

The Financial Reporter

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Fair Values Disclosures For Financial Instruments Under FAS 157

by Leonard Reback, FSA, MAAA

Most companies spent much of 2007 and early 2008 interpreting and implementing Financial Accounting Standard Board (FASB) Statement No. 157 (FAS 157) on Fair Value Measurement. This GAAP accounting standard addresses the measurement of fair value wherever fair value is required under GAAP. Valuations of derivatives, embedded derivatives (such as GMABs and GMWBs), and certain securities were required to conform to FAS 157 in early 2008 for most insurance companies. However, certain fair value measurements involving actuarial work may not have been required to conform to FAS 157 until late 2008 or early 2009. The purpose of this article is to discuss those items and propose possible methods for actuaries to consider when performing the necessary valuations, from an actuarial standpoint only. This article does not portend to determine FASB's interpretation of FAS 157 or any other FASB statement discussed herein.

A different accounting standard, FASB Statement No. 107 (FAS 107), covers Disclosure about Fair Value of Financial Instruments. FAS 107 requires a footnote disclosure to a company's financial statements showing the fair value of certain financial instruments. Even though these items are reported on the balance sheet on a basis other than fair value, a fair value calculation is required for the footnote. This footnote is generally only included in year-end GAAP financial statements. So, for most companies, fair value calculations under FAS 157 have not yet been required for FAS 107 footnote purposes. But those calculations will likely be required when SEC 10-K filings are prepared in early 2009.

FAS 107 does not cover all financial instruments because there are certain exceptions. The exception of most interest to actuaries is the

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CHAIRPERSON'S CORNER

While many of you are in Quebec City, I am in my office trying to decide what you want to know about our section's activities. Here goes!

VALUATION ACTUARY FORUM

A birth is always an exciting time, and soon after you read this, the Financial Reporting Section will give birth to the Valuation Actuary Forum. This is a half-day forum that will follow the ever-popular Valuation Actuary Symposium. Attendance will be limited in some yet-to-be-determined manner to appointed actuaries and others with a high level of responsibility, somewhat like the Chief Actuaries' Forum. Limited size facilitates free, open discussion, particularly as time passes and people get to know each other better. In the Smaller Insurance Companies Chief Actuaries' Forum, I have seen the discussions improve in successive years, as relationships form, repeat attenders pick up where they left off the previous year, and expectations are raised. I also expect that those who plan the forum for 2009 will change whatever structure we develop for 2008, learning from our initial experience. I expect this forum to start off well, and get better in successive years. I hope to hear people say, "Why didn't we start doing this years ago?"

RESEARCH

If you are a financial reporting actuary, how can you not get excited about the research that we are doing? The only problem is that it is a lot of work and takes a long time (did someone say, "Yeah, like having a baby!").

We have just kicked off a project to examine the effects of the proposed principle-based reserving and capital requirements on U.S. life insurance products. This project was suggested by the AAA's Life Practice Council. The scope and approach of this project will be similar to the mammoth IFRS research project that we recently completed. The Project Oversight Group (POG), with thorough guidance from SOA research actuary, Ronora Stryker, will determine the scope and design of the project and will hire a research team to direct the project. A number of Actuarial Task Forces (ATFs) will be recruited to do the modeling. Each ATF will perform the modeling on a block of business, as directed by the researcher, with overall oversight from the POG and the section council. The researcher will compile, analyze and present the results.

We are also beginning another project that was requested by the AAA's Life Practice Council: determining margins for uncertainty under a principle-based framework. This project should include a literature search of approaches and should leverage the work of the International Actuarial Association's Risk Margin Task Force.

A third project oriented toward principle-based reserves examines uses of credibility theory to combine past experience with expectations of the future in order to set assumptions. This will probably include a literature review and, perhaps, a company survey.

These projects are co-sponsored with the SOA's Committee on Life Insurance Research, along with the Product Development Section and/or the Reinsurance Section. If you are interested in meeting any unmet needs on one of the three POG's or would like to be considered for an ATF, please contact Sue Deakins or me.

The section is also involved in an IAA monograph on stochastic modeling, a recently completed project on asset spread benchmarks (<http://www.soa.org/research/life/research-asset-spread.aspx>), and an almost-completed project on stochastic pricing for embedded options (led by the Product Development Section).

After reading about these projects, I hope that you are eager to go read some research (after you finish this newsletter).

SURVEYS

The section is currently involved in two surveys. The first is our triennial survey of the section membership. The section council is excitedly awaiting the results of this survey, so that we can start making adjustments this year and use the survey to help us plan for next year. In the early days of the survey we have already received a volunteer to help us with a webcast. We hope that many others will volunteer in various ways.

We are also planning a specialty survey. This is a lengthy survey that will be sent to a relatively small group of valuation actuaries. This survey is desirable simply as a service to valuation actuaries. It will also be helpful in planning the Valuation Actuary Forum.

SEMINARS

The annual GAAP and Advanced GAAP seminars will be held this summer, along with US GAAP for International Insurers, which is held in conjunction with the International Section. We have discussed the need for a seminar about Principle-Based Capital in the Spring of 2009. If you would like to participate or provide any input for this seminar, please contact Rod Bubke or me.

