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# Tax Considerations In Actuarial Projections

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**T**his article speaks to a major component of actuarial projections that often receive insufficient attention by the actuaries.

When making projections, an actuary must sort out the items of little consequence from those that make a significant difference, and those items that are determinable within reasonable ranges from those that are not readily quantifiable. Federal income taxes are significant, the largest single home office expense in many companies. Further, despite the continual evolution of tax guidance over the years, most of the changes have been interpretive, the relevant sections of the Internal Revenue Code (the Code) changing little over the last 20 years.<sup>1</sup> Thus, the effect of taxes has been relatively quantifiable. While the Code could undergo fundamental changes as it affects U.S. life insurers (certainly a possibility, given the impending International Financial Reporting Standards, among other influences), certain elements have been in place without change for many years, and are unlikely to change. These include the cost basis of invested assets and the loss carryforward and carryback rules. Indeed, it would appear that predictability of federal income tax guidance may be far simpler than predictability of the stock market (though still potentially problematic).

In setting projection assumptions, actuaries pay a lot of attention to factors such as equity growth and policyholder behavior—and well they should. However, certain significant tax issues may tend to be ignored. The time appears ripe for refinement of the tax assumptions in two ways:

- Sensitivity testing for the more probable future changes in tax guidance, just as sensitivity testing is generally performed on certain other assumptions deemed significant; and
- Arguably more pertinent, dealing with the current guidance in a more sophisticated manner.

This article deals with the second of these two issues.

Defensible algorithms with respect to tax reserves, other tax cash flows, and admissible deferred tax balances should be a necessary part of such projections. Yet the current level of sophistication of the tax module

varies widely from company to company. While most companies generate tax reserves as well as statutory reserves, some do not. Further, many significant issues are, more often than not, ignored in the modeling process. A common trend is to generate taxable income equal to statutory income, with possible exceptions for:

Replacement of statutory reserve incidence with tax reserve incidence, and Section 848 tax DAC.

The following is a list of the areas of tax calculation that are generally not well developed, if they exist at all, in the actuarial projection process:

- Operating loss deductions (OLD)<sup>2</sup> and net operating loss carrybacks and carryforwards (NOLs), and the restrictions on their utility depending on the company fact pattern;
- Capital loss carrybacks and carryforwards, with even greater restrictions than NOLs;
- Cost basis of invested assets for determining taxes at disposal dates;
- The effect of certain guidance on the tax DAC<sup>3</sup>;
- Distortions caused by reinsurance; and
- Deferred tax liabilities (DTLs) and admissible deferred tax assets (DTAs).<sup>4</sup>

The importance of refining projected tax cash flows goes beyond simply meeting regulatory requirements. For example, many companies use some form of “economic value” measurement (such as embedded value) as a management tool. Generally, the purpose of that management tool could be to better understand the economic value of the enterprise and the period change in such value. Alternatively, the purpose could be to assess the incremental economic value effect on the enterprise of a particular initiative under consideration (a tax strategy, an acquisition, a new product, a new reinsurance treaty, etc.). In either case, the economic value measurement requires a projection of all material cash flows and other changes in free surplus. If the tax element of those projections is materially misstated, it calls into question the relative value of this management tool.



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The balance of this article will take the issues noted above, and provide the necessary procedures for reflecting tax cash flows appropriately.

### OPERATING LOSS DEDUCTIONS AND NET OPERATING LOSS CARRYBACKS AND CARRYFORWARDS

A company that is a life insurance company under state law can be taxed as either a life insurance company or a non-life insurance company, depending on the nature of its reserves. The OLD and NOL carryforward/carryback rules differ.

The ordinary losses of a non-life insurance company (or a non-insurance company for that matter) are primarily discussed in Code section 172, and the related treasury regulations. Code section 172(b)(1)(A) allows non-life insurance companies to carry back an NOL to each of the two taxable years preceding the taxable year of loss, and to carry forward an NOL to each of the 20 years following the taxable year of loss.<sup>5</sup> A non-life insurance company may elect to forgo the carryback of an NOL, and thus apply the NOL only to the subsequent tax years.<sup>6</sup>

Life insurance company taxable income is determined under Subchapter L, Code sections 801 and following.

