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Educational Note

Future Income and Alternative Taxes

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EDUCATIONAL NOTE

Educational notes do not constitute standards of practice. They are intended to assist actuaries in applying standards of practice in specific matters. Responsibility for the manner of application of standards in specific circumstances remains that of the practitioner.

FUTURE INCOME AND ALTERNATIVE TAXES

COMMITTEE ON LIFE INSURANCE FINANCIAL REPORTING

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MEMORANDUM

TO: All Fellows, Associates and Correspondents of the Canadian Institute of Actuaries

DATE: December 2002

FROM: Jacques Tremblay, Chairperson
Committee on Life Insurance Financial Reporting (CLIFR)

SUBJECT: **Educational Note on Future Income and Alternative Taxes**

The Committee on Life Insurance Financial reporting (CLIFR) has developed the attached educational note. It concerns the treatment of projected tax based on income ("income tax"), and other taxes not based on income that interact with income tax ("alternative tax") in the valuation of policy liabilities under the Canadian Asset Liability Method (CALM).

This educational note applies to the policy liabilities of all contracts written by life insurers, and its principles apply to the valuations of both direct written business and reinsurance received. The key topics discussed are policy-related tax cash flows, policy-related balance sheet items, recoverability, and tax-preferred assets.

This educational note provides supplemental information to section 7.2.8 of "The Standards of Practice for the Valuation of Policy Liabilities of Life Insurers" (LSOP), and paragraphs 42 through 48 of section 2320 of the "Consolidated Standards of Practice – Practice Specific Standards for Insurers."

The educational note gives a practical overview (numerical examples) on providing for income taxes in the valuation of policy liabilities and also provides the balance sheet presentation.

In accordance with the Institute's policy for Due Process, this "Educational Note on Future Income and Alternative Taxes" has been approved by the Committee on Life Insurance Financial Reporting, and has received final approval for distribution by the Practice Standards Council.

Educational notes will be covered under Section 1220 of the Consolidated Standards of Practice (CSOP) when it comes into effect. Although CSOP came into effect as of December 1, 2002, or such later date as of which the practice-specific standards applicable to the **insurance** practice area are adopted (and will, therefore, only apply from that date forward), in the opinion of CLIFR and the PSC, the substance of Section 1220 appropriately describes the status of this educational note for work done in fiscal year 2003. However, early implementation is encouraged.

Section 1220 prescribes that "The actuary should be familiar with relevant educational notes and other designated educational material." It further explains that a "practice which the notes describe for a situation is not necessarily the only accepted practice for that situation and is not necessarily accepted actuarial practice for a different situation." As well, "educational notes are intended to illustrate the application (but not necessarily the only application) of the standards, so there should be no conflict between them."

We would like to thank the members of the working group who were primarily responsible for the development of this educational note: Ty Faulds, Ron Hinrichs, Chris Humphreys, Lesley Thomson, Paul Della Penna and Jason Wiebe.

Questions should be addressed to me at my *Yearbook* address.

JT

EDUCATIONAL NOTE ON FUTURE INCOME AND ALTERNATIVE TAXES

INTRODUCTION

This educational note concerns the treatment of projected tax based on income ("income tax"), and other taxes not based on income that interact with income tax ("alternative tax") in the valuation of policy liabilities under the Canadian Asset Liability Method (CALM). It provides supplemental information to section 7.2.8 of "The Standards of Practice for the Valuation of Policy Liabilities of Life Insurers" (LSOP), and to section 2320 of the "May 2001 Discussion Draft of the Consolidated Standards of Practice – Practice Specific Standards for Insurers" (CSOP).

The accounting for taxes on the Canadian GAAP balance sheet is governed by Accounting Guideline – 9 (AcG-9) of the *Handbook of the Canadian Institute of Chartered Accountants* (CICA). A key issue contained in AcG-9 with respect to policy liabilities is:

- Policy liabilities would be adjusted for the impact of both tax timing differences and permanent differences on cash flows available to satisfy policy obligations.

Actuarial standards of practice (section 7.2.8 of the LSOP and paragraphs 42 through 48 of section 2320 of CSOP), amplify the CICA guidance, and indicate that a provision should[1] be made in the policy liabilities for:

- future investment income tax,
- future capital taxes not recoverable or offset by income taxes, and
- future income taxes payable or recoverable with respect to permanent and temporary differences,

The simplest way of providing for taxes in the valuation of policy liabilities is first to include tax cash flows in the computation, and then to deduct the amount of future tax balances recorded in the accounts that relate to policy liabilities.

The provision for these taxes in the valuation of policy liabilities depends on the assets chosen to support the policy liabilities, and other allocations. Research for this educational note demonstrated that current practice among actuaries varied. Where reasonable, the educational note describes more than one illustrative approach to the application of standards of practice.

While alternative approaches to the application of standards may be reasonable, an actuary usually would continue to use the same approach each year to promote consistency. The actuary is encouraged to discuss any changes in methodology with the company's accountants and auditor. It may be appropriate to report such change as a change in accounting policy that is not reflected in operating income, but accounted for as a non-recurring adjustment to surplus. A material change in methodology would be accompanied by appropriate actuarial disclosure by the actuary and recommended for inclusion in the life insurance company financial statements.