OTHER

We are planning a couple of webcasts. The likely topics are reviewing and validating actuarial models and the

International Actuarial Association's paper about risk margins. We also plan and recruit for approximately 10 sessions at the Spring and Annual Meetings. This is a lot of work, and we are very appreciative of those who agree to present or moderate at a session. Finally, we are discussing the possibility of recommending that the exam syllabus be updated to reflect new reserving paradigms, such as underlie PBA and IFRS.

CONCLUSION

This is a lot! And I haven't been exhaustive. Yet I am very aware of more that needs to be done. We need to do more research. We need to provide more seminars and more webcasts. And there are probably unmet member needs that we haven't even identified. Please volunteer to help us. We will gladly work around whatever shortcomings you have, just as we work around our own. I hope to see you at an SOA meeting this year. ■

- Jerry



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exception for insurance contracts. Contracts that are considered insurance contracts under FAS 60, FAS 97 or FAS 120 are exempt from the requirement to disclose a fair value in this footnote.

Despite this exemption, many contracts sold by insurance companies are included in the scope of this footnote, and fair value calculations conforming to FAS 157 will be required. One major class includes investment contracts. This category includes many fixed annuities, variable annuities without significant death benefits, guaranteed investment contracts (GICs), and reinsurance contracts that use deposit accounting. Policy loans may also fall into this category. These financial instruments will soon need to have fair value calculated in a manner consistent with FAS 157 for purposes of the FAS 107 footnote.

FAIR VALUE UNDER FAS 157

In order to calculate the fair value of financial instruments for FAS 107 disclosures, the actuary needs to make several decisions. One decision is to determine which fair value calculation methodology will be used. Other decisions include own credit adjustments and risk margins required by FAS 157. These decisions are similar to the decisions actuaries faced in determining fair values for embedded derivatives.

Several methods may be appropriate to calculate fair value of financial instruments for FAS 107 disclosures. For some contracts, the value may be small enough that

But, for other contracts, a more elaborate actuarial calculation may be needed. For example, fixed deferred annuities may have current credited rates guaranteed for a period of time, and potential impacts from policyholder withdrawals, future premium payments and minimum interest guarantees, in which case the fair value is likely to be different from the account balance, depending on the value of the guarantees. GICs may have a fixed credited rate for a period of time and may also have potential policyholder behavior impacts and options. And reinsurance contracts that use deposit accounting often have a fixed interest rate, and may have other characteristics that indicate the fair value is different from the account balance. Two classes of methodologies that may be appropriate for fair value calculations of such contracts are actuarial appraisal-like methods and risk-neutral methods.

In an actuarial appraisal-like calculation, cash flows, net income, or capital flows are projected. The assumptions used include actuarial assumptions, such as mortality, persistency and expenses, as well as assumptions for asset returns and any other relevant capital market parameters. The capital market parameters would normally be based on real world assumptions. Typically, a single scenario is used for the projection. The resulting cash flows, income or capital flows are discounted at an appropriate discount rate.

In a risk neutral valuation,¹ cash flows are projected using actuarial assumptions for items like mortality, persistency and expenses. But capital market assumptions—asset returns, interest rates, default rates and equity volatility—are calibrated to capital market prices. Asset returns are assumed to be the observed risk free rates. The capital market assumptions may differ from real world assumptions. For example, we typically expect that equity assets will return something higher than risk free rates. The difference is essentially a market-consistent risk margin on the capital market assumptions.

Several methods may be appropriate to calculate fair value of financial instruments for FAS 107 disclosures.

cash value or account balance should not be materially different from fair value. Similarly, for contracts with floating interest rates and no optionality, the account balance may be an appropriate estimate of fair value, regardless of size.

FOOTNOTES:

¹Many finance textbooks, for example, Hull (2003) *Options, Futures and Other Derivatives*, contain more complete details on how to perform a risk neutral valuation.

A single scenario may be used for some products, but for products with embedded options, such as interest rate floors or book value withdrawals, multiple scenarios may be necessary. Discounting of cash flows is also done at risk free rates (although an adjustment for own credit risk may be made to the discount rates if that is not accounted for in the cash flow projection).

Each of the methods has certain advantages. The actuarial appraisal method is familiar to actuaries and is commonly used in pricing insurance companies' products. FAS 157 requires identification of the exit market. If the exit market for a particular instrument is other insurance companies, then the actuarial appraisal method may be particularly appropriate. And, since the actuarial appraisal method does not necessarily require multiple scenarios or calibrations to capital market prices, it may be simpler to apply.

The risk neutral approach has certain advantages as well. By calibrating to observable capital market prices, it maximizes the use of observable inputs. It also insures that embedded options in the product, such as interest rate floors, are valued consistently with similar options traded in capital markets. By calibrating inputs to capital market prices, any risk margin included in those prices is automatically incorporated into the valuation, avoiding the need for a separate risk margin. This may be of particular value since risk margin calculation techniques for fair valuing insurance company products are not currently well developed. Plus, if the exit market for the product being valued includes financial institutions other than insurance companies, the risk neutral approach may be particularly appropriate.

