

**Commentary**

**Canada  
Life Insurance Company Valuation**

# Actuarial Valuation of Assets

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This commentary is the second in a series of commentaries on substantive flaws in the current Canadian accounting regime for life insurance companies (life, annuity and health business). The first commentary of the series is titled "Behaviour Inefficiency".

The actuary of a life insurance company performs an implicit revalue of the substantive portion of the assets of the insurer as part of the valuation of policy liabilities. The actuarial valuation of assets is very significant to the GAAP financial statements. These facts are not widely known.

The basis of this actuarial valuation of assets is not publicly disclosed. GAAP financial statements of life insurance companies are of limited usefulness in the absence of disclosure of such a fundamental aspect of the accounting regime.

This commentary establishes that:

- The actuarial valuation of the assets:
  - Is an implicit revalue of the substantive portion of the assets
  - Assigns different values to assets with the same market value
  - Partially front-ends risk premiums granted by the market for bearing risk
  - Typically allots more value to lower credit quality assets
- The actuarial valuation cannot withstand the tests of:
  - Market consensus (trading assets with same market value causes immediate gains or losses)
  - Liquidation (anticipated risk premiums that are front-ended are reversed on early surrenders)
  - Quality of promise (discounting at excessive rates makes insurance a risky security)
- The failures of the current accounting model include:
  - Allows understatement of the policy liabilities, potentially impairing solvency
  - Non-disclosure of the implied discount rate prevents assessment of quality
  - Disclosure of asset default "provisions" is misinformation; implied conservatism isn't present
  - The actuarial valuation can be used as a tool to manage financial results
  - Earnings can be improperly distorted by shifts in asset allocations
  - By being assumption driven rather than market driven, earnings are smoothed
- The current accounting model could be made functional if the actuarial valuation of assets applied market consensus or, at least useful, if proper disclosure of the basis of the actuarial valuation were made

"Actuarial Valuation of Assets" is based in part on some of the ideas that Mr. Gene Dziadyk and I jointly presented in the lead article of the December 1997 Bulletin of the Canadian Institute of Actuaries and at the November 1998 General Meeting of the Canadian Institute of Actuaries in the forum "Investment Function Operation under Canadian GAAP".  
Special thanks to Mr. Dziadyk.

This commentary describes the use by Canadian life insurance companies of actuarial valuations of assets to set policy liabilities. This practice is in accordance with Generally Accepted Accounting Principles (acc.GAAP) of the Canadian Institute of Chartered Accountants (CICA) which relies on Generally Accepted Actuarial Practice (act.GAAP) of the Canadian Institute of Actuaries (CIA) for the valuation of policy liabilities. This commentary describes how act.GAAP implicitly revalues the disclosed asset valuations under acc.GAAP through the valuation of the policy liabilities and how this actuarial valuation of assets is based on actuarial assumptions without the constraint of market consensus.

This commentary concludes that resulting financial reporting for Canadian life insurance companies in this regard is opaque, permits abuse, causes distortion and in practice appears to understate policy liabilities and hence overstate earnings and equity.

### How does acc.GAAP value assets?

Under acc.GAAP assets are valued at historical cost.

For example bonds are valued at cost with an amortization over term to par. Mortgages are valued similar to bonds. Stocks and real estate are recorded at historical cost with an amortization towards market value (e.g. smoothes market gains or losses).

Gains or losses on sale of assets are amortized over the remaining term of a bond or mortgage whereas for stocks and real estate the amortization is at the same rate as before sale. Under acc.GAAP the unamortized gains or losses on sale of assets is recorded as a liability (e.g. deferred net realized gains).

### How does act.GAAP implicitly revalue assets?

In accordance with acc.GAAP, the actuary is delegated the valuation of the policy liabilities as an accounting specialist (actuarial liabilities, benefits payable, unreported claims, amounts on deposit). In performing this valuation, the actuary is required under act.GAAP to take into account other balance sheet items to ensure that the balance sheet fairly presents the position of the company. To this end, the actuary selects assets that the company holds that will mature

the policy liabilities. The actuary then sets the policy liability equal to the carrying value of those assets.

For example, if the assets that the actuary has selected that mature the policy liabilities are recorded under acc.GAAP at \$50 billion then the actuary sets the policy liability equal to \$50 billion.

