DISCUSSIONS OF PAPERS PUBLISHED IN VOLUME LIX

HOW ADEQUATE ARE LOSS AND LOSS EXPENSE LIABILITIES?

RUTH SALZMANN
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DISCUSSION BY JOHN A.W. TRIST

Miss Salzmann in this paper has pinpointed an area of need that has been only partially met—that of providing regulatory authorities with a simple yardstick for evaluating the level of loss and loss expense liabilities. She proposes another and admittedly better yardstick but readily concedes its fallibility and notes some of its limitations. Matthew Rodermund has noted another, namely the fact that general acceptance might not be readily forthcoming because the expression

$$\frac{\text{Liabilities}_{12/31/n}}{\text{Adjusted Liabilities}_{12/31/n-1} + \text{Premium Earned}_n - \text{Losses Paid}_n}$$

cannot be verbalized. It can be described only in mathematical terms.

The fact remains, however, that the proposed yardstick does represent a significant improvement over those currently in use. It should be adopted as proposed. The criterion that 12/31 liabilities be accepted only if the ratio of these liabilities to the formula reserve base exceeds the lowest of the corresponding ratios for the most recent five years, might be tempered, however, with some concession to the trend of these ratios. It might be noted for example, that of the thirteen companies for which Miss Salzmann had calculated the adjusted loss and loss expense liability ratios, the ratios were clearly trending downward over the period from 1969 through 1971 for eight of the companies; they were trending upward for one company and indicated no clear pattern for the remaining four. Where a trend is discernable it does warrant recognition.

Having given us one new yardstick Miss Salzmann proceeds to give us another in which both minimum and maximum reserve requirements for current year end are generated from:

(a) A re-estimate of reserves at the beginning of the current calendar year in the light of developments during the year, and

(b)   An estimate of the adjusted minimum and maximum loss and loss
expense ratios for the current calendar year.

Perhaps more importantly, however, she suggests that the difference be-
tween the dollars of reserves generated from the high end of the loss and
loss expense ratio range and the dollars of reserves actually carried might be
used as a measure of the surplus-safety requirement to support the under-
writing operation. This latter proposal appears to represent a significant
improvement over the present arbitrary multiple of one year's premium
writings.

One wonders though whether both the appropriate minimum and
maximum reserve levels really couldn't have been obtained with a suffi-
cient degree of accuracy without the introduction of the direct estimation of
current calendar year adjusted loss and loss expense ratios. If for example,
we calculate the range (arithmetic average $\pm 2\sigma$) of the percentages of
Adjusted O/S to Formula Reserve Base (Item 6. Exhibit 2 in Miss Salz-
mann's paper) for the five years ending 1970, the range of liabilities thus
generated for 12/31/71 would be $160,002,000 $-$ $185,606,000 (derived
from 75.86% $\pm$ 5.62%). The range generated in Miss Salzmann's paper
was $173,617,000 $-$ $192,814,000. Have we in fact gained very much at
all with respect to the maximum reserve requirement by superimposing
loss ratio on the initially proposed simple yardstick? Is the difference in
this particular case significant? Is the size and direction of the difference
in this particular case representative of the result that might be expected
from a similar analysis for other companies in the industry? Probably not.
It might be noted too that had the range chosen been the arithmetic mean
$\pm 3\sigma$ rather than $\pm 2\sigma$ the result would have been $168,817,000 $-$
$197,614,000. Which is more appropriate? What might the difference have
been had we used other than five years of experience to determine the
range or if we had eliminated altogether the experience of the most recent
year since it would be the most undeveloped and unreliable?

Miss Salzmann's contributions in the area of loss and loss expense re-
serve determination, distribution and evaluation are reflected throughout
the published records and property/casualty insurance operations of the
past two decades. It has always been a pleasurable and rewarding experi-
ence to study the output of her incisive mind. This reviewer finds himself
readily in agreement with her proposal for the introduction of the new
yardstick presented in the early part of the paper. As an initial reaction

he subscribes also to the concept of the maximum probable loss and loss expense reserve as a vehicle for determining minimum surplus requirements. He is not convinced, however, that this need be dependent upon the introduction of loss ratio into the estimation process. It is an area that should be explored in greater depth, by type and size of company for example, when a greater and more reliable volume of data becomes available under the currently constituted Schedules O and P.