[1] "Should" is a mandating word, and typically relegated to guidance in recommendations, not educational notes but here we are referring to the standards.

SCOPE

This educational note applies to the policy liabilities of all contracts written by life insurers. The principles described for the valuation of direct written business also apply to the valuation of reinsurance received.

This educational note deals only with the treatment of projected income taxes and alternative taxes, and not other types of taxes.

The key topics discussed are:

- policy-related tax cash flows,
- policy-related balance sheet items,
- recoverability, and
- tax-preferred assets

This educational note does not address:

- the allocation of income taxes and alternative taxes between Participating and Non-Participating lines of business,
- the allocation of income taxes and alternative taxes to other subsets, e.g., between pre-1996 and post-1995 business,
- the impact of policyholder taxation on policy liabilities, and
- the appropriate treatment of assets outside the Canadian Investment Fund when those assets are used to support policy liabilities.

DEFINITIONS

It is useful to define terms pertaining to the calculation of future tax provisions that will be reflected in the valuation of the policy liabilities. To ensure consistency in industry communications, we propose the following terminology:

Policy Liability Ignoring Future Taxes (PLIFT) is the policy liability calculated excluding future income or capital taxes. PLIFT includes provision for premium taxes and investment income taxes.

Discounted Future Tax Provision (DFTP) is the provision in the policy liabilities for future income and capital tax cash flows.

Policy Liability Before Carve-Out (PLBCO) is the sum of PLIFT and DFTP.

Future Tax Carve-Out (FTCO) is the component of the accounting provision for future taxes related to actuarial liabilities for in force policies and supporting assets. It is the amount by which the PLBCO is adjusted to arrive at the *Policy Liability After Carve-Out*. This will equal the component of the accounting future tax asset or liability that will be separately reported on the Canadian GAAP balance sheet that is related to in force policies and supporting assets.

Policy Liability After Carve-Out (PLACO) is the amount of policy liabilities reported in the Canadian GAAP balance sheet, and is effectively the PLBCO adjusted for the Carve-Out.

BACKGROUND

According to the standards of practice, the projection of tax cash flows in the valuation is based on assumptions that include margins for adverse deviations. The policy liabilities should not provide for projected taxes related to the expected release of provisions for adverse deviations, but only for those taxes that would arise if the valuation assumptions (with margins for adverse deviations) materialize.

Therefore, if taxable income were equal to GAAP income, there would be no need to provide for projected income taxes in the valuation, because GAAP income is projected to be zero if the valuation assumptions materialize.

However, projected taxable income may be different from projected GAAP income for a number of reasons. Examples include:

- Differences between GAAP policy liabilities and the corresponding tax liabilities,
- Differences between income from capital gains in accordance with generally accepted accounting principles and the corresponding income in accordance with tax rules,
- Preferential tax treatment of the investment income of a class of assets (e.g., in Canada, the exemption from tax of dividends on common shares),
- The amortization of loss carry-forward amounts,
- The non-deductibility of certain expenses and other taxes for income tax purposes, and
- Differences in the treatment of certain intangible assets for GAAP and tax purposes.

In general, the differences above in company income as determined for GAAP reporting and for taxation purposes are classified as being of one of two types: permanent or temporary. A permanent difference is one where differences in income in reporting periods between tax versus GAAP are not fully offset (i.e., reversed) over the lifetime of the item giving rise to the difference. A temporary difference (i.e., a timing difference) is one for which there are period to period differences between tax versus GAAP income, but these are fully offset (i.e., reversed) over the lifetime of the item giving rise to the difference. The prospective impact of permanent and temporary differences would be fully allowed for in the calculation of Canadian GAAP policy liabilities.

The most common temporary difference arises from different reserving bases in calculating taxable versus GAAP income. The two different reserving bases will ultimately converge to the same liability amount at the policy maturity date, and the total profit from the policy will be the same under both. However, the emergence (or timing) of that profit will be different. This gives rise to a temporary difference between GAAP income and taxable income.

The use of equities to support policy liabilities can result in both permanent and temporary differences that need to be considered in the valuation of the GAAP liabilities.

Examples of Permanent Differences related to equities are:

- Dividends from taxable Canadian Corporations (which are not taxable in the hands of the insurer), and
- Net capital gains (only a percentage of which is included in taxable income).

Examples of Temporary Differences related to equities are:

- Capital appreciation of shares: marked to market for tax purposes, moving to market for GAAP purposes, and
- Real estate: valued at depreciated cost for tax purposes, moving to market for GAAP purposes.

Under the CALM, a further complication is that the provision for adverse deviations in interest rate risk is determined by scenario testing, rather than by application of a margin for adverse deviations to the projected rates of return. Theoretically, the tax cash flows would vary within each scenario; however, this is often not done in practice. This is acceptable provided the actuary can demonstrate that ignoring the variability in tax cash flows does not materially alter valuation results.