In determining assets to mature the policy liabilities the actuary will project the cash flows that arise from the selected assets. It is in the projection of these asset cash flows that the actuary implicitly revalues the assets. The more cash flow the actuary projects from a given asset, the more value the actuary has assigned to that asset.

In theory, this methodology is appropriate in order for the accounting to retain some usefulness. Life insurance liabilities are of an unusually long term. Linking the valuation of the policy liabilities to the carrying value of the assets causes the implied discount rate of the valuation of the policy liabilities to be the yield of the assets. If assets yields were 5%, valuing the policy liabilities at 3% would overstate the relative resources needed to mature these liabilities while valuing at 7% would understate the relative resources needed.

(Note: The actuary will also reduce the policy liability for the portion of unamortized net gains from asset sales that are attributable to assets that the actuary had selected in prior valuations that then matured the policy liabilities. For example, if the unamortized net gain from asset sales attributable to policy liabilities was \$2 billion then the policy liability would be set equal to \$48 billion.)

### How dominating is the actuary's valuation to life insurance companies?

The actuary's valuation deals with policy liabilities. Policy liabilities typically dominate the liability side of a life insurance company's balance sheet.

	Sun Life		Manulife	
Policy Liabilities	\$93.1	75%	\$61.9	76%
Deferred Net Gains	\$3.5	3%	\$3.3	4%
Other Liabilities	\$11.9	10%	\$7.2	9%
Equity	\$14.9	12%	\$8.8	11%
Total	\$123.4		\$81.2	

Manulife Financial disclosed that \$1.9 billion of its unamortized net gains from asset sales is attributable to policy liabilities, thus leaving the actuary to value 79% of the on-balance sheet assets.

For Sun Life Financial, its portion of unamortized net gains from asset sales that is attributable to policy liabilities wasn't available; at least 75%, perhaps 77% or more, of the on-balance sheet assets were valued by the actuary.

Additionally, the actuary values guarantees of a life insurance company's segregated funds (segregated funds are similar to mutual funds but when sold to individuals typically have maturity or death guarantees, for example, return of principal on the earlier of death or expiry of 10 years). Segregated fund guarantees are embedded put options that are valued according to act.GAAP rather than by option pricing techniques. The valuation of segregated fund guarantees under act.GAAP requires projection of the assets in the segregated funds, which again involves an implicit actuarial valuation of the assets. A portion of the \$53 billion of segregated funds of Sun Life Financial at December 31, 2002 and a portion of the \$59 billion of segregated funds of Manulife Financial at the same date had these guarantees.

### How does an actuary project cash flows from an asset?

For a bond or a mortgage, the asset has contractual cash flows (leaving aside embedded optionality such as calls, conversion, prepayment). The actuary projects out these contractual cash flows and then 'hair-cuts' them for expected expenses and defaults, with a provision for adverse deviation (PAD) on both of these.

The actuarial science/magic is the in setting the level of these 'hair-cuts'.

For stocks and real estate, the actuary assigns the asset an implied term and then projects out cash flows with capital gains. These cash flows are also given a 'hair-cut' in a like manner to bonds and mortgages.

The CIA prepares a survey of its members on the default margins and corresponding PAD that they used in their valuations (this survey was last made publicly available in 1999 with December 1997 information,

with later editions having access restricted to members only). Typical margins are shown in Table 2.

Asset Class	Default with PAD
Federal Treasury	0.00%
AA-rated Provincial Bond	0.05%
AA-rated Corporate Bond	0.15%
Junk Corporate Bond	1.50%
Commercial Mortgage	0.65%
Common Shares	2.00%

With these default assumptions, by taking current yields with an assumed yield for common shares, and making expense assumptions, the information used by an actuary could be as shown in Table 3.

Asset Class	Spread on Treasury	Default with PAD	Expense with PAD	Net Spread on Treasury
Federal Treasury	0.00%	0.00%	0.05%	0.00%
Ontario Dec 2012	0.30%	0.05%	0.05%	+0.25%
GE Cap Apr 2008	0.41%	0.15%	0.07%	+0.24%
BMO Dec 2011	0.82%	0.15%	0.07%	+0.65%
Rogers Jul 2007	4.08%	1.50%	0.30%	+2.33%
Commercial Mortgage	1.75%	0.65%	0.55%	+0.60%
Common Shares	5.00%	2.00%	0.50%	+2.55%

Based in part on August 20, 2003 closing prices (source RBC Dominion Securities Inc. via FP Investing).