- Section 801(b) defines life insurance company taxable income as life insurance gross income reduced by life insurance deductions.
- Section 804 defines life insurance deductions as the general deductions provided for in section 805.
- Subsection 805(a)(5) of the list of general deductions references the operating loss deduction of section 810.
- Section 810(c) provides that the loss from operations is the excess of the life insurance deductions for any taxable year over the life insurance gross income for such taxable year.
- Section 810(b) provides for the carryback and carryover of the loss from operations.

A life insurance loss from operations is carried back three years and forward 15 years.<sup>7</sup> This distinction from nonlife insurance companies (and non-insurance companies) is important and comes into prominence in life/non-life consolidated groups. The carryback and carryforward rules are mandatory, but do allow a taxpayer to elect to forgo a carryback.

Examples 1 and 2 below graphically illustrate the workings of the Life Company OLD carryback and carryforward rules. In Life Company Example 1, the taxpayer has operating income as shown below.

**Example 1: Life three-year carryback, 15-year carryforward (no capital gain/(loss) discussion)**

| Generation Year                              | 2000  | 2001 | 2002 | 2003  | 2004 | 2005 | 2006 | 2007 | 2008  | 2009  | 2010 |
|--|-------|------|------|-------|------|------|------|------|-------|-------|------|
| Operating income                             | 100   | 70   | 100  | (200) | 100  | 50   | 70   | 100  | (200) | (100) | 100  |
| Carryback from 2003                          | (100) | (70) | (30) | 200   | 0    | 0    | 0    | 0    | 0     | 0     | 0    |
| Carryback from 2008                          | 0     | 0    | 0    | 0     | 0    | (50) | (70) | (80) | 200   | 0     | 0    |
| Carryback from 2009 & Carryforward from 2009 | 0     | 0    | 0    | 0     | 0    | 0    | 0    | (20) | 0     | 100   | (80) |
| Adjusted taxable income in year              | 0     | 0    | 70   | 0     | 100  | 0    | 0    | 0    | 0     | 0     | 20   |

In this example, the taxpayer is able to carry back the entire current year OLD from 2003 to years 2000, 2001 and 2002. This utilized the full amount of the OLD from 2003. In addition, the taxpayer can carry back the OLD from 2008 to 2005, 2006 and 2007. This carryback still leaves \$20 of income in 2007. During the 2009 tax year, the taxpayer generates a current year OLD of \$100. This can be carried back to 2007 to reduce taxable income to zero and this leaves \$80 to carry forward to 2010 and offset that income. In the proper situation, the 2008 or 2009 OLD may have been carried back up to five years under the special election.<sup>8</sup>

Life Company Example 2 will illustrate the situation whereby the taxpayer elects to forgo the carryback of an OLD. In this example, the taxable income is the same as Example 1. However, the taxpayer will choose to forgo the carryback from 2009.

**Example 2: Life three-year carryback, 15-year carryforward (forgo carryback )(no capital gain/(loss) discussion)**

| Generation year                 | 2000  | 2001 | 2002 | 2003  | 2004 | 2005 | 2006 | 2007 | 2008  | 2009  | 2010  |
|---------------------------------|-------|------|------|-------|------|------|------|------|-------|-------|-------|
| Operating income                | 100   | 70   | 100  | (200) | 100  | 50   | 70   | 100  | (200) | (100) | 100   |
| Carryback from 2003             | (100) | (70) | (30) | 200   | 0    | 0    | 0    | 0    | 0     | 0     | 0     |
| Carryback from 2008             | 0     | 0    | 0    | 0     | 0    | (50) | (70) | (80) | 200   | 0     | 0     |
| Carryforward from 2009          | 0     | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0     | 100   | (100) |
| Adjusted taxable income in year | 0     | 0    | 70   | 0     | 100  | 0    | 0    | 20   | 0     | 0     | 0     |

As demonstrated in the chart above, by forgoing the carryback from 2009, the entire \$100 may be carried forward from 2009 to 2010. The taxpayer may have chosen this election for a number of reasons, including audit or examination adjustments expected.

**CAPITAL LOSS CARRYBACKS AND CARRYFORWARDS**

Code section 1212 allows companies to carry capital losses back three years and forward five years. In addition to the use of capital losses to offset capital gains, life OLDs may offset life capital gains. This article will not discuss the use of nonlife NOLs to offset life capital gains or other consolidated return issues not specifically mentioned. Similarly to an NOL, capital losses are applied in the order generated. Thus, a loss carried forward from an earlier year must be applied before a loss can be carried back from a later year.