The risk neutral approach can be more complicated to apply than the actuarial appraisal approach, but this is not always the case. Take, for example, a GIC that pays a fixed cash flow after three years. Assume the GIC has no embedded options and no provision for withdrawal before maturity. In this case, the fair value calculated by the risk neutral approach may simply be the cash flow at maturity discounted at a risk free rate. An adjustment may be needed to the cash flow or discount rate to reflect the insurer's own credit stand-



ing. Multiple scenarios may be avoided and a separate risk margin may not be needed either.

For other products, a risk neutral calculation may be complicated. Characteristics that will typically increase complexity include policyholder behavior and embedded options. Embedded options may require the use of multiple scenarios in order to reflect cases where the option becomes valuable. The multiple scenarios would have to be calibrated to current capital market conditions, insuring no arbitrage opportunities. And cash flows would have to be projected and discounted along each scenario.

RISK MARGINS AND OWN CREDIT

Two concepts that need to be addressed for embedded derivative fair values under FAS 157 are risk margins and own credit adjustments. These will likely also need to be addressed for the fair values of financial instruments for FAS 107 disclosures.

According to FAS 157, the risk margin or risk premium should “reflect the amount market participants would demand because of the risk in the cash flows.” If a risk neutral approach is used, that may eliminate the need for separate, explicit risk margins on capital market assumptions. That is because risk neutral approaches automatically provide implicit risk margins on capital market assumptions. They do this by biasing the probability weights on the scenarios used in order to replicate market prices.

But other valuation approaches may require a risk margin for capital market assumptions. And, regardless of the valuation approach, unobservable actuarial assumptions that significantly impact the valuation, such as policyholder behavior, may require a risk margin.

Several methods have been suggested for calculating risk margins on insurance products. These approaches may also be appropriate for financial instruments subject to FAS 107 disclosures. Among the methods² are:

1. Quantile methods;
2. Cost of capital methods;
3. Discount related methods;
4. Explicit assumptions; and
5. Methods based on utility functions or hazard transforms.

Quantile methods encompass several approaches,³ including:

1. Basing the risk margin on a percentile or confidence interval;
2. Using a Cumulative Tail Expectation (CTE) calculation, similar to C3 Phase 2; or
3. Basing the risk margin on a multiple of the second or higher moments of a distribution, such as a Wang Transform applied to a normal distribution.⁴

Cost of capital methods apply a cost of capital rate to the capital required to cover the risks at each future period. The required capital may be based on regulatory requirements, rating agency requirements or internal economic capital calculations (or some combination). The resulting cost of capital at each period is discounted to produce the risk margin.

Discount related methods adjust the rate used to discount expected cash flows in order to reflect the risk. Explicit assumption related methods incorporate an explicit element of conservatism to the assumptions used to generate cash flows. Methods based on hazard functions include the general case of the Wang Transform methodology.⁵

Regardless of the method chosen to calculate the risk margin for a particular risk, it is necessary to calibrate that to the margin a market participant would charge for bearing the risk. This can be a challenge, since the methodologies for calculating insurance companies' products' risk margins are still being developed. Furthermore, observable market risk margins are rarely available to calibrate to.

FAS 157 also requires that "the fair value of the liability shall reflect the non-performance risk related to that liability." Non-performance risk "includes but may not be limited to the reporting entity's own credit risk." But the non-performance risk of a particular instrument subject to FAS 107 disclosures may be different from that of the entity's debt, due to the primacy of most claim liabilities over debt liabilities. Reflecting own credit risk has the possibly counterintuitive impact of reducing the liability (and raising surplus). Again, there are several ways this can be done.

One way is to reduce the expected liability cash flows by the appropriate default probability. If multiple scenarios are being generated to calculate the expected cash flows, default scenarios can be included. Another way is to increase the discount rate to reflect the credit standing of the instrument.

If a risk neutral approach is used to calculate fair value, it may seem odd to discount the cash flows at a rate higher than the risk free rate. However, this would be an appropriate approach. If the cash flows were discounted at the risk free rate, the cash flows would have to incorporate a default probability. Under a risk neutral approach, the default probability would have to be calibrated to capital market prices. Since the capital market prices would be based on the relevant credit spreads, the same result is achieved by either:

FOOTNOTES:

²International Actuarial Association ad hoc Risk Margin Working Group (2008), *Measurement of Liabilities for Insurance Contracts: Current Estimates and Risk Margins, March 2008 Re-Exposure Draft*, p. 51-52.

³Ibid, p. 51-52.

⁴Zinkovsky, V. (2007), *Risk Margins to the Non-Market Risks under FAS 157: Suggested Approach*, *Society of Actuaries Financial Reporter*, December 2007.

⁵Ibid.

1. Calculating cash flows without a default assumption and discount at the risk free rate plus the credit spread; or
2. Calibrating default probabilities to credit spreads, adjusting the cash flows for the default probabilities, and discounting at the risk free rate.⁶

The first approach would generally be simpler to apply.

FUTURE DIRECTIONS

Currently, fair value for financial instruments within the scope of FAS 107 is generally only needed for footnote disclosures. However, both FASB and the International Accounting Standards Board (IASB) recently released a discussion paper entitled Reducing Complexity in Reporting Financial Instruments.⁷ In that discussion paper, FASB and IASB express a

long-term goal of accounting for all financial instruments at fair value.

