AN ANALYSIS OF RETROSPECTIVE RATING

by Glenn Meyers

Reviewed by James F. Golz

Glenn Meyers has written a fine, concise paper. He begins with hypothetical loss distributions representing low, standard, and high workers' compensation severities. Combining these with a Poisson frequency distribution, he demonstrates how our present retrospective rating procedure fails to react properly to severity differences and how it overcharges (at least theoretically) when loss limits are selected. Meyers notes that a complete computer modeling of the interaction among excess loss premium factors, insurance charges, and frequency and severity distributions is still a lengthy process. However, he observes that once excess loss premium factors are properly accounted for, the remaining insurance charge is approximately equal regardless of the severity distribution. Thus, for practical reasons, he suggests that either a limited number of loss limits or a single mandatory loss limit be imposed.

Our first task, as Meyers observes, should be to confirm his conclusions using actual data. The adjustment of reported workers' compensation data to a suitable level for analysis will be an interesting task in itself. The claims will, of course, have to be put on the level of the current law. The late recognition of many severe claims and the present valuing of pension claims will complicate the development of individual claims to ultimate cost levels.

The frequency and severity distributions may even have to be adjusted to reflect changing benefit utilization patterns.

There may be a practical difficulty in implementing Meyers's suggestion to restrict the number of loss limits available. Our retrospective rating plans have grown to their current level of detail in response to the competitiveness within our industry and the demands of the marketplace. I suspect that many underwriters would rather have some protection from even an unbalanced retrospective rating plan than not be able to use retro at all as a defensive tool.

A further complication arises from the fact that retrospective rating plans are employed in audited lines of insurance. We face not only the problem of combining states, lines and severities for quotation purposes, but also of determining the rating parameters at adjustment time. Although we live in an age of computers, not everyone has access to them. Therefore, our retrospective rating plans should be simple enough for manual calculation and adjustment. Recently the National Council on Compensation Insurance considered proposing that insurance charges be determined using expected number of claims (which would vary by hazard group) rather than expected loss dollars. This would have been a reflection of risk severity, much as Meyers proposes. However, the matter was eventually dropped, apparently for fear that the retrospective rating process would become too complex.

Meyers defines the basic premium factor to include all expenses other than taxes and loss adjustment expenses. This is a useful simplification often adopted for educational purposes. However, the expenses remaining in the basic premium are actually a function of the loss conversion factor, and many plans are sold with loss conversion factors higher or lower than the actual relationship of loss adjustment expenses to losses. It should be noted that such plans can be analyzed by Meyers's methods by using the actual relationship of loss adjustment expenses to losses in the "cost-plus" formula and the selected loss conversion factor in the "retrospective premium" formula.

It will be interesting to see whether Meyers's suggestions can be implemented for all retrospective rating. In any event, I expect the wise company will soon apply severity analyses of this sort to the pricing of large accounts.