In Example 3, the capital gain and loss is generated on the first line. This example assumes no NOLs available to be used against capital gains.

**Example 3: Life three-year carryback, five-year carryforward (no NOL discussion)**

| Generation year                      | 2000 | 2001 | 2002 | 2003  | 2004 | 2005  | 2006 | 2007 | 2008 | 2009 | 2010 |
|--------------------------------------|------|------|------|-------|------|-------|------|------|------|------|------|
| Capital gain/(loss)                  | 50   | 0    | 0    | (100) | 100  | (100) | 0    | 0    | 50   | 0    | 0    |
| Carryback and carryforward from 2003 | (50) | 0    | 0    | 100   | (50) | 0     | 0    | 0    | 0    | 0    | 0    |
| Carryback and carryforward from 2005 | 0    | 0    | 0    | 0     | (50) | 100   | 0    | 0    | (50) | 0    | 0    |
| Adjusted taxable income in year      | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0    | 0    | 0    | 0    |

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Under Example 3, the taxpayer may carry back \$50 in capital loss from 2003 to offset the 2000 capital gain. This left \$50 remaining to be carried forward against the 2004 capital gain. Once the 2003 carryforward occurred, there remained \$50 of capital gain in 2004. This amount was available from 2005 to be carried back. The remaining capital loss available was carried forward to 2008.

While this article does not intend to discuss all nuances of ordinary and capital losses, a brief mention is due of IRC section 1212, which controls capital losses. Example 5 under the relevant treasury regulations<sup>9</sup> highlights an issue often not considered when companies work out analytical models. Under this example, a capital loss carried back to an earlier year to offset a capital gain will “bump” an ordinary loss carried forward to offset that gain. If the “bumped” OLD or NOL is close to expiring, there is an increased chance of OLD or NOL expiration, unused.

Consider a life insurance company taxpayer that has carried an OLD from 13 years ago to offset a capital gain. Two years later, the taxpayer generates capital losses. When that capital loss is generated, it offsets the capital gain, and the OLD previously used will be bumped. To the extent that there is no other ordinary income or capital gains, the NOL will expire unused in its 15th year.

### COST BASIS OF INVESTED ASSETS FOR DETERMINING TAX DISPOSAL DATE

Generally companies project post-tax investment earnings via assumption of a pre-tax investment earnings rate, and multiplication of that rate by the complement

of the marginal rate (e.g., 65percent). This approach can sometimes be a gross oversimplification. The reasons are several, and can affect the tax cash flows in varying degrees depending on the fact pattern of the taxpayer. The situations that will distort this simplification include the following:

- When a bond is purchased in the secondary market at a market discount, such discount accrues for statutory purposes; however, the cost basis of the asset for tax generally remains the same until maturity or prior disposal. Meanwhile, statutory income will include the accrual of discount, causing statutory income to differ from taxable income because of this issue. In the present environment, for example, it is possible that many bonds available in the secondary market are trading below par value for credit quality reasons, and that this type of mismatch between statutory income and taxable income could become significant. If the yield curve rises in the future, this will additionally cause many higher-quality bonds to similarly trade at values below par value.
- Except to the extent of accrued market discount, disposal at other than the cost basis of the asset gives rise to capital gains and losses, not ordinary income. Capital losses can only be offset against capital gains, not against ordinary income. Thus, one must apply the appropriate character of the income or loss on assumed disposal decrements, be they default, prepayment, or actual maturity.
- To the extent the general account investment is in stock or tax-exempt bonds, the proration rules apply, significantly impacting the amount of investment income that is tax-free. For tax-exempt income, the policyholder share percentage (a function of the interest assumption on tax basis reserves) remains taxable, while the company share percentage (i.e., the complement of the policyholder share percentage) is tax-free to the company. For shareholder dividends from unaffiliated stock, 70 percent of the company share is tax-free.

It is recognized that actuarial projections generally do not model such asset characteristics. It would be interesting to see what the effect of such increased precision would be.

Treasury Regulation Section 1.848-1 spells out certain rules that may merit careful reading, and could influence the accuracy of actuarial projections.

## THE EFFECT OF CERTAIN GUIDANCE ON THE TAX DAC

The provision for tax-basis acquisition costs under Code section 848 (otherwise referred to as the “tax DAC”) has also been projected in an inaccurate manner. Treasury Regulation Section 1.848-1 spells out certain rules that may merit careful reading, and could influence the accuracy of actuarial projections.