One of the potential obstacles to achieving this long-term goal is the difficulty of estimating fair value for certain financial instruments. But FASB and IASB note that today's financial reporting standards (such as FAS 107) already require fair value disclosures of many such instruments. If this long-term goal of fair value reporting for all financial instruments ever becomes a reality, the fair value calculations actuaries currently need to do only for disclosure purposes may eventually impact net income and GAAP equity. ■

FOOTNOTES:

⁶Hull, J. (2003), Options, Futures and Other Derivatives, p.611-618.

⁷ Available on the FASB Web site at http://www.fasb.org/draft/ITC_Financial_Instruments.pdf

Let Your Voice Be Heard!

THE SOA 2008 ELECTIONS ARE JUST AROUND THE CORNER! POLLS OPEN ON AUGUST 7 AND CLOSE ON SEPTEMBER 10 AT 11:45 A.M. CENTRAL TIME. ONLINE VOTING FOR THE ELECTION WILL BE OPEN 24 HOURS A DAY.

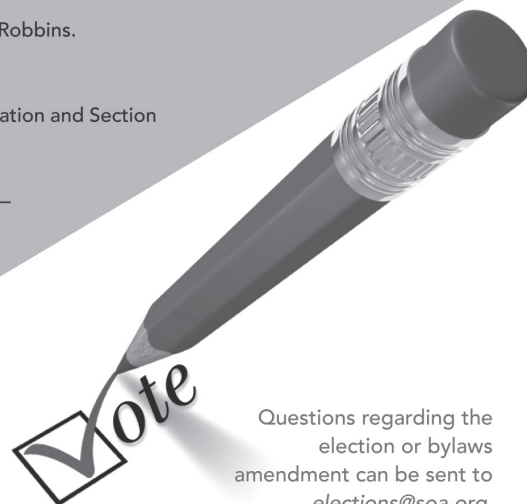
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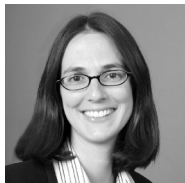
Questions regarding the election or bylaws amendment can be sent to elections@soa.org.

Liability Valuation In A Fair Value Environment: The Interest Credited Rate Dilemma

by Mark J. Freedman and Tara J.P. Hansen



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Recent events have led to a flurry of activity in the industry related to fair value type valuations of insurance liabilities. From FAS 157/159 to the IFRS Phase II Discussion Paper on Insurance Contracts (DP) to market consistent embedded value (MCEV) to Solvency II discussions, practitioners have been working to understand the appropriate way to calculate a fair value.

There are many methodology issues involved in determining fair value. One of the more difficult is developing the policyholder credited rate assumptions on North American style interest sensitive products. We explore two very different approaches that are currently being considered for use in projecting credited rates and show how they can be reconciled with one another. We illustrate these different approaches using a simple single premium deferred annuity (SPDA) product.

For the purpose of this article, we assume fair value is broadly defined as the amount of cash hypothetical market participants (similar companies to the one selling the business) require to take on the liabilities. We assume that market participants use a discounted liability cash flow approach to compute that amount. We also assume the fair value can reflect crediting of interest that is higher than the guaranteed rate; this might not comply with the DP requirements.¹ We take a very simplified approach with respect to risk margins, stochastic projections, own credit standing, expenses, and income tax, as they are not the principal issue being addressed by this article.

COMPANY AND PRODUCT DESCRIPTION

The product is an SPDA with an annual reset of the interest credited rate, which is guaranteed for one year upon each reset. Generally (but not contractually), the interest credited rate is based on the company's expected statutory (i.e., book, not market) investment earnings in the future year, net of expected default and investment expenses, less a pricing spread. The annual minimum guaranteed interest rate is 1.50 percent.

Commissions are 7 percent of premium. There is a declining surrender charge scale. More specific details are included in the appendix at the end of this article.

The company's credit rating is AA. The company's AA-rated debt trades at the risk-free rate plus 0.35 percent.

PRODUCT PRICING

The company prices the product using a traditional approach. It projects realistic distributable earnings (statutory net income less any increase/decrease in regulatory required capital, where investment income is earned on assets backing statutory reserves plus regulatory required capital) on a deterministic basis. A pricing spread (earned investment yield minus realistic expected defaults and investment expenses) is determined in order for the company to achieve its desired pre-tax return on investment (ROI).

Average risk-free forward rates are approximately 4.70 percent. The company purchases A-rated bonds and assumes it will earn 0.70 percent over risk-free interest rates, yielding 5.40 percent, net of expected investment expenses and defaults.

The pre-tax ROI target is 11 percent. To achieve this ROI, the pricing spread between the earned and credited interest rates is 1.40 percent, implying a credited rate of 4.00 percent in this deterministic test. In terms of average risk-free forward rates, the credited rate is equal to the risk-free forward rate less 0.70 percent.

Detailed pricing assumptions are included in the appendix.

EXPERIENCE PROJECTION ASSUMPTIONS

For the purpose of showing projected financial results, we choose a deterministic scenario for cash flows to be consistent with pricing.