To determine the value of the temporary and permanent differences, the actuary would set best estimate future income tax rates. The best estimate scenario would consider continuation of the tax regime existing at the balance sheet date, except that the best estimate would anticipate a "definitive" or "virtually definitive" decision by the relevant tax authority to change that regime.

If beneficial differences (permanent or temporary) rely on a favourable tax interpretation, the actuary would consider the risk of an adverse interpretation by tax authorities (potential "limited shelf life").

Section 3465 of the CICA Handbook states that income tax rates should be "enacted" or "substantively enacted" to be considered in the calculation of income tax assets or income tax liabilities. With respect to income tax rates, CLIFR would not expect the CICA's "enacted" or "substantively enacted" criterion to be different from the CIA's criterion.

POLICY-RELATED TAX CASH FLOWS

According to the standards of practice, the valuation of GAAP policy liabilities should include provision only for policy-related tax cash flows, and not for other taxes expected to be paid by the insurer. Therefore, the actuary needs to distinguish which projected income and alternative taxes are policy-related. The projected tax cash flows reflect the interactions between policy-related income tax cash flows, and policy-related alternative tax cash flows.

The identification of those income and alternative taxes that are policy-related does not depend solely on the company's internal practices for tax allocation. The following general rules could apply:

- Projected tax cash flows arising from the difference between maximum tax actuarial reserves (MTARs) and GAAP policy liabilities **are** policy-related. This includes:
  - income taxes arising from the reversal of a difference that exists at the balance sheet date,
  - income taxes arising from occurrence after the balance sheet date and later reversal of a difference, and
  - capital taxes arising from the difference between MTARs and GAAP policy liabilities.
- Projected tax cash flows from investment income on assets supporting policy liabilities **are** policy-related. This includes:
  - income taxes on investment income of assets supporting GAAP policy liabilities, and
  - capital taxes on real estate assets supporting policy liabilities.
- Projected tax cash flows from investment income of assets not supporting GAAP policy liabilities **are not** policy-related.
- Projected tax cash flows related to differences between the treatment for GAAP and tax purposes of any policy-related items (e.g., policy-related expenses) **are** policy-related.
- Projected tax cash flows related to differences between the treatment for GAAP and tax purposes of any items which are not policy-related (e.g., intangible assets unrelated to policies) **are not** policy-related.

Two types of projected tax cash flows that may or may not be considered policy-related are:

- Projected tax cash flows arising from the difference between claimed tax liabilities on policies and MTARs (i.e., underclaims).
- Projected tax cash flows arising from the amortization of a balance sheet loss carryforward (LCF) item.

The treatment of underclaims and LCFs varies among actuaries. The following approaches are in use:

(a) Projected taxes associated with the reversal of underclaims and the amortization of LCFs are not policy-related.

- This approach is consistent with the view that if MTARs were equal to GAAP policy liabilities, there would be no need for the actuary to make provision in the valuation for temporary differences between GAAP policy liabilities and tax liabilities.
- This methodology is simple, practical, and easy to disclose. It treats both the LCF and the underclaim as past events. The GAAP policy liability is calculated prospectively not historically. The future tax asset associated with the LCF or underclaim is deemed to belong to surplus.
- The underclaims and LCFs are effectively ignored in the GAAP policy liability valuation.

(b) The original source of the underclaim/LCF determines whether the associated projected taxes are policy-related or not.

- If the underclaim or the LCF arose because of a policy-related item, then the projected reversal of the underclaim or amortization of the LCF is considered policy-related. The actuary would assess whether the underclaim and LCF, or portions thereof are policy related. Consideration would be given to the company's tax allocation policy in determining which business segment "owns" the underclaim or the LCF (i.e., which business segment is entitled to realize the benefit when the underclaim or the LCF is utilized).
- An underclaim can be thought of as an integral part of an LCF, since underclaims are typically used to manage expiry of loss carry forwards
- This methodology may be complicated to apply in a consistent and appropriate manner, particularly where underclaims and LCF are managed at a high level (e.g., entity level). Its use implies the future tax asset associated with the policy-related portion of the underclaims or LCF belongs to the liability segment.
- This methodology requires the actuary's understanding of the company's tax position and tax management strategies to model the prospective impact of the underclaim and LCF position

Based on company circumstances, each of these approaches can be reasonable, and consistent with current standards of practice. However, it would not be appropriate to apply the approaches inconsistently; for example, by choosing different approaches by block of business, or by choosing different approaches for pre-1996 and post-1995 business.

The determination of MTARs requires an allocation of assets, or of the investment income on assets, to pre-1996 business and post-1995 business. Policy-related tax cash flows will be influenced by this allocation, though there are no specific standards of practice. Once an approach is chosen, there is an expectation that the actuary will use the same approach each year to promote consistency.