- The section 848 capitalization rate varies by type of business.
- There is no section 848 attribution for cancellable health insurance. However, there is a 20 percent reduction in the statutory unearned premium pursuant to Code section 807(e)(7). Further, to the extent there is a contract reserve, the better argument is that the contract reserve is an unearned premium for tax purposes, thus also subject to the 20 percent reduction from the statutory value.
- For qualified pension business there is no tax DAC. Thus in any projection, an assumption should be made as to the percent of business otherwise subject to the tax DAC but that is qualified pension.
- The DAC capitalization rate is very different between individual life insurance (7.7 percent), and that which is determined to be group life insurance (2.05 percent). The regulations define seven types of groups that would qualify as “group life” for these purposes.<sup>10</sup> Additionally, to be considered “group life insurance” for these purposes, the underwriting must be in the form of “group underwriting.”<sup>11</sup>

Second, in pricing and projecting the costs of policy benefit updates, care should be taken to avoid the deemed internal exchange rules in the regulations. Neglecting those rules may cause the DAC capitalization rate to apply to the total reserve on policy changes deemed to be internal exchanges.

Third, the tax DAC has certain special aspects:

- For smaller companies, where the tax DAC capitalization is under \$15 million in a taxable year,

at least part of the DAC capitalized may be amortized in five years, rather than 10.<sup>12</sup>

- It is possible that a company with a large amount of capitalization may have a very low level of expenses. In such case, the otherwise capitalizable amount may be capped by the “General Deductions” limitation, unless an election resulting otherwise is in place.

## COMPLICATIONS CAUSED BY REINSURANCE

There are several aspects of reinsurance where statutory income and taxable income differ, for example:

- Various statutory rules will deny a statutory reserve credit, while for tax purposes the credit is required to be taken. Most notably, Appendix A-197 of the NAIC Accounting Practices and Procedures Manual provides many rules a company must satisfy in order to receive statutory reserve credit.
- Of course the tax DAC itself is a distortion from statutory income, since a statutory equivalent of this item does not exist. There are additional tax DAC provisions governing reinsurance that will further distort the incidence of the tax DAC. For example:
  - Under the treasury regulations, reinsurance ceded to a non-U.S. taxpayer (e.g., an alien reinsurer) will often result in a negative “net consideration,” which cannot be utilized against tax DAC capitalization amounts arising from other sources. Negative capitalization caused by reinsurance with a non-U.S. taxpayer can at best be put into a “basket,” against which future positive capitalization resulting from reinsurance with non-U.S. taxpayers can be taken.<sup>13</sup>
  - The net cash transferred constitutes section 848 “net considerations,” as opposed to premiums by themselves. Thus claims, modco reserve adjustments, ceding allowances, etc.,

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## Under the Actuarial Opinion and Memorandum Model Regulation (AOMR), as it is currently worded, tax cash flows should be a part of the asset adequacy calculation.

are all brought under this “net consideration” definition.

- Finally, the ability to amortize all or a part of the tax DAC in five years instead of 10 years does not apply to reinsurance transactions.

### DTLS AND ADMISSIBLE DTAS<sup>14</sup>

Aside from the fact that deferred taxes are a significant economic balance sheet item, the major statutory deferred tax issue for projection purposes is the effect of DTAs and DTLs on the statutory annual statement, i.e., the effect they have on statutory surplus and on free surplus. Since admitted DTAs for the life insurance industry as a whole have recently amounted to as much as 12 percent of capital and surplus, this is a significant item to include in projections of emerging statutory results. Actuaries often have not been taking DTAs and DTLs into account when performing projections. Yet the theoretical formulas for producing those balance sheet items, at least with respect to those arising from policyholder liabilities (i.e., tax DAC and reserve differences) are straightforward. When projecting the policy-related deferred tax item, it is appropriate to ignore DTLs, since they do not occur materially on policy-related issues. In an ideal world the policyholder-related “economic” DTA equals the following as of a given valuation date:

DTA =  $T * [(SR - TR) + TDAC]$ , where:

T = Enacted tax rate  
 TR = Tax reserve  
 SR = Statutory reserve  
 TDAC = Tax DAC balance

In actual statutory practice, that amount is reduced substantially by certain regulatory “guardrails.”<sup>15</sup>

Moreover, the Company Action Level Risk Based Capital (“CALRBC”) formula currently adds a component for the admitted DTA. However, the net admitted DTA can be approximated based on current company fact patterns, and projected as a percentage of some “base,” and thus treated mathematically like a “negative reserve.” The base can be the excess of statutory reserves over tax reserves, plus the tax DAC balance.