FOOTNOTES:

¹This will depend upon a company's facts and circumstances, since the DP requires that liabilities can only be established for future excess interest credits, if the future credits are deemed "constructive obligations" under IAS 37.

As with pricing, shareholder dividends are determined such that the book value of invested assets equals the statutory reserves plus regulatory required capital at each valuation date.

FAIR VALUE ANALYSIS

COMPONENTS OF VALUE

The fair value of the product can be decomposed into the following three components:

1. The pass-through nature of the crediting rates. Companies generally (although not contractually) base the credited rates on the earnings (at book, not market) of the assets backing the products. This is analogous to a variable annuity, backed by bonds.²
2. The minimum return guarantee. This is analogous to a put option, although the minimum return guarantee is not cumulative, but annual.
3. The annual credited rate guarantee. In practice, companies lock-in credited rates at the beginning of a policy year, based on what they expect the assets to earn (net of defaults and investment expenses) in the coming year. This annual credited rate guarantee is analogous to a credit default swap on the assets backing the contract, because companies credit interest, based on the assumed performance of the underlying assets in the upcoming year rather than directly reflecting actual default experience on those assets.

VALUATION TECHNIQUES

We obtain the fair value of the first component (the pass-through feature) by computing the fair value of a variable annuity with no additional living or death benefit features. We project liability cash flows (benefits and maintenance expenses) and risk margins and then discount this stream using the risk-free forward rates. Economic assumptions are risk-neutral, meaning that the assets backing the product earn risk-free forward rates. In our example, credited rates are equal to risk-free rates less the mortality and expense charge, or pricing spread, of 1.40 percent. For the



purpose of simplicity, we assume that non-economic valuation assumptions (including expenses) are consistent with pricing. We also assume that book returns equal market returns, implying the value of the stabilizing feature is zero.

In addition, we arbitrarily establish risk margins by multiplying the pricing lapse rate in each year by 110 percent in order to obtain the valuation lapse rate. This tends to increase the liability, as long as the discount rate (risk-free forward rate) is higher than the credited rate; in fact, the lower the difference, the lower the risk margin.³

We obtain the fair value of the second component (minimum return guarantee) by first projecting benefits and expenses on the variable annuity, as discussed above, but using a risk neutral stochastic interest rate scenario generator. Then, we compute the expected (average) present value of benefits and expenses. The value of this feature is then the excess of the value of the variable annuity with the guarantee over the value of the variable annuity without the guarantee.

FOOTNOTES:

²In addition, there is a feature which "stabilizes" the market returns of the bonds backing the variable annuity, since book, not market, returns are passed to the policyholder.

³Where the discount rate equals the credited rate, and there are no surrender charges or maintenance expenses, the liability is equal to the account value, no matter what the lapse rates are. In this case, risk margins are zero. Where the discount rate is lower than the credited rate, a multiplicative factor less than 100 percent must be used in order for the risk margin to have the proper sign (increase the liability).

For simplicity, in our examples, we express the cost of this feature as a level cost of option and add it to the assumed credited rate.

We obtain the fair value of the third component (annual credited rate guarantee) by making an assumption regarding the expected level of the future annual credited rate resets. The value reflects the amount by which future crediting rates are expected to exceed the risk-free-based crediting rates reflected in component (1). We add this to the credited rate in the variable annuity product feature in order to project liability cash flows. The value of this component is equal

risk-free assets. In other words, the company will continue to offer valuable credit default swaps in every future year. A justification for Approach B is that it is consistent with how companies currently declare credited rates at the beginning of a policy year. Companies commonly assume that yields, net of defaults and investment expenses, are higher on riskier assets than on risk-free assets at the time they declare the next year's credited rate. The valuation under Approach B considers liability cash flows that reflect these higher expected annual credited rate guarantees.

We test two approaches to reflecting the annual credited rate guarantee in calculating the fair value of the SPDA.

to the present value of liability cash flows reflecting the expected level of annual credited rate guarantees in all future projected years, less the present value of liability cash flows reflecting credited rates based solely on a pass-through of the risk-free rate. We analogize this to the value of a credit default swap because it reflects a guarantee of the credit spreads in the underlying assets to the policyholder.

We test two approaches to reflecting the annual credited rate guarantee in calculating the fair value of the SPDA.

Approach A states that the annual credited rate guarantee has no value (i.e., that the company credits no more than would be suggested by the assets earning a risk-free rate). A justification of Approach A is that in a risk neutral world, a company's expectation is that it will, on average, only be able to earn risk-free rates. In that case, it will credit interest rates equal to the risk-free forward rates less its pricing spread. The valuation under Approach A considers crediting rates no greater than those supported by these risk-free returns.

Approach B states that the company will continue to credit interest in excess of what is supported by

In our example, we assume a 0.10 percent cost of option in Approach A. (The cost of option is relatively low in this example, primarily because the risk-free interest rates are sufficiently higher than the 1.50 percent credited interest rate guarantee, producing few random cases when the guarantee comes into the money.) Therefore, the total credited rates for Approach A are equal to the risk-free forward interest rates less 1.30 percent (1.40 percent pricing spread less the 0.10 percent cost of option). The discount rates are set at the risk-free forward rates.

