most expensive to prepare and little understood even by those who have been associated with casualty insurance for years.

You will be interested to learn that last Spring the Council of the Casualty Actuarial Society set up a Committee, under the Chairmanship of Joseph Linder, to study and report on the current problems of complying with the Annual Statement, in the hope that this will stimulate necessary revisions. You will have noted that recently one of our best read insurance columnists has joined in the cry for revision. A study to estimate the millions of dollars in processing costs which the Industry could save if the Annual Statement and Expense Exhibit were simplified could provide a valuable impetus to revisions.

As my fifth industry problem, I will draw your attention to the rate making statistics. It was not very long ago that these statistics presented no particular problem. Nearly all rates were made in concert and statistical agents collected statistics on a single uniform plan. The position is now different. Independence is common and all but the smallest independents are interested in their own statistics. Existing statistical plans were never designed to meet the needs of independents and are more concerned with proving past classification rates were right than in the study and development of new and better classification systems. Hence, many companies find the need for two classification systems; one to meet their internal needs and one for the use of the statistical agents. The position has been further muddled by a few insurance departments who have decided to be more independent than the Independents and call for statistics on bases which do not fit either the needs of the independent companies or the traditional requirements of the statistical agents.

As the actuary of an independent company, I have received considerable cooperative assistance from statistical agents in the last few years and my opinions have been solicited on more than one occasion. However, I believe that a logical and necessary step is that such agents have actuarial committees which include representatives of all who use their services. Statistical

plans are not an end in themselves but a means to rate making. The independent rate maker is as much concerned with the form of statistical plans as are rating bureaus.

Most of the larger independent insurance companies have carried out considerable study programs into the problems of statistical plans and I would hope to see the results of some of this research in our Proceedings. I have on another occasion drawn attention to the use of the census method as a means of simplifying the collecting of data for business such as Automobile and Homeowners, which have numerous classification breakdowns. I would like to see studies of this and other revolutionary proposals which may do a better job at a lower cost.

As another move to simplify the development of statistics and to reduce costs I believe we would do well to limit the collection of data to companies over a certain size. The idea that the maximum volume of data possible is essential to insurance rate-making appears to have no actuarial support. Life actuaries have for years based their mortality tables, including their substandard lives studies, on the experience of the larger companies only.

Despite the efforts of many actuaries the orderly development of property and casualty statistics is frequently disturbed by those who are in a position to influence the development of statistical plans to achieve their own partisan ends. It is unfortunate that the collection of rate making statistics in property and casualty insurance is not controlled or administered on a non-partisan basis by the Casualty Actuarial Society just as the collection of life insurance rate making statistics is controlled by the Society of Actuaries.

I have tried in these brief remarks to draw your attention to five problems of the insurance industry calling for actuarial study to aid in their solution. These are Insurable Hazards, Business with Non-admitted Companies, Legal and Other Expenses of Automobile Claims, the Annual Statement, and Rate Making Statistics. In the solution of all these problems the actuary has something to offer and he should find time to make his contribution either in the counsels of the company, bureau or department he serves or, if possible, in a more direct way. The five problems I have selected for review have been chosen almost at random from many which call for actuarial study. Others of both major and minor importance include improved rate making classifications for extended coverage; subrogation in fire insurance; net cost rate making; stop loss reinsurance; the small premium problems; and even a single short rate cancellation rule suitable for electronic data processing to replace the present multiplicity of tables.

The Casualty Actuarial Society through its meetings and "Proceedings", provides a valuable forum for discussion and for the publication of research studies. Occasionally, but only very occasionally, it can also help by setting up a special committee. The rapid changes which have taken place in our industry in the last decade have created or magnified numerous problems and we as actuaries are shirking our responsibilities if we do not contribute to their solution.