Based on this table, if the 5-year spot interest rate were 4.05% then under act.GAAP, \$821,927 in market value of treasury would be required to generate a cash flow of \$1,000,000 at a point 5 years from the valuation date ( $1.04^{-5} * 1,000,000$ ) but only \$812,509 in market value of securities similar to GE Capital bonds ( $1.0424^{-5} * 1,000,000$ ) and only \$735,734 in market value of securities similar to Rogers bonds ( $1.0633^{-5} * 1,000,000$ ). That is, the actuarial valuation of the GE Capital bonds would grant 1.16% additional cash flow over that of treasuries with the same market value and would grant over 11.7% additional cash flow for Rogers bonds over that of treasuries with the same market value (see Table 4).

Actuarially Equivalent Assets	
Asset Class	Market Value
Federal Treasury	\$821,927
GE Capital bond	\$812,509
Rogers bond	\$735,734

Consider the illustrations in Table 5.

Amount of Additional Cash Flow on Asset			
Net Spread on Treasury	5 years (Treasury 4.05%)	10 years (Treasury 4.55%)	20 years (Treasury 5.05%)
0.25%	1.21%	2.42%	4.87%
0.50%	2.43%	4.89%	9.97%
1.00%	4.90%	9.99%	20.87%
2.00%	9.99%	20.87%	45.84%

Under the assumptions made in Table 5, lower credit quality assets produce greater cash flow for the same market value. For example, if a life insurance company that had its assets invested solely in treasuries (average duration of 10) were to move to an asset portfolio that had an average assumed net spread on treasuries of 0.50% then it would free 4.66% of its assets (1- 1/1.0489) that were backing policy liabilities and thus the policy liability would decrease by 4.66% (depending on which assets the actuary chose to deselect). For entities as large and as leveraged as a life insurance company, a 4.66% change in policy liabilities is momentous (for an insurer with \$50 billion of policy liabilities and equity of \$5 billion, this would be a \$2.33 billion earnings gain and increase in equity of 47%)!

### What is the implicit asset valuation by act.GAAP?

In its projection of asset cash flows, act.GAAP allows a net spread to be recognized for a risky asset over the equivalent treasury rate. When this net spread is recognized, the actuary implicitly assigns more value to risky assets than market value. Thus an actuary, who projects cash flows from risky assets in compliance with act.GAAP in the manner described, assigns value to these risky assets in excess of market value.

Examples:

Ontario Dec 2012 with net spread of 0.25% over treasuries, valued 1.76% over market value.

BMO Dec 2011 with net spread of 0.65% over treasuries, valued 4.13% over market value.

### So what's wrong with the asset valuation under act.GAAP?

There can be no argument that the actuary values the assets selected to mature the policy liabilities. What is argued is why there is anything wrong with the valuation. Typical arguments in defence of the front-ending net spreads from risky assets include:

- these spreads were earned historically, so they are expected in the future
- it is a diversified portfolio that will be held and the spreads will be realized

Before these arguments are refuted, consider the breakdown of interest yields on a fixed income security:

$$\begin{aligned}
 \text{Yield} &= \text{Yield on Equivalent Treasury} \\
 &+ \text{Expected Default Costs} \\
 &+ \text{Extra Expense of Administration} \\
 &+ / - \text{Option Value} \\
 &+ \text{Liquidity Premium} \\
 &+ \text{Systemic Risk Premium}
 \end{aligned}$$

Remarks:

1. There is no premium for diversifiable risk; basic investment theory does not recognize the willingness of the market to pay for risk that can be diversified away.
2. Expected default costs and the extra expense of administration will be incurred. There is a pick-up from these allowances only if the actuary makes more aggressive assumptions than market consensus.
3. There is a liquidity premium and a systemic risk premium that is real and is earned by holding the security.

Allowing the liquidity premium and systemic risk premiums to be front-ended in accounting is refuted by:

#### Market Consensus

If using a basis that values assets at other than market value, then by trading assets, accounting value is either created or destroyed. For example, selling the GE Capital bond to buy a treasury destroys value (e.g. loss of \$9,418) whereas selling the GE Capital bond to buy a Rogers bond creates value (e.g. gain of \$76,774) (see Table 4).

