

DISCUSSION BY RICHARD E. SHERMAN

In the paper, "A Probabilistic Model for IBNR Claims," a number of results of interest have been presented. The assumptions of the model have been clearly defined and several useful derivations worked out. It should be noted that this paper addresses "pure IBNR"—to the exclusion of reserves for adverse development on case reserves.

The author openly admits that application of the model is dependent on claim severities being independent of the report lag. Without exception, every set of casualty loss experience that this reviewer has studied (that contains sufficient detail to test the hypothesis of independence) indicates that claim severities increase markedly with report lag—up to some stage of development—and then tend to level off for later stages. Much of the more recent loss experience available to this reviewer is either confidential in nature or is based on too small a volume of claims. However, two generally available, though older, sources clearly demonstrate this phenomenon for a large body of data. Exhibit 1 presents the results of the NAIC Closed Claim Study (62,096 medical malpractice claims), and Exhibit 2 shows comparable data from the ISO's Products Liability Closed Claim Survey (12,213 claims).

This suggests that the derivations presented in this paper should be valid for that portion of the IBNR reserve associated with more mature accident years (where the claim severity of yet unsettled claims tends to be independent of the report lag). More specifically, the interesting and useful results for Example B should be valid for lines of business that were discontinued a number of years ago.

It also suggests that the derivations in this paper must undergo considerable modification before application to the IBNR reserve associated with the most recent accident years. Unfortunately, this latter portion tends to represent the bulk of the IBNR reserve for any long tail line.

The author expresses a number of appropriate misgivings about retrospective procedures such as runoff methods and age-to-age factor methods. What is unclear is whether the techniques presented in this paper would represent an approach that overcomes these misgivings. I do not sense that the methods presented in the paper will liberate the actuary from biases derived from past data and enable him/her to better foresee the future. On the other hand, the author's approaches and derivations do offer a refreshing perspective, and can serve as a basis for further advancements in IBNR analysis.

In the introduction, reference is made to IBNR reserves for fidelity and surety coverages. Ad hoc procedures, such as a fixed percentage of premiums in force are criticized for their failure to differentiate among companies on several counts. To the author's list, I would add the following: definition of accident date (especially for contract surety) and practices in setting case reserves.

EXHIBIT 1

RELATIONSHIP OF CLAIM SEVERITY AND REPORT LAG
NAIC CLOSED CLAIM STUDY
MEDICAL MALPRACTICE

<u>Time from Incident to Report (Months)</u>	<u>Indemnity Paid (000's)</u>	<u>Number of Claims</u>	<u>Claim Severity</u>
0- 6	\$243,576	22,293	\$10,926
7-12	138,435	10,370	13,350
13-24	234,814	15,089	15,562
25-36	134,054	8,631	15,532
37-48	60,456	2,732	22,129
Over 48	<u>64,837</u>	<u>2,981</u>	<u>21,750</u>
	\$876,172	62,096	\$14,110

EXHIBIT 2

RELATIONSHIP OF CLAIM SEVERITY AND REPORT LAG
 ISO PRODUCTS LIABILITY CLOSED CLAIM SURVEY
 BODILY INJURY LIABILITY CLAIMS

<u>Time from Incident to Report (Months)</u>	<u>Number of Claims</u>	<u>Claim Severity</u>	<u>Claim Severity (\$25,000 Limit)</u>
(Trended for Severity)			
0	3,927	\$ 2,834	\$ 740
1-6	5,570	4,477	1,553
7-12	949	23,146	5,100
13-18	581	21,843	5,846
19-24	464	27,603	7,546
25-30	271	19,827	6,299
31-36	157	27,536	7,731
37-48	142	22,973	6,168
Over 48	<u>152</u>	<u>102,136</u>	<u>7,874</u>
	12,213	\$ 9,171	\$2,316
(Untrended)			
0	3,927	\$ 1,200	\$ 622
1-6	5,570	2,292	1,211
7-12	949	9,659	3,956
13-18	581	10,314	4,265
19-24	464	10,572	5,178
25-30	271	8,452	4,292
31-36	157	6,802	4,490
37-48	142	7,408	3,852
Over 48	<u>152</u>	<u>10,824</u>	<u>2,940</u>
	12,213	\$ 3,570	\$1,694