POLICY-RELATED BALANCE SHEET ITEMS

According to the standards of practice, to avoid double-counting, the GAAP policy liabilities should be adjusted for other balance sheet items (sometimes called "accounting" balance sheet items) relating to GAAP policy liabilities and their supporting assets. Thus, GAAP policy liabilities are adjusted for balance sheet items associated with the policy-related future tax cash flows already reflected in the valuation of GAAP policy liabilities. For example:

- The accounting future tax asset (liability) balance related to the difference between MTARs and GAAP policy liabilities is added to (subtracted from) the GAAP policy liabilities.
- The accounting future tax asset (liability) balance related to the difference between GAAP and tax values of assets backing policy liabilities is added to (subtracted from) the GAAP policy liabilities. This includes any future tax balances associated with deferred realized gains on assets backing GAAP policy liabilities.
- The accounting future tax asset (liability) balance related to an underclaim or LCF is added to (subtracted from) the GAAP policy liabilities to the extent the projected reversal of the underclaim or amortization of the LCF was considered policy-related, and thus reflected in the valuation cash flows.

An accounting future tax asset (liability) balance is treated in the same manner as deferred realized capital gains, loan loss provisions on assets backing liabilities, provisions for policy dividends, recoverable deficit assets, etc. It is a policy-related balance sheet item that the actuary considers in the valuation in order to avoid double-counting or omission. The adjustment to GAAP policy liabilities for accounting balance sheet items becomes complicated if, for example, the adjustment changes the difference between MTARs and GAAP policy liabilities.

One approach was considered but rejected as inconsistent with standards of practice. That approach treats accounting future tax asset balances in the same manner as invested assets, which could be chosen to support GAAP policy liabilities, and has asset cash flows equal to the tax savings generated as the asset runs off. This raises the possibility of double-counting or omission (e.g., by allowing the actuary to allocate a policy-related accounting future tax asset to surplus). Also, the approach is incomplete. Some policy-related tax cash flows (e.g., some permanent differences) do not have a corresponding accounting future tax asset on the balance sheet.

Assuming the actuary and accountant have consistent views on future recoverability of a tax asset, the only change in the net balance sheet position due to inclusion of future taxes in the GAAP policy liability calculation is due to the impact of discounting. That is, the accounting provision is the non-discounted value of net future tax versus GAAP differences, and the GAAP policy liability calculation adjusts for the impact of the time value of these differences. The time value difference impact could be substantial. For example, rather than a "linear" reduction in the difference as the liabilities run off, the difference in the short term often increases before gradually reducing, leading to a much bigger impact of discounting.[2]

[2] Indeed, it could turn a material undiscounted tax asset into a material discounted tax liability.

RECOVERABILITY

In projecting policy-related tax cash flows, there is the possibility of projected tax savings or projected negative tax. According to the standards of practice, projected tax savings should be used to reduce the value of GAAP policy liabilities only to the extent the benefits of those tax losses are recoverable. That is, in order to benefit from a tax loss, there has to be an alternative source of income otherwise taxable, if not for the tax loss. The actuary needs to identify those alternative sources of taxable income allowable as sources of recovery in the valuation.

The standards of practice say the following about recoverability:

- First, recoverability should be considered in light of the valuation basis. That is, taxable income can be a source of recovery only if it arises if valuation assumptions (with margins for adverse deviations) materialize. For this reason, the future release of provisions for adverse deviations is not a legitimate source of recovery.
- Second, recoverability should be considered based on the projected tax position of the company overall.
- Third, a margin for adverse deviations should be applied to the extent there is uncertainty about the ability to realize the benefit of future tax losses.

It is clear that all taxable income associated with the projection of GAAP policy liabilities using valuation assumptions (with margins for adverse deviations) is an allowable source of recovery (This includes any projected taxable income that is used to recover acquisition costs associated with segregated fund products). That is, projected positive tax cash flows in one line of business can be used to "recover" projected negative taxes in another line of business. Carry-forward and carry-back rules can also be applied.

The taxation sub-committee, created by CLHFR, considered limiting, as the **only** allowable source of recovery, to the taxable income associated with the projection of policy liabilities. Theoretically, this has appeal, as it keeps a clear dividing line between "liabilities" and "surplus." However, it is inconsistent with standards of practice, which indicate that recoverability should be considered based on the projected tax position of the company overall. Also, this position can lead to unreasonable results. For example, consider a line of business with no difference between GAAP policy liabilities and tax liabilities at the balance sheet date (i.e., the accounting future tax balance is $0). Suppose the projection of the difference between policy liabilities and tax liabilities creates a projected tax cash flow of positive $100 in year one, and negative $100 in year five. If this were the only line of business, and policy liabilities were the only allowable source of recovery, then the provision for taxes in the policy liabilities would be $100 (ignoring interest). No credit could be taken for the negative $100 cash flow in year five because there is no source of recovery (i.e., it is beyond the carry-back period of 3 years).

The standards allow for some (but not all) taxable income on surplus to be a source of recovery. Because recoverability is considered with the valuation basis, one approach allows taxable income on surplus projected in a manner that is consistent with the valuation basis. Under this approach:

- Taxable income arising from the release of provisions for adverse deviations **is not** an allowable source of recovery.
- Taxable income arising from future sales **is not** an allowable source of recovery.
- Taxable income arising from cash flows beyond the term of the inforce liabilities **is not** an allowable source of recovery.
- Assumptions used to project investment income on surplus assets (growth rates, asset default rates, and investment expenses) would include margins for adverse deviations consistent with valuation assumptions (including adverse interest rate scenarios).