Having gains and losses arise from trading assets with the same market consensus value is contrary to consistency. Investors choose to purchase certain assets in place of other assets because they deem there to be greater value in the selected asset, but where besides a life insurance company can an investor today book tomorrow's anticipated future profits (pension and bank accounting are subjects for another day)? It is inconsistent to account based on assumptions that deviate from market consensus. It is inconsistent to front-end premiums that the market grants for risks while those risks remain to be weathered and hence earned.

### Liquidation

Many life insurance products are cashable, if these products are cashed before actuarial expectations then the anticipated premiums that were front-ended for default, liquidity or systemic risk will have to be reversed. It is not prudent to front-end margins before they are earned.

### Quality of Promise

Policy liabilities of a life insurance company are senior to its subordinated debt. At a minimum, the more senior debt (policy liabilities) must have a lower discount rate than the junior debt (subordinated debt). Sun Life Financial's June 2012 subordinated debt was trading 0.78% above treasuries on August 20, 2003 and was Great-West Life's December 2012 subordinated debt was trading 0.87% above treasuries. How much lower should the spread on policy liabilities be? Should the spread be 0.60%, 0.40%, 0.20% or 0%? Common sense suggests that there should be no spread over treasuries in that earnings should result as spreads are earned and not in advance. Otherwise, if a life insurance policy is to be a risky security itself, shouldn't it be sold under prospectus?

Life insurance is not sold under prospectus due to the perceived quality of promise. However, if policy liabilities can only be matured by assumed risk spreads being realized, then, what is the quality of the promise? Is a significant portion of the equity of the life insurance company needed just to cover the risk that the risky assets only provide a return equal to treasuries? Is there any equity left to support the chance that risky assets under perform treasuries? Has the regulator missed the boat in allowing

actuarial valuation of the assets to effectively degrade the quality of the equity? Why should security commissions let life insurance companies sell risky securities without prospectus?

### Unnecessary Estimation

In valuing the assets, the actuary may deviate from market consensus in setting expected allowances for default and extra administration. This deviation may be intentional or unintentional but regardless is unknown since market consensus doesn't break its yields into component parts. Thus, while the intent may be to only front-end portions of the liquidity premium and systemic risk premium not included in the PAD, in practice, the actual degree of front-ending may unwittingly be more or less.

Further, the whole practice of making spread assumptions in the actuarial valuation of assets is unnecessary. The market value of the assets is readily available, that is, market consensus has embedded these spreads in the market value; there is no need to create estimates. Accounting estimates are needed when there is an unknown, market values are known and hence an actuary isn't needed to estimate the value of assets.

### **How can the asset valuation under act.GAAP be corrected?**

The 'hair-cut' on the projected asset cash flows should be such that the discounted value of the net asset cash flows on the treasury curve equals the asset's market value. This approach will give two assets that have the same market value, the same amount of net cash flows. The accounting gains from trading down in credit quality disappear, along with accounting losses from trading up in credit quality.

Put a little simpler, the actuary need only discount the policy liability cash flows on the treasury curve and then set the policy liability equal to the carrying value of selected assets that have the same aggregate market value.

### **What are the implications of correcting the asset valuation under act.GAAP?**

Moving the actuarial valuation of assets to be consistent with market consensus is expected to result in an increase in policy liabilities based on current

actuarial practice as shown presented in the CIA survey of practice.

For example, if the assets selected to mature policy liabilities had the mix and net spread over treasuries as shown in Table 6, then the weighted average net spread over treasuries would be 0.63%. If the duration of assets was 7 then correcting the asset valuation would increase policy liabilities by 4.4% and if the duration was 12 then the policy liabilities would increase by 7.6%.

Asset Class	Weighting	Net Spread on Treasuries
Federal	15%	0.00%
Provincial	20%	0.25%
Corporate AA	10%	0.40%
Corporate A	15%	0.80%
Corporate BBB	10%	1.00%
Corporate Junk	5%	2.00%
Mortgages	20%	0.50%
Stocks	4%	2.50%
Real Estate	1%	2.00%

Further, the actuarial valuation of assets is also used in the valuation of segregated fund guarantees and thus the sensitivity to correcting the asset valuation as presented is in fact leveraged by these off-balance sheet assets.