In Approach B, we assume that at the beginning of each year, a company bases credited rates in the upcoming year on the yield, net of investment expenses and defaults, it expects on A-rated bonds less the pricing spread of 1.40 percent. Since A-rated bonds are expected to earn risk-free plus 0.70 percent, the credited rate is risk-free minus 0.70 percent.

On average, if we use a stochastic interest rate scenario generator and ignore the 1.50 percent minimum guarantee, credited rates are 0.70 percent higher than in Approach A. For simplicity, we assume that the 0.10 percent cost of option from Approach A is entirely absorbed and reflected within the higher crediting rates modeled under this approach. Because the projected credited rates are higher than in Approach A, it is less likely that the guaranteed credited interest rate is pierced in Approach B. Therefore, we assume a zero cost of option in Approach B.

Two possible discount rates are considered for calculating fair values under Approach B. In Approach B1 (as in Approach A), discount rates are set at the risk-free forward rates. This is consistent with the risk-free approach underlying the treatment of credited rates in Approach A and would appear to be consistent with the *Market Consistent Embedded Value (MCEV) Principles* published by the CFO Forum in June 2008. In Approach B2, discount rates are set at the risk-free forward rates plus a provision for the credit standing of the insurance company that issues the SPDA (own credit). This approach is justifiable if one believes that the possibility that the insurance company will not make good on its obligations must be reflected in the fair value of a liability and is required under FAS 157 and the DP.

Note that since the spread between the discount rates and credited rates is lower in Approach B1 than in Approach A, the risk margins relative to the fair value liability without risk margins are consequently lower in Approach B1 as well. This is because we define risk margins as a function of lapse rates. However, since the spread between the discount rate and the credited rate is the primary driver in the fair value calculation, the effects of the risk margin are less consequential to our analysis. In our example, the Approach A spread between the discount rates (risk-free forward rates) and credited rates (risk-free forward rates less 1.40 percent plus 0.10 percent cost of option) is 1.30 percent. The Approach B1 spread between discount rates (risk-free forward rates) and credited rates (risk-free forward rates less 0.70 percent) is 0.70 percent. Therefore, the liability is much higher under Approach B1 than under Approach A, even though Approach B1 has a relatively smaller risk margin.

For simplicity in our example, we assume the impact of own credit is to discount the liability cash flows using the yield on the company's debt. In our example, the debt trades at risk-free forward rates plus 0.35 percent. Therefore, the Approach B2 spread between discount rates (risk-free forward rates plus 0.35 percent) and credited rates (risk-free forward rates less 0.70 percent) is 1.05 percent. Consequently, the fair value liability is lower than in Approach B1, but higher than in Approach A.

Following is a summary of the key parameters driving the fair value liability calculations under each approach.

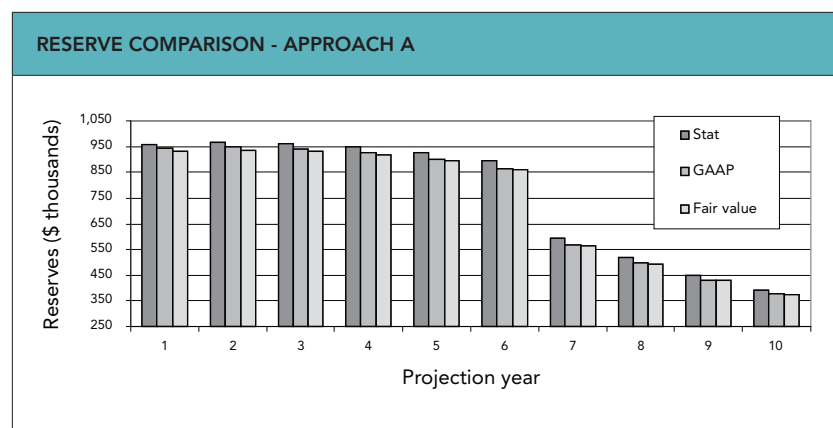
APPROACH	CREDITED RATE	DISCOUNT RATE	DISCOUNT RATE LESS CREDITED RATE
A	Risk-free — 1.30%	Risk-free	1.30%
B1	Risk-free — 0.70%	Risk-free	0.70%
B2	Risk-free — 0.70%	Risk-free + 0.35%	1.05%

A complete set of fair value assumptions is shown in the appendix.

EXAMPLE RESULTS

- Approach A

The graph below shows a progression of the liability values for U.S. Statutory, US GAAP net of deferred acquisition costs (DAC), and Fair Value Approach A.



U.S. statutory reserves are the largest in all years. At issue, US GAAP reserves, net of the asset for DAC, are equal to the premium less deferrable expenses. Going forward, GAAP reserves equal account value and DAC is amortized in proportion to estimated gross profits.

The fair value liability from Approach A is the lowest, due to the 1.30 percent difference between the discount

rate and the credited rate. This is analogous to a situation that most actuaries are familiar with in the calculation of reserves under the Commissioners' Annuity Reserve Valuation Method (CARVM) for fixed deferred annuities. Absent the application of a cash value floor, the larger the difference between the discount rate and the guaranteed credited rate, the lower the CARVM reserve.

The first graph below shows the earnings emergence on each of these accounting bases.