There is concern about the practicality of this approach. Surplus would not usually be projected in this manner for any other purpose, such as Dynamic Capital Adequacy Testing. However, it might not be necessary to explicitly project surplus, as the actuary is only concerned with the sufficiency of allowable sources of recovery rather than the precise amount. Approximations would be adequate.

The actuary is reminded that, (as per the LSOP and the CSoP - Practice Specific Standards for Insurers), extension of the term of the liabilities is permitted solely to allow the recognition of cash flow to offset acquisition or similar expenses. The value of the additional cash flow recognized by such extension of the term cannot exceed the value of the remaining balance of acquisition or similar expenses. Taxable income arising from such additional cash flows is the only allowable source of recovery in such circumstance.

Recoverability would consider the impact of future shareholder dividends as well as future capital repatriation. In addition, if beneficial differences (permanent or temporary) rely on a favourable tax interpretation, the actuary would consider the risk of an adverse interpretation by tax authorities (potential "limited shelf life").

Usually, surplus income for recoverability would be derived from existing resources - that is, planned future capital injections would not be considered unless there are special circumstances. The rationale to make recoverability even partially dependent on income from future capital infusions creates an undesirable dependency on capital infusions to support the policy liabilities.

When there is uncertainty about the availability of allowable sources of recovery, a margin for adverse deviations is often applied by conservatively projecting allowable taxable income. Some actuaries support limiting the amount of surplus projected to some percentage of the Minimum Continuing Capital and Surplus Requirement, but this is not required by the standards of practice. Individual company circumstances and business plans (e.g., projected target surplus of the Company, the valuation basis) would be considered in determining the appropriate amount of conservatism in the projection of allowable taxable income.

The value of policy liabilities will depend not just on the available sources of recovery, but also on the order those available sources are applied in the valuation. For example, consider a situation where the change in the difference between policy liabilities and tax liabilities results in a projected negative $100 tax cash flow in the first year, followed by a positive $100 tax cash flow in the next year. If liability sources of recoverability are used first, the tax provision in the policy liabilities will be $0. Losses are carried-forward to shelter the gains, resulting in no net tax cash flow. But if surplus sources of recoverability are used first, the tax provision in the liabilities will be negative. The $100 tax loss is realized one year before the $100 tax paid.

The company's accountant will assess the recoverability of non-policy related future tax assets. It is recommended to the actuary to discuss recoverability issues with the company's accountant. Such discussion would likely highlight sources of revenue used or not used by each professional in their respective work on recoverability as well as avoid double-counting of sources of recovery.

TAX-PREFERRED ASSETS

Tax cash flows associated with assets supporting GAAP policy liabilities are policy-related tax cash flows. When the assets supporting GAAP policy liabilities are tax-preferred instruments, the projected income tax cash flows are lower. Assuming sufficient sources of recovery, the value of policy liabilities is lower when tax-preferred assets are chosen to support policy liabilities.

Some actuaries disagree with this approach, characterizing it as holding assets on the balance sheet at an inflated value that reflects the anticipated future tax benefits. However, the approach is consistent with generally accepted accounting principles as defined by the CICA (see paragraph 27 of AcG-9 "Financial Reporting by Life Insurance Enterprises").

APPENDIX 1 – NUMERICAL EXAMPLES

This section illustrates the impact on the GAAP policy liability calculations of reflecting the future policy-related tax cash flows. The examples are not presented in a CALM manner, or format, but rather in an actuarial present value manner. The two approaches will produce the same result for a particular scenario if present value factors exist which replicate the investment return assumptions of that scenario. The following examples assume that, after providing for MfADs, a level valuation interest rate of 6.5% can be used to reproduce the policy liability ignoring income taxes.

Example 1

Example 1 sets up the example where the MTARs are greater than the GAAP policy liabilities ignoring income taxes.

Calendar Year	2001	2002	2003	2004	2005
Corporate tax rate		40.0%	37.5%	34.5%	33.5%
Valuation interest rate		6.50%	6.50%	6.50%	6.50%
Maximum Tax Actuarial Reserve (MTAR)	1,500.0	1,400.0	1,075.0	600.0	-
Policy Liability Ignoring Future Taxes (PLIFT)	1,200.0	1,150.0	900.0	500.0	-
Taxable income re temporary difference		50.0	75.0	75.0	100.0
Future tax cash flows		20.0	27.8	25.9	33.5
Discounted Future Tax Provision (DFTP)	96.3	80.1	55.6	32.1	
Policy Liability Before Cash-Out (PLBCO)	1,296.3	1,230.1	955.6	532.1	-

In this simple example, we assume the only difference between the GAAP future income and taxable future income is due to the temporary difference between the GAAP policy liabilities and the tax liabilities. This temporary difference leads to future taxable income, and hence future tax cash flows, over the remaining term of the liabilities. These tax cash flows are discounted back to the valuation date at the after tax valuation interest rates. This reflects the fact that the interest on future tax liabilities is always taxable regardless of the issue date of the policy (pre-96 or post-95). The total GAAP balance sheet provision for 2001, including the discounted future tax provision is PLIFT + DFTP = 1,200 + 96.3 = 1,296.3.