1% change in the policy liabilities of a life insurance company is significant, 5% change is momentous. For Sun Life Financial 5% increase in policy liabilities would decrease book equity in the order of 32%. For Manulife Financial 5% increase in policy liabilities would decrease book equity by 36%.

Sun Life Financial disclosed its invested assets at December 31, 2002 as shown in Table 7:

Asset Class	Amount (billions)	Percent of Portfolio
Bonds (32% AAA, 4% Junk)	\$73	66%
Mortgages	\$16	15%
Stocks	\$4	4%
Real Estate	\$3	3%
Short Term	\$7	6%
Other	\$7	6%

Manulife Financial disclosed its invested assets at December 31, 2002 as shown in Table 8:

Asset Class	Amount (billions)	Percent of Portfolio
Bonds (40% Gov, 4% Junk)	\$46	60%
Mortgages	\$9	12%
Stocks	\$7	9%
Real Estate	\$4	5%
Short Term	\$5	6%
Other	\$6	8%

## What are the problems with the actuarial valuations of assets?

### Disclosure of Spread

There is no disclosure of the weighted average spread over treasuries embedded in the valuation of the policy liabilities. Thus it is unknown whether a company is valuing at 0.60% over treasuries, 0.40% over treasuries, 0.20% over treasuries or otherwise.

This lack of disclosure prevents comparison of valuations and assessing whether accounting is appropriate or overly aggressive.

Alternative disclosures that would be useful include:

- The average total 'hair-cut' taken from yield for the various asset classes, the market value of assets in these classes and the assumed gross returns for other than fixed income asset classes. These 'hair-cuts' could be compared to market spreads over treasuries for the respective asset classes. The amount that the 'hair-cuts' are deficient of the market spread would be used to assess the quality of the valuation.
- The market value of assets that are selected as being sufficient to mature the policy liabilities along with the discounted value of the policy liabilities at treasuries. The difference in these amounts would be indicative of the quality of the valuation. Sun Life Financial discloses the fair value of its policy liabilities as the fair value of the corresponding assets; this is not useful information as there is no net change.

Disclosure as suggested is essential to be able to establish the quality of the financial statements.

A life insurance company is in large part a leveraged investment portfolio. The first tranche consists of the policy liabilities, the second tranche the other liabilities (including subordinated debt) and the third tranche equity.

1 <sup>st</sup> Tranche – Policy Liabilities	80%
2 <sup>nd</sup> Tranche – Other Liabilities	10%
3 <sup>rd</sup> Tranche – Equity	10%

To assess such an entity, an obvious piece of information is the discount of the first tranche. A company that has accounted the first tranche at 0.50% over treasuries is very different from one that has accounted the first tranche at treasuries flat.

### Presentation of Asset Default Provisions

There is disclosure by life insurance companies of the asset default provision implicit in the policy liability valuation. For example, Manulife Financial disclosed that at December 31, 2002 it “holds explicit provisions in the actuarial liabilities for asset credit risk” of \$1.7 billion while Sun Life Financial disclosed its policy liabilities include \$1.9 billion “to provide for possible future asset defaults and loss of asset value”. These numbers are presented as conservatism, as amounts set aside. In fact, Manulife Financial presented in 2002 that this amount was a *rainy day fund* from amounts the company had previously set aside.

These “provisions” are in fact the amount that the policy liability would have been further reduced if the life insurance company hadn’t made any ‘hair-cut’ for asset default. For example, on the Ontario Dec 2012 an asset default “provision” of 0.05% is assumed that has present value of 0.35% and on the BMO Dec 2011 there an asset default “provision” of 0.15% is assumed that has a present value of 0.95%. On the Ontario Dec 2012, there was 1.76% of front-ending and 0.35% of potential front-ending that didn’t occur. On the BMO Dec 2011, there was 4.13% of front-ending and 0.95% that didn’t occur. What conservatism! (Your wallet is stolen and you’re expected to be happy because you still have your watch?)

These “provisions” are not useful information; they are misinformation by unduly implying conservatism that is not present.

Useful disclosure would state the amount of front-ending that has occurred, rather than the amount of

front-ending that didn’t occur as is currently disclosed.