### REGULATORY IMPLICATIONS

Under the Actuarial Opinion and Memorandum Model Regulation (“AOMR”), as it is currently worded, tax cash flows should be a part of the asset adequacy calculation. Thus, it is important for the tax cash flows to consider significant tax issues that veer away from a simplistic tax cash flow formula.

Further, under the AOMR, an economic, post-tax reserve is calculated, and then compared against a traditional formula reserve, which is, and should be, pre-tax. This is an inconsistent comparison. If a deferred tax asset exists with respect to those policyholder liabilities, then the proper comparison against the economic reserve should be the formula reserve minus the admitted DTA associated with those policies in question, as opposed to the formula reserve itself.

Insurers subject to Solvency II will soon be required to complete an Own Risk and Solvency Assessment (ORSA). A similar requirement may apply to insurers in the United States as a result of the NAIC’s Solvency Modernization Initiative. More sophisticated modeling of tax considerations is recommended when companies perform dynamic capital adequacy and stress testing.

### MANAGEMENT IMPLICATIONS AND CONCLUSION

For actuarial projections to serve as the management tools that they are intended to be, the persons charged with making those projections need to consider whether the projection is sufficiently sophisticated so that it does not miss major items. Moreover, when confronted with a possible opportunity or strategy, it is important to ask what the tax effect of that strategy will be, not just in the implementation year, but projected over the significant time horizon. This can be a difficult concept

to communicate to company management, as taxes have a “mystique” in the eyes of many people.

Because tax expense is such a significant component of financial projections, the effort, both to increase the accuracy and to communicate its effect, should be very worthwhile.

Given the importance and complexity of tax considerations, it may also be an appropriate time for the Actuarial Standards Board to develop an Actuarial Standard of Practice to provide guidance to actuaries on tax-related matters.

*The views expressed herein are those of the authors and do not necessarily reflect the views of Ernst & Young LLP. ■*

## END NOTES

- <sup>1</sup> Unless otherwise specified, all references are to the Internal Revenue Code of 1986, as modified, and the Treasury Regulations promulgated thereunder.
- <sup>2</sup> As will be discussed below, the Operating Loss Deduction is defined in Code section 810. Within the life insurance context, the generally known NOL of section 172 is defined as an Operating Loss Deduction.
- <sup>3</sup> Code section 848, “Capitalization of Certain Acquisition Expenses.”
- <sup>4</sup> This brings up a related issue. It can be shown mathematically that there is a need to subtract policy-related admitted DTAs from the formula reserves, in order to compare consistently with the economic (post-tax) reserves that are produced under the asset adequacy testing requirement of the Actuarial Opinion and Memorandum Regulation.
- <sup>5</sup> IRC section 172(b)(1)(H) was added to allow a company to elect to carry back a non-life NOL from either 2008 or 2009 to any of the fifth, fourth or third taxable years prior to taxable year of loss.
- <sup>6</sup> See IRC section 172(b)(3).
- <sup>7</sup> Section 810 was modified by Public Law 111-92 to add subsection (b)(4), which allowed a taxpayer to elect to carry back a loss from operations generated in either 2008 or 2009, to tax years either four or five years prior.
- <sup>8</sup> See footnote 7.
- <sup>9</sup> Treasury Regulation 1.1212-1(a)(iv)(Example 5).
- <sup>10</sup> Treas. Reg. §1.848-1(h)(2)(ii)-(viii).
- <sup>11</sup> Treas. Reg. §1.848-1(h)(1) and (3).
- <sup>12</sup> Code §848(b)(4).
- <sup>13</sup> Treasury Reg. section 1.848-2(f).
- <sup>14</sup> It is important to note that we are not speaking to the accuracy of the projected reversal patterns for admissible DTA calculation purposes in the statutory annual statements. Our comment here is on projection of the DTA’s themselves as elements in projections of statutory net liabilities.
- <sup>15</sup> See Statement of Statutory Accounting Principles No. 101 (“SSAP 101”).

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