If the tax liabilities are calculated using CALM, the future tax cash flows provided to the valuation platform need to include the estimated tax on the investment income from the DFTP. The total future tax cash flows would be as follows:

Calendar Year	2001	2002	2003	2004	2005
Assumed Taxable Investment Income on DFTP		6.26	5.21	3.62	2.09
Tax cash flow on investment income from DFTP		2.50	1.88	1.22	0.70
Total Future tax cash flows		22.50	29.68	27.12	34.20

The balance sheet presentation for 2001 is as follows:

Policy Liability after Carve-Out (=PLACO)	1,183.2
FTCO (=FTL)	113.1
Net Balance Sheet Position (=PLBCO)	1,296.3

The Future Tax Liability (FTL) is the accounting liability established on the balance sheet in respect of the temporary difference between the MTAR and GAAP policy liability. The FTL is "carved-out" of the GAAP liability so as to avoid double counting, but the FTL depends on the value of the GAAP policy liability, i.e., there is circularity. The FTL equaling the future tax carve-out (FTCO) is the amount which satisfies the equation:

FTL = [Tax Rate] × [MTAR – PLACO], or equivalently

FTL = [Tax Rate] × [MTAR – (PLBCO – FTL)], or equivalently

FTCO = [Tax Rate] × [MTAR – (PLBCO – FTCO)].

Hence FTCO = [Tax Rate] * [MTAR – PLBCO] ÷ [1 – Tax Rate]. The tax rate used in the example is the average tax rate, calculated as the sum of tax cash flows divided by the sum of taxable income over the remaining term of the liability (=35.7%). When tax rates are assumed to remain constant in the future, this is simply the current tax rate.

Determining the FTCO on a grossed-up basis in this manner is the most common approach within the industry.

Another approach is to simply deduct the FTCO from the total GAAP balance sheet position. For companies that determine the FTCO in this manner, the balance sheet presentation under this example would be as follows:

Policy Liability after Carve-Out (=PLACO)	1,189.2
FTCO	107.1
Net Balance Sheet Position (=PLBCO)	1,296.3

Under this approach, the FTCO is calculated as the average tax rate times the difference between the MTAR and the PLIFT = 35.7% × (1,500 – 1,200) = 107.1. The actuary should determine which method his accountant wishes to employ. For the remaining of this educational note, we will only illustrate the first methodology.

Example 2

Example 1 assumed that the full MTAR is claimed for tax purposes and that there are no loss-carryforwards. Now introduce underclaims or loss carryforwards (underclaims/LCFs). Say there is an underclaim/LCF of 200 at year-end 2001. The impact on future taxes of this underclaim/LCF can be layered on top of the results of Example 1. If this underclaim/LCF is deemed to be *not* policy related, but that there is other future taxable income in the company such that the tax benefits can be realized equally over the next two years, then the calculations would look as follows:

Underclaim/LCF not considered to be policy-related

Calendar Year	2001	2002	2003	2004	2005
Underclaim/Loss carryforward	200.0				
Policy Liability Before Carve-Out (PLBCO)	1,296.3	1,230.1	955.6	532.1	-
Utilization of underclaim/LCF		100.0	100.0		
Future tax benefit		40.0	37.0	-	-
FTA re underclaim/LCF (surplus asset)	77.0[3]	37.0	-	-	-
Revised Net Balance Sheet Position	1,219.3	1,193.1	955.6	532.1	-

Because the underclaim/LCF is deemed to be not policy related, the FTA is an undiscounted amount. Each year's tax benefit is the product of that year's tax rate and that portion of the underclaim/LCF which is amortized. The total undiscounted FTA is simply the sum of the annual tax benefits.

The associated 2001 balance sheet presentation would be as follows, which, when compared to Example 1, simply adds the accounting FTA in respect of the underclaim/LCF:

Policy Liability after Carve-Out (PLACO)	1,183.2
FTCO (re MTAR *minus* Reported Policy Liability)	113.1
FTA (re underclaim/LCF)	77.0
Reported Net Future Tax Liability	36.1
Revised Net Balance Sheet Position	1,219.3[4]

[3] This is the undiscounted sum of the future tax benefit from utilization of underclaim/LCF.

[4] The Net Balance Sheet Provision must be revised due to the FTA, but FTCO, PLBCO, and PLACO are the same as in example 1.

Underclaims versus Loss Carryforwards

Throughout the example, we refer to "underclaim/LCF." The treatment is identical for both underclaims [Claimed Tax Reserves (CTAR) < MTAR] and loss carryforwards provided both are, or are not, policy related. It would be unusual to have both underclaims and loss carryforwards but, if there are, there may be a reason to deem one as policy related and the other as *not* policy related. The treatment for policy related underclaims and/or LCF is presented in the following two examples.

Example 3

If the underclaim/LCF introduced in Example 2 *is* deemed to be policy related. Further assume that you take the position that the associated future tax benefits must be recoverable from within the policy liabilities, i.e., on a *self-sheltered basis* (without considering other possible sources of taxable income in the company).