### Management Tool

In 2002 in the face of deteriorating telecom bond holdings, Manulife Financial released \$380 million of its “provisions in the actuarial liabilities for asset credit risk” and set up specific provisions for telecom bonds. This \$380 million release was effected by lowering of the asset default provision in the actuarial valuation of the assets. Manulife Financial indicated that this was a good time to make use of the *rainy day fund*.

This release was caused by a change in assumption. Was this change in assumption due to a change in position within the range of actuarial practice or was it due to improved quality and outlook for assets? Appearances, and comments by Manulife Financial, suggest that there was a change in position within the range of actuarial practice. If so, there was a change in accounting estimate under acc.GAAP and the \$380 million release should have been disclosed as such. However, no notes disclosing a change in accounting estimate appeared in the December 31, 2002 financial statements. Changes within the range of actuarial practice are allowed but they are changes in accounting estimate and require disclosure as such.

A change in position within the range of actuarial practice is to be an unusual event. Consistent application of actuarial practice from one period to the next is the usual. For a given bond profile the asset default margin might vary over time with changing market conditions but a sudden without reason change, is a change in accounting estimate.

The failure of Manulife Financial to disclose its decision to release \$380 million of its “provision” as a change in accounting estimate and its characterization of the release as using a readily available *rainy day fund*, raise questions regarding the quality of actuarial and accounting practices.

Regardless of the lack of disclosure and any mischaracterization, the fact that the actuarial valuation of assets allowed \$380 million to be released into income merely due to a change within the range of actuarial practice suggests that this range is broad and flexible. Flexibility is not a characteristic of an accounting regime that is confidence building.

## Earnings Distortions Caused by Asset Shifts

The mix of the asset portfolio affects the average net spread used in the actuarial valuation. Generally, lower quality assets have a greater net spread. Shifts in asset mix will result in more or less net spread being front-ended. A life insurance company that lowers its average credit quality will typically pick-up income in that period (whether this is the intent or otherwise).

This effect is illogical (trading assets with the same market value doesn't create value). It distorts earnings. This distortion can be a distraction to management and users of the financial statements. Further, this distortion can unfortunately be used to manage earnings (e.g. lower quality for a gain, raise quality for a loss) and unfortunately provides an incentive for management to lower the credit quality of its asset portfolio in order to gear its earnings.

Table 9 presents Sun Life Financial's historical asset mix. There are no obvious trends and this period is affected by significant acquisition and merger activity, but it is clear that substantial changes in mix occur from period to period.

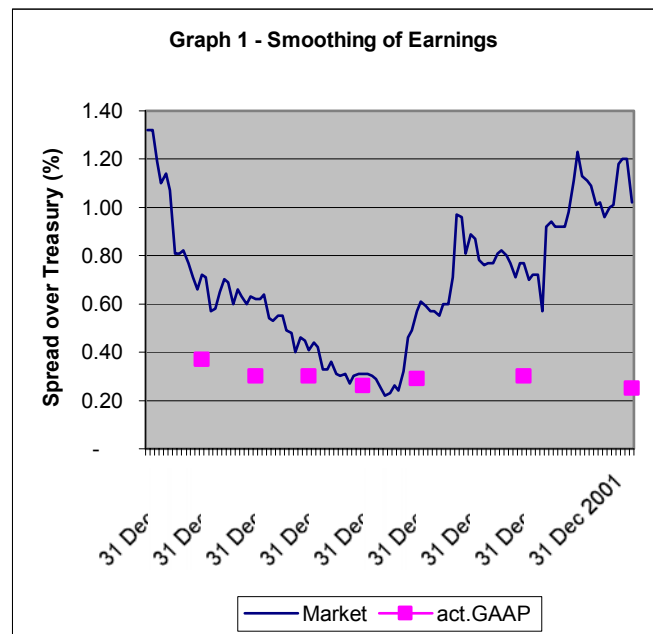
Invested Assets of Sun Life Financial (\$millions)						
	Dec 2000		Dec 2001		Dec 2002	
Bonds	27,534		48,077		73,423	
AAA	9,264	18%	13,812	19%	23,483	21%
AA	4,110	8%	5,324	7%	8,951	8%
A	7,873	15%	13,444	18%	20,252	18%
BBB	6,001	12%	12,845	18%	17,918	16%
Junk	286	1%	2,652	4%	2,819	3%
Mortgages	10,179		8,622		15,799	
Commercial	6,367	12%	6,716	9%	11,504	10%
Residential	3,812	7%	1,906	3%	4,295	4%
Stocks	4,583	9%	4,882	7%	4,221	4%
Real Estate	2,327	5%	2,316	3%	3,223	3%
Cash	3,962	8%	4,809	7%	7,152	6%
Other	2,416	5%	4,558	6%	6,726	6%
Total	51,001		73,264		110,544	