Statutory earnings follow a typical pattern. There is a first year loss because the initial CARVM allowance is less than first year commissions. Subsequent statutory

earnings are positive, but depressed during the surrender charge period, as the CARVM reserve grades to account value when the surrender charges go to zero.

US GAAP earnings are a level percent of estimated gross profits plus interest on assets backing US GAAP equity. (For simplicity, there are no non-deferrable acquisition or overhead expenses assumed in this example.)

In contrast, the fair value profit in the first year is significant (1.80 percent of the single premium), because the first year liability is significantly less than the premium minus commissions.

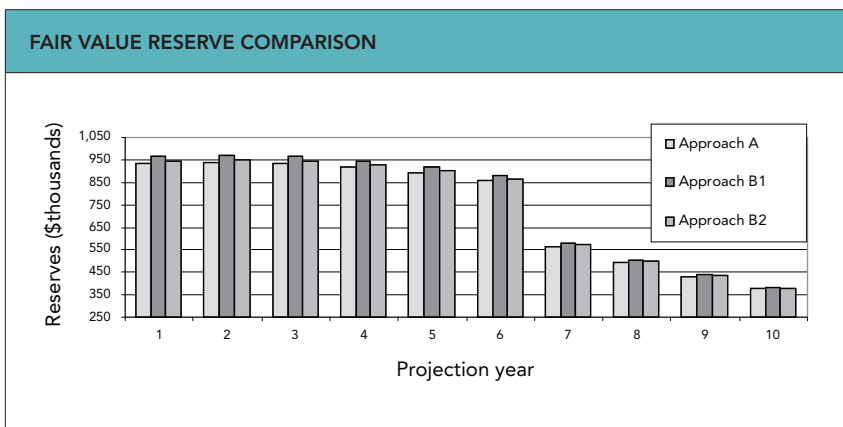
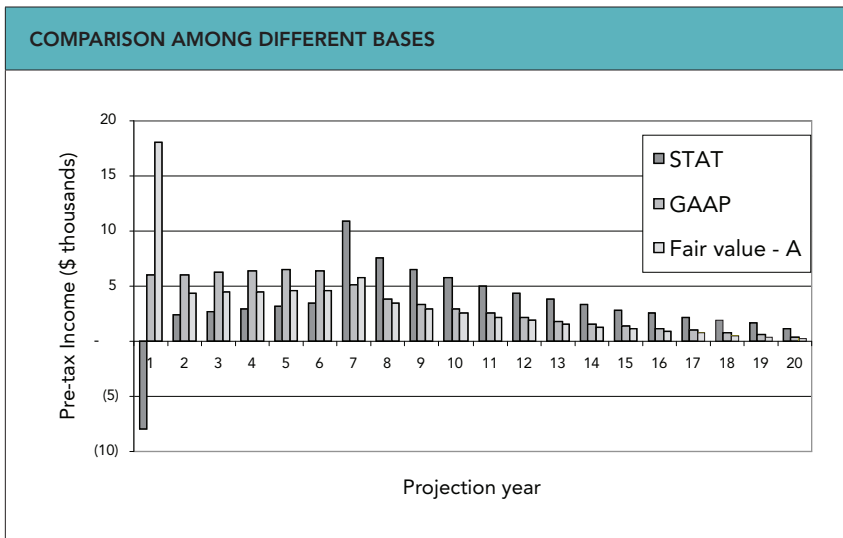
In subsequent years, fair value profits emerge from: (1) interest on assets backing surplus; (2) the release of risk margins; and (3) crediting rate spreads in excess of those included in the fair value liability calculation. The fair value liability calculation includes a pricing spread (discount rate less credited rate) of 1.30 percent, while the experience projection assumes a spread (earned rate less credited rate) of 1.40 percent.

One critique of the fair value liability assumptions is that since the first year profit is so large, the risk margins might be too thin. If, instead, a 0.25 percent of account value risk (or service) margin is included in the calculation, the profit in the first year is now only 0.20 percent of premium, with subsequent higher earnings when the margin is released in future years. Since the focus of this article is not on risk margins, we acknowledge this weakness in the risk margin level, and move forward with our discussion of interest credited rate approaches.

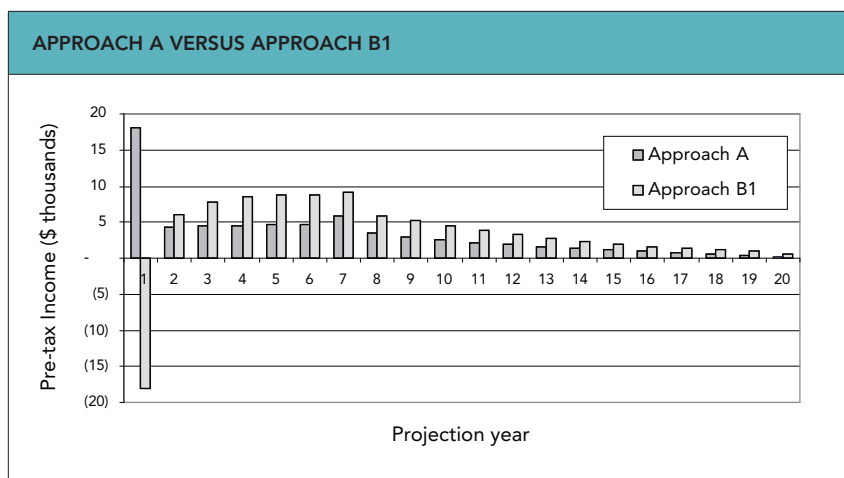
- Approach B

The graph to the left (bottom) compares the fair value liability under approaches A, B1 and B2.

