REVIEW OF

INFLATION SENSITIVE EXPOSURE BASES FOR GENERAL LIABILITY INSURANCE

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"Inflation sensitive exposure bases" is a particularly well-timed discussion subject. Our industry is in the process of making some major revisions in how we handle general liability insurance. Several of these revisions relate to exposure bases. We have hopes of using only one exposure base for all general liability coverages for an individual classification. This will allow simpler manual rating and improved experience rating plans. We also have hopes of adopting inflation sensitive exposure bases for the OL&T coverage. This will help premiums keep pace with inflation without frequent rate changes.

Unfortunately, the difficulties surrounding these changes have turned out to be much more imposing than originally expected. In 1980, a countrywide survey was conducted to determine the factors, by classification, necessary to convert the rates from an area to a receipts base. This is where the serious trouble began.

The indications from the survey are that the conversion to a receipts exposure base will be difficult at best. Premium swings for individual risks will be great, perhaps for a number of years, and there is the risk of severe market dislocations if the conversion is not uniformly accepted.

So our industry is now faced with the decision of whether or not to proceed. Is the expected increase in ease and quality of pricing valuable enough to be worth the cost and disruption that are looming before us? Are we so sure that receipts are superior to area as a rating base? Can we actuaries, in good conscience, advise our under-

writing counterparts to embark on the rocky path of conversion? Do we have confidence that we will be able to provide the technical support necessary for the trip?

It is appropriate that we pause here and re-examine our basic assumptions. Messrs. Biondi and Thompson have provided us with a paper to initiate broader discussion on this subject. They do not propose answers to any of these questions. But they have given us background information, and they have drawn attention to some questionable aspects of inflation sensitive exposure bases. Also, they discuss some of the features of the inflation sensitive exposure bases currently used in M&C and Products.

Sections 1-3 - Background

The first three sections of the paper contain general background information. The first section reviews the theoretical underpinnings of the exposure base concept. The second section describes some details on how payroll, sales, and receipts are currently used as the exposure bases for M&C and Products Liability.

In section 3, the authors describe some specific inadequacies in the M&C and Products exposure measurement. I heartily recommend this section for anyone who has forgotten the significance of "underwriting judgment" in the pricing of our products. The examples clear up the mystery as to why two apparently identical books of business can produce widely different loss experience. I believe the authors included this section to demonstrate that even inflation sensitive exposure

bases could be inaccurate. While that's a valid observation, it is not particularly damning. The problem of recognizing individual risk differences will always be with us. It behooves us to continually search for classification or rating improvements to reflect as many of these differences as possible. The remainder must be handled by individual risk rating plans.

One of the problems cited in section three does deserve some additional comment. The problem arises when there is a time difference between measurement of the exposure base and the occurrence of the related accidents. For Products Liability, there may well be a significant gap between the date of the sale of a product (rating exposure) and the date of the occurrence arising from the use of the product (coverage applies). That is, the losses covered under this year's policy have very little to do with this year's sales. A more appropriate exposure base would be sales for, say, five years ago. A weighted average of sales for the past 15 years would be even better. Note that the change to "manifestation" wording will increase the gap between the date of sale and the date of coverage.

Section 4 - Ratemaking

Section 4 addresses some of the ratemaking problems associated with inflation sensitive exposure bases. This is the area where I have my only serious objections to the authors' work.

My first objection relates to the data used by the authors. Throughout section 4, Best's data is used to suggest answers to several rate-

making questions. While Best's data generally has some uses, evaluating ratemaking questions for Liability other than Auto is not among them. The list of analytic problems with Best's LOA data could go on forever. But let me highlight just two.

1. A Hopeless Conglomerate

LOA is an aggregation of Medical Liability, Professional Liability, and Excess coverage as well as Products, M&C, and OL&T. Medical Liability began to be removed in 1975. But many companies chose to report Medical Liability separately starting with 1975 policies. So runoff Medical claims activity is still present in the LOA line. Also, the relative mix of these disparate coverages has changed dramatically over the past ten years. And, higher limits of liability are in much greater use today than ten years ago. As a result, it is impossible to look at total LOA results for the past ten years and attempt to observe patterns relevant to the basic forces underlying general liability coverages. The general liability activity has been hopelessly obscured by the more volatile lines with which it's combined.

2. Calendar Year Only

There may be times when we are willing to accept calendar year losses as a proxy for accident year losses. But surely this is not such a case. In the past ten years we have had

the Medical crisis, the non-medical Malpractice crisis, and the Products Liability crisis. All of these nave been associated with abrupt changes in loss activity, both paid and reserved. Wave after wave of these shocks have hit the calendar year results. The resultant calendar year loss patterns, especially on a year to year basis, carry little useful information about trends for the general liability coverages.

My second disagreement is with one of their conclusions. The authors pursue the hypothesis that payroll and receipts are out of phase with insurance losses. They test the hypothesis by calculating correlation coefficients between the annual rates of change of four variables. The variables are LOA losses as reported in Best's, both paid and incurred, durable goods sales, and manufacturing and construction payrolls. These calculations produced no clear statistical correlation between the annual rates of change. Now in making rates for insurance with an inflation sensitive exposure, it is necessary to project the exposure measure as well as the losses. If the exposure measure and the losses are not correlated, then the total uncertainty of the ratemaking process has been increased. So the authors conclude that adopting an inflation sensitive exposure base may increase the error and thus the volatility of rates. This will then tend to amplify the underwriting cycles.

For the reasons cited above, Best's data is totally unsuited for testing the authors' hypothesis. With all the disruptions in the last

five to ten years, I'll be greatly surprised if the annual changes in LOA losses correlated with anything!

More appropriate tests are possible with bureau data or the data of the larger insurance companies. Do M&C loss ratio results appear to be more cyclic than OL&T results over time? (I don't suggest testing Products Liability results in the same manner. The broad social changes affecting Products would swamp any exposure-related cycles that might exist.)

If payroll, receipts, and sales are indeed uncorrelated with general liability losses, then their use as exposure bases will surely detract from the ratemaking. But the absence of such a correlation seems unlikely. And unless more sound statistical analysis is possible, there seems no reason to embrace the hypothesis.

Another interesting question could be asked about profitability. Has M&C produced more profitable results over the years than OL&T? If it has, is it reasonable to attribute that to the exposure base? (Again, I do not suggest a similar question for Products Liability.)

Section 5 - OL&T

In section 5, the authors briefly discussed the use of an inflation sensitive exposure base in OL&T. They mention transition problems, potential market dislocations, and the question of equity. Since equity is a fundamental issue, I found myself disappointed that the

subject was only briefly mentioned. But we apparently find ourselves in a situation where very little data is available.

One of the transition problems is startling and simultaneously obvious in retrospect. It is quite possible that classes which were fairly homogeneous with respect to the old exposure base will not be homogeneous on the new exposure. As an example, consider offices. Most offices are currently included in just one rating classification. But the receipts for a neurosurgeon's office will be much different from the receipts for a comparable size general practitioner's office. But the OL&T exposure is probably quite similar. This means that many of the classifications will have to be restructured to fit with the new exposure base. As actual data comes in on the new basis, we'll have to monitor the results and be prepared to do fine tuning.

The upcoming discussions on this subject will be very critical. As many ideas and considerations as possible must be introduced and aired. With so little concrete evidence, our collective reasoning and judgment will have to be especially sound.