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Survey on Mortality Tables

by Douglas C. Doll

Earlier this year, Tillinghast conducted a survey of mortality tables that life insurance companies used for pricing life products in 2001. One objective was to determine the underlying table being used, and the prospects of the 2001 CSO-related tables becoming a new basis for mortality measurement. This article summarizes some of the results.

Surveys were sent to 70 of the largest individual life writers. Responses were received from 32 companies. We limited responses to those companies that had significant sales of a product with average face amount of at least \$100,000. Mortality assumptions for both term and permanent were inquired about — not all companies had qualifying products for both.

With regards to the underlying table used for pricing, the responses were as follows:

Table	% Respondents
SOA 1975-80	69%
SOA 1985-90	12%
Homegrown	16%
Other	6%

Of the 22 companies utilizing the SOA 1975-80 table, five indicated that they modified the table to extend the select period and one extended the issue age range. Of the five companies utilizing a homegrown table, three said that the table had a slope similar to the SOA 1975-80 table, one said it had a steeper slope, and one had no comment.

Among those companies that used the SOA 1975-80 table, were underwriting factors constant or did they vary? Sixty-four percent (14 out of 22) varied the factors by duration. The others offered no comment or varied factors by issue age/attained age. Of the 14:

- Four increased factors by duration
- Three used “Tillinghast” factors (which grade off smoker/nonsmoker differentials at high ages)
- One used different factors for select vs. ultimate
- Six just indicated that factors vary by duration

We asked whether the respondents believe that the SOA’s 1990-95 table, or the 2001 Valuation Basic Table (2001 VBT) will become the new standard table against which experience mortality ratios will be measured. (Note that the 2001 VBT was created from the SOA 1990-95 data—it is smoother, has smoker/nonsmoker versions, and was projected to 2001 using population mortality improvement factors.)

(The number of responses for each answer is shown in the table on page 29.)

There seems to be a preference for the SOA 1990-95 table, but neither table is a “highly likely” preference for a majority of companies.

Below are representative comments as to why or why not the 2001 VBT or SOA 1990-95 tables would be used:

- Somewhat likely because both are based on more recent data and have a longer select period.
- 2001 VBT is too conservative. We use our own experience so probably won’t switch to SOA 1990-95 table.
- SOA 1990-95 table may have adjustments made and repackaged, but in some form it will become the experience standard.

	2001 VBT		SOA 1990-95	
	By your company	By the industry	By your company	By the industry
Not likely	14	10	10	4
Somewhat likely	10	14	14	12
Highly likely	5	1	5	8
No opinion	2	6	1	6

- It is highly likely that one of these two tables will emerge as the industry standard, but not clear which of the two will be.
- 2001 VBT or 2001 CSO is a useful basis for determining X factors.
- Acceptance probably will depend on the base table the reinsurers use.
- 2001 VBT is preferred because it reflects recent experience (e.g., smaller male/female gap), has separate smoker/nonsmoker tables, smooths out bumps in SOA 1990-95 table and is consistent with 2001 CSO table.
- The SOA 1990-95 table is based on experience from different cohorts of business (before blood testing/after

blood testing), so the slope of mortality is too steep.

There appears to be some support for a new pricing basis within the industry, but issues such as differences in slope between the SOA 1975-80 table and other more recent mortality tables will hinder acceptance of any new mortality table basis. However, there are also those in the industry calling for an examination of mortality slope (at least regarding mortality used in illustration regulation testing). Where will this issue end up? Stay tuned. □

*Douglas C. Doll, FSA,
MAAA, works at
Tillinghast-Towers Perrin in
Atlanta, GA. He is editor of
Product Matters and can
be reached at doug.doll@
tillinghast.com*

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