Underclaim/LCF is considered to be policy-related

Recovery on a self-sheltered basis

Calendar Year	2001	2002	2003	2004	2005
Underclaim/Loss carryforward	200.0				
Taxable income re temporary difference		50.0	75.0	75.0	100.0
Utilization of underclaim/LCF		50.0	75.0	75.0	-
Taxable income (loss)		-	-	-	100.0
Future net tax cash flows		-	-	-	33.5
Discounted Future Tax Provision (DFTP)	28.5	29.6	30.8	32.1	
Policy Liability Before Carve-Out (PLBCO)	1,228.5	1,179.6	930.8	532.1	-

In this example, the taxable income is the same as in Example 1, resulting from the unwinding of the temporary differences between MTARs and GAAP policy liabilities. But because we have taken the position that the future tax benefits must be recoverable from within the policy liabilities, the timing of the utilization of the underclaim/LFC is different. Further, because the underclaim/LCF is policy related, the resulting liability is discounted at the after tax valuation rate from Example 1. This results in a total after-tax policy liability of 1,200 + 28.5 = 1,228.5.

Assuming that there is other future taxable income at the company level, the accountant's view on recoverability of the FTA would not be different than in Example 2. The associated 2001 balance sheet presentation would be as follows:

Policy Liability after Carve-Out (=PLACO)	1,197.5
FTCO (re MTAR *minus* Reported Policy Liability)	108.0[5]
FTA (re underclaim/LCF)	77.0
Reported Net Future Tax Liability	31.0
Total Revised PLBCO	1,228.5

Note that by taking the self-sheltered approach, the actuary has inherently determined that the aggregate future tax benefit cash flows in respect of the underclaim/LCF are 73.7 (total future tax cash flows from Example 1 less those of this Example) rather than the 77.0. In other words, before discounting, the actuary has valued the FTA as 73.7 instead of the 77.0 reported on the balance sheet.

Also note that, in this case, discounting the future tax provision is more conservative than not discounting it.

Example 4

Now, as in Example 3, assume that the underclaim/LCF introduced in Example 2 is deemed to be policy related, but, unlike in Example 3, assume that you take the position that other sources of company taxable income can be used to realize the future tax benefits. In this case, we return to amortizing the underclaim/LCF as in Example 1, but because it is policy related, we discount the future tax benefits.

Underclaim/LCF is considered to be policy-related

Recovery from other sources

Calendar Year	2001	2002	2003	2004	2005
Underclaim/Loss carryforward	200.0				
Taxable income re temporary difference		50.0	75.0	75.0	100.0
Utilization of underclaim/LCF		100.0	100.0	-	-
Taxable income (loss)		(50.0)	(25.0)	75.0	100.0
Future net tax cash flows		(20.0)	(9.3)	25.9	33.5
Discounted Future Tax Provision (DFTP)	23.6	44.5	55.6	32.1	
Policy Liability Before Carve-Out (PLBCO)	1,223.6	1,194.5	955.6	532.1	-

[5] Same as in example 2, but PLBCO in ([Tax Rate] * [MTAR – PLBCO] ÷ [1 – Tax Rate]) is now 1,228.5 due to the change in the DFTP.

The associated 2001 balance sheet presentation would be as follows:

Policy Liability after Carve-Out (=PLACO)	1,189.9
FTCO (re MTAR *minus* Reported Policy Liability)	110.7[6]
FTA (re underclaim/LCF)	77.0
Reported Net Future Tax Liability	33.7
Total Revised PLBCO	1,223.6

Example 5

In all of the above examples, we have worked with the situation where MTAR is greater than the Policy liability ignoring future taxes (PLIFT). Here we consider the situation where MTAR is less than PLIFT.

Calendar Year	2001	2002	2003	2004	2005
Corporate tax rate		40.0%	37.0%	34.5%	33.5%
Valuation interest rate		6.50%	6.50%	6.50%	6.50%
Maximum Tax Actuarial Reserve (MTAR)	1,000.0	975.0	775.0	425.0	-
Policy Liability Ignoring Future Taxes (PLIFT)	1,200.0	1,150.0	900.0	500.0	-
Taxable income re temporary difference		(25.0)	(50.0)	(50.0)	(75.0)
Future tax cash flows		(10.0)	(18.5)	(17.3)	(25.1)
Discounted Future Tax Provision (DFTP)	(63.4)	(55.9)	(39.6)	(24.1)	
Policy Liability Before Carve-Out (PLBCO)	1,136.6	1,094.1	860.4	475.9	-

Ignoring any underclaim/LCF leads to future taxable losses and hence future tax benefits, which will require taxable income to render them realizable. Taxable income can arise from within the policy liabilities or supporting assets or, to the extent that these are insufficient, from other sources within the company. In the previous examples, the MTAR being greater than the PLIFT provided future taxable income that could be offset against an underclaim, a LCF or other taxable losses.

[6] Same formula as in example 3 ([Tax Rate] * [MTAR – PLBCO] ÷ [1 – Tax Rate]) but PLBCO is now 1,223.6 due to the change in the DFTP.