## Smoothed Earnings

The actuarial valuation of assets is assumption driven rather than market driven. Assumptions tend to have significantly greater stability relative to market

consensus. This suppression of volatility results in smoothed earnings.

Graph 1 compares market consensus spread from corporate bonds to typical actuarial practice, based on the CIA survey of practice. Market consensus spread is developed from comparing yields on Government of Canada 5 to 10 year marketable bonds to yields of Scotia Capital mid-term corporate (source Bank of Canada). Actuarial practice spread is based on an A-rated corporate. Recognizing that the market consensus shown will have duration bias, it is still a convincing demonstration that actuarial practice is detached from market volatility.



Suppression of volatility misrepresents risk. As described, a life insurance company is in large part a leveraged investment portfolio, with equity being the junior tranche. Making the asset valuation market driven rather than assumption driven would significantly increase volatility in financial results. This increased volatility would be representative of reality. For example, if an insurer's portfolio credit spread was 0.60% over treasuries and there was widening of credit spreads to 0.80% then there is a loss of 1.4% of policy liabilities if the duration of assets were 7 and a loss of 2.4% of policy liabilities if duration of assets were 12. This level of change in credit spreads isn't unusual. Due to the highly leveraged

nature of insurers, the impact of changes in credit spreads on equity is very significant. This volatility exists today, but the accounting hides it. This volatility is masked by changes in the spread over treasuries at which the policy liabilities are valued. That is, the policy liabilities may be valued at treasuries plus 0.40% one quarter and at treasuries plus 0.60% the next, smoothing out the hidden volatility.

If a retail mutual fund unit holder can understand and accept market volatility, it is difficult to imagine that insurance executives and investors in insurers are so fragile that they can't be shown the real results. If investors in life insurance company securities can't accept the volatility of investing in a leveraged investment portfolio then they should sell and move on.

## What should be done?

Bring consistency and integrity to accounting:

- A firm rule is needed for the actuarial valuation of the assets: asset cash flow projections should reconcile to market values at the treasury curve.
- The CICA and CIA should adopt this standard to bring consistency to the accounts of life insurance companies and to create comparability between insurers and to eliminate causes of earnings distortion, the means to manipulate earnings and smoothing of earnings.
- Insurance regulators should push for this accounting direction in order to provide quality of promise.

Require disclosure on the actuarial valuation of assets:

- The disclosure could be the average spread over treasuries implied in the valuation or, alternatively, information on the 'hair-cuts' or a comparison of the policy liabilities discounted on the treasury curve to the market value of assets selected to mature those policy liabilities.

- Securities commissions should require these disclosures to give investors relevant information.
- Rating agencies should demand these disclosures to assess quality of obligations (rating agencies and regulators may already be privy to some of this information).
- Stock analysts should demand these disclosures, praising those who comply and deriding those who don't.

Security commissions should also monitor the consumer side. If the insurance regulators are deemed to be inadequately protecting purchasers of life insurance policies then security commissions have a duty to impose prospectus requirements on the issuance of life insurance policies. This would be a disaster for the industry affecting consumers, distribution capabilities and adding red tape.

Life insurance companies can improve relations with investors, regulators, security commissions and its purchasing public by changing accounting practices in the interest of consistency and integrity (the recommended practice would be within acc.GAAP and act.GAAP as it now stands). Alternatively, providing disclosure would allow a life insurance company to at least come clean with its publics.

Life insurance companies would also benefit by not front-ending spreads and removing the arbitrage between asset classes:

- Build future earnings, providing earnings stability and natural growth.
- Improve inherent financial strength.
- With arbitrage in the accounting removed, assets can be selected based solely on merits rather than considering the earnings effect of the actuarial valuation on the selection.

## Who or what will be the impetus for change?

You'll have to wait for the end of this series. Please stay tuned. □