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RESULTS OF TAX MODELING SURVEY

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The Taxation Section of the Society of Actuaries recently conducted a survey on how federal income tax is reflected in the projection work being performed. The survey focused on the projection of tax under the asset adequacy analysis required by the Actuarial Opinion and Memorandum Regulation (AOMR) as well as the risk-based capital (RBC) requirements under C-3 Phase II, which incorporate federal income tax into the determination of the Total Asset Requirement (TAR).

The goal of the survey was to see how the sophistication in this regard varies from company to company. It was also an opportunity to see if there were variances in federal income tax projection between AOMR and C-3 Phase II modeling, and also determine how much companies rely on modeling software capabilities.

Responses were consolidated at a company level, and were received from 28 companies. These were a mix of large, medium and small companies as 14 had more than $10 billion of admitted assets, eight had admitted assets of $2 to $10 billion, and six were less than $2 billion. Of the responses received, 57 percent were submitted by the appointed actuary. Although 14 percent of respondents said tax was their primary area of responsibility, all of them said they were either very or somewhat familiar with the federal taxation of life insurance companies in the United States.

The responses covered a broad spectrum of products (see Table 1). Almost all the companies modeled life insurance and fixed annuities, and nearly half included variable annuities and variable life insurance. Products reflected in the "other" category were group LTD claim reserves, disability income, health insurance and AD&D.

The survey also asked what tax rate companies applied in their models, and 75 percent of them used a 35 percent tax rate.

TABLE 1

Product lines covered in your response to the survey	Percent
Life Insurance	96%
Fixed Annuities	93%
Variable Annuities	46%
Variable Life Insurance	43%
Equity-Indexed Annuities	29%
Long Term Care	21%
Other	25%

ASSET ADEQUACY MODELS

As expected, 96 percent of the companies said that federal income tax was reflected in their asset adequacy models. The one exception said that income tax did not have a material impact on results. Of the companies that did reflect federal income tax, 75 percent said that taxable income was modeled explicitly. Most of the rest said that taxes were computed using statutory pre-tax income, which some of those companies also noted was a conservative assumption.

The survey also asked what tax rate companies applied in their models, and 75 percent of them used a 35 percent tax rate. The rest utilized a company-specific marginal rate which ranged from 17 percent (to reflect the small company deduction) to 36 percent (to incorporate state income taxes).

Reserves comprise the largest book/tax difference for most companies, so the survey also asked how tax reserves were computed in their models. Not surprisingly, 47 percent of companies performed an exact calculation by model cell, another 32 percent did an approximate calculation for model cells, and 11 percent performed seriatim reserve computations in their models. The remaining companies said the calculations varied by model cell or were approximated as statutory reserves.

Companies were also asked what other adjustments were made to taxable income and tax (see Table 2). As shown,

Section 848 DAC tax adjustments were made by almost all companies while other adjustments were much less common.

TABLE 2

Other adjustments made to taxable income and tax	Percent
Section 848 DAC	89%
Capital loss carryforwards and carrybacks	22%
Ordinary loss carryforwards and carrybacks	17%
10-year spread under 807(f)	17%
Separate Account Dividends Received Deduction	17%
Tax Credits	11%
Utilization of losses in extreme scenarios	6%
Life-nonlife consolidation	6%

Potential utilization of tax losses was not considered in the projection by most companies, as 89 percent said that a marginal tax rate was applied in both positive and negative years in all scenarios. Only 5 percent of companies projected the deferred tax asset (DTA) explicitly, and 84 percent did not consider the DTA in their projection. The remaining companies made a top-side adjustment to avoid double-counting the admitted DTA or modeled the initial DTA only.

Capital gains and losses were accounted separately from ordinary income by 84 percent of the companies, but only 11 percent of companies said that investment income recognized differences between statutory and tax basis of assets. The source of the tax calculation was vendor software without modification for 63 percent of the companies, while another 32 percent used vendor software with specific modifications. One company said the vendor software had a separate tax reserve calculation available, but it was modified for run-time considerations.

Only 42 percent of companies said that a specific analysis of the tax projections is conducted as part of an overall review of the calculations. Of those companies, 88 percent said the review was performed by the valuation actuary and the rest were reviewed by the tax department.

When asked if they planned any future changes in procedures, 42 percent of companies said that their current tax projections were adequate. An additional 21 percent said that future changes depended on availability of vendor software and another 21 percent were undecided. Other companies noted that they were making changes due to model improvements or conversions, and one company noted that they may enhance the tax computation for unrealized gains on hedges and the DTA.

C-3 PHASE II MODELS

The survey also addressed treatment of federal income tax items for C-3 Phase II modeling, and 52 percent of the companies indicated that they do compute RBC under C-3 Phase II. Of those companies, 62 percent discount using the after-tax Treasury rate and 38 percent discount using the after-tax portfolio rate.

When asked how taxes are reflected in the RBC calculation, 54 percent of companies based taxes on statutory pre-tax income including the tax adjustment to TAR, 23 percent said that taxable income was modeled explicitly, 15 percent used the alternate method, and 8 percent based taxes on statutory pre-tax income only.

The responses to the remaining C-3 Phase II questions were similar to the responses received for asset adequacy analysis, except that use of the alternate method was a response for several items.

CONCLUSIONS

The results of the survey were not surprising, in that most companies modeled tax reserves and Section 848 DAC tax and generally relied on vendor software. Since asset adequacy analysis is a pass/fail test and the results of C-3 Phase II modeling have balance sheet impact, it might have been anticipated to see more refinements in the C-3 Phase II modeling. There weren't significant differences in the C-3 Phase II modeling, although the smaller number of companies responding to those questions made it more difficult to draw conclusions.

This was the first time this survey was conducted, but the section expects to repeat it in the future to assess changes in federal income tax modeling. The survey could also potentially be expanded to other projections such as embedded value, Solvency II, C-3 Phase III or wherever federal income tax modeling might have an impact.

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