The above table assumes that the future tax benefits are realizable, otherwise the DFTP of (63.4) would have to be decreased or eliminated altogether. On this basis, the associated 2001 balance sheet presentation would be as follows:

Policy Liability after Carve-Out (=PLACO)	1,211.6
FTCO (re MTAR *minus* Reported Policy Liability)	(75.0) [7]
Total Revised PLBCO	1,136.6

Example 6

Continuing Example 5, let's assume we require that the DFTP (an asset in this case) to be self-sheltered, as in Example 3. Then, for valuation purposes, the future tax asset would be "worthless" because it cannot be recovered, and the PLBCO = PLAT = 1,200. However, assuming that the accountant's view is that other sources of taxable income can be used, the Future Tax Asset will be set-up on the balance sheet, and the 2001 balance sheet presentation would be as follows:

Policy Liability after Carve-Out (=PLACO)	1,309.8
FTCO (re MTAR *minus* Reported Policy Liability)	(109.8) [8]
Total Revised PLBCO	1,200.0

In the above example there is a difference of view between the accountant and the actuary on the recoverability of the policy-related future tax asset. The actuary's reported policy liabilities (PLACO) are adjusted (increased) to offset the accountant's recognition of the future tax asset.

[7] Same formula as in example 1 ([Tax Rate] * [MTAR – PLBCO] ÷ [1 – Tax Rate]) but the Tax Rate is now 35.44% due to the timing change in the taxable cash flows and the PLBCO is now 1,136.6 due to the change in DFTP.

[8] Same formula as in example 5 ([Tax Rate] * [MTAR – PLBCO] ÷ [1 – Tax Rate]) but PLBCO is now 1,200 since the DFTP is zero.

Example 7

Adding an underclaim or loss carryforward to Examples 5 or 6 (as in Example 2) would only make recoverability of the future tax asset more difficult. Let's assume that we deem the underclaim/LCF to be not policy related and that other sources of taxable income can be used to realize the future tax benefits. Also assume that both the actuary and accountant feel that no more than 100 of taxable income from other sources can be used for each of the next four years. Then the calculations look as follows:

Calendar Year	2001	2002	2003	2004	2005
Underclaim/Loss carryforward	200.0				
Policy Liability Before Carve-Out (PLBCO)	1,136.6	1,094.1	860.4	475.9	-
Utilization of underclaim/LCF		75.0	50.0	50.0	25.0
Future tax benefit		30.0	18.5	17.3	8.4
FTA re underclaim/LCF (surplus asset)	74.1[9]	44.1	25.6	8.4	-
Revised Net Balance Sheet Position	1,062.5	1,050.0	834.7	467.5	-

As shown in Example 2, the effects of the underclaim/LCF can be layered on top of the results excluding the underclaim/LCF. The "starting" PLBCO is therefore the result from Example 5. Note that the "Taxable income re temporary difference" from Example 5 less the "Utilization of underclaim/LCF" in the above table yields the 100 taxable loss in each future year. The "FTA re underclaim/LCF" is not discounted because it is deemed to be not policy related.

The 2001 balance sheet presentation would be as follows:

Policy Liability after Carve-Out (=PLACO)	1,211.6
FTCO (re MTAR *minus* Reported Policy Liability)	(75.0)[10]
FTA (re underclaim/LCF)	74.1
Reported Net Future Tax Liability	(149.1)
Total Revised Net Balance Sheet Position	1,062.5

[9] As in example 2, this is the undiscounted sum of the future tax benefit from utilization of underclaim/LCF.

[10] The Net Balance Sheet Provision must be revised due to the FTA, but FTCO, PLBCO, and PLACO are the same as in example 5.

Example 8

If, on the other hand, the underclaim/LCF is deemed to be policy related but other sources of income are permitted, then the entire future tax asset is discounted, as the calculations look as follows:

Calendar Year	2001	2002	2003	2004	2005
Underclaim/Loss carryforward	200.0				
Taxable income re temporary difference		(25.0)	(50.0)	(50.0)	(75.0)
Utilization of underclaim/LCF		75.0	50.0	50.0	25.0
Taxable income (loss)		(100.0)	(100.0)	(100.0)	(100.0)
Future net tax cash flows		(40.0)	(37.0)	(34.5)	(33.5)
Discounted Future Tax Provision (DFTP)	(131.8)	(96.5)	(63.9)	(32.1)	
Policy Liability Before Carve-Out (PLBCO)	1,068.2	1,053.1	936.1	467.9	-

In the above table, the annual taxable loss is again capped at 100. The 2001 balance sheet presentation would be as follows:

Policy Liability after Carve-Out (=PLACO)	1,220.5
FTCO (re MTAR *minus* Reported Policy Liability)	(78.1) [11]
FTA (re underclaim/LCF)	74.1
Reported Net Future Tax Liability	(152.3)
Total Revised PLBCO	1,068.2

Note that, in this case, discounting the future tax provision is more conservative than not discounting it.

[11] Same as in example 7, but PLBCO in ([Tax Rate] * [MTAR – PLBCO] ÷ [1 – Tax Rate]) is now 1,068.2 due to the change in the DFTP.