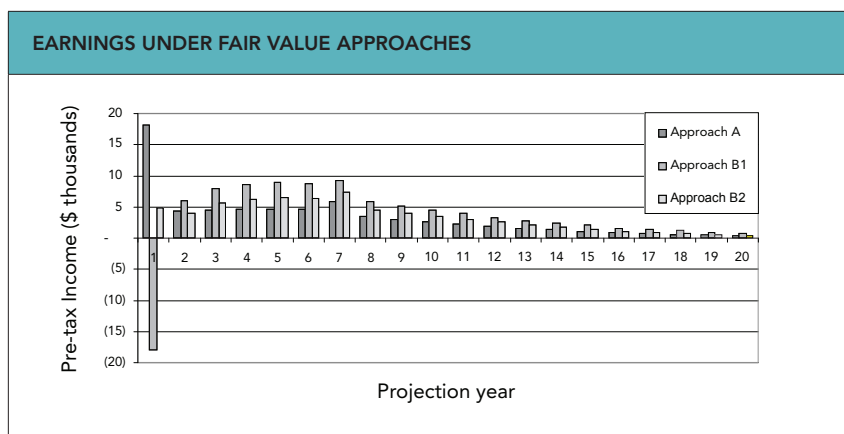
As expected, the wider the difference between the discount rate and the credited rate, the lower the liability. The difference for Approach A is 1.30 percent, for Approach B1 is 0.70 percent, and for Approach B2 is 1.05 percent.



The graph to the right (top) shows the pre-tax income results on a fair value basis for Approach A as compared to Approach B1.



The Approach B1 liability in the first year is significantly higher than the premium minus commissions, producing a loss in the first year of about 1.8 percent of the premium. This loss is close to a mirror image of the gain produced in Approach A in year one. Under Approach A, the difference between the discount rate and the credited rate is more than enough to support the commissions paid to acquire the business, resulting in a gain at issue. Conversely, under Approach B1, the loss at issue suggests that if assets earn no more than the risk-free rate over time, the interest spread will not be enough to pay for the commission spent at issue.



Just as in the Approach A example, we see Approach B1 profits emerge from three sources: (1) interest on surplus; (2) the release of risk margins; and (3) crediting rate spreads emerging in excess of those included in the fair value reserve calculation. The Approach B1 fair value liability calculation includes a spread between the discount rate and credited rate of 0.70 percent, while the experience projection assumes a spread of 1.40 percent. This 0.70 percent difference (1.40 percent spread in experience minus a 0.70 percent spread reflected in reserves) in Approach B1 compares to a 0.10 percent difference (1.40 percent spread in experience minus a 1.30 percent spread reflected in reserves) in Approach A, explaining the significantly larger later year gains in Approach B1 than in Approach A.

APPROACH	CREDITED RATE	DISCOUNT RATE	DISCOUNT RATE LESS CREDITED RATE
A	Risk-free — 1.30%	Risk-free	1.30%
B2	Risk-free — 0.70%	Risk-free + 0.35%	1.05%

The graph to the right (middle) shows the pre-tax income results on a fair value basis for Approach A as compared to Approach B1 and Approach B2. The initial loss of 1.80 percent of premium from Approach B1 compares to a gain of 0.50 percent of premium for Approach B2, as shown in the graph to the right (middle). Again, the driver in this calculation is the excess of the discount rate over the credited rate, which increases by 0.35 percent over that in Approach B1.

The 0.25 percent difference in spreads in these approaches is made up of two components:

The first is the difference in the excess of the expected earnings of the A-rated bonds (risk-free plus 0.70 percent) over the company's own AA-rated bonds (risk-free plus 0.35 percent). This 0.35 percent excess is essentially the annual market cost of a credit default swap on the insurance company's A-rated bonds. Note the intuitive result that the cost would be zero if the AA company purchased AA-rated bonds on itself in lieu of A-rated bonds.

The chart to the right (bottom) details the reconciliation between approaches A and B2.

The second is the excess of the cost of option assumed in Approach B2 over the cost of option assumed in Approach A. The cost of option is higher in Approach A, since credited rates in that approach are lower. This results in a -0.10 percent impact, which, when added to the 0.35 percent noted above, yields the 0.25 percent difference in spreads shown in the table.

WHERE DO WE GO FROM HERE?

A company’s decision of which approach to use depends upon how it views the annual credited rate guarantee.

If a company assumes that in a risk-neutral valuation it will no longer offer annual credited rate guarantees that assume returns higher than the risk-free rate, it will choose Approach A or something similar. For example, one alternative approach, which we do not analyze, is where the company offers an annual credited rate guarantee each year equal to the risk-free rate plus its own credit spread. This produces a similar result to Approach A, as long as the company’s own credit standing is taken into account in the discount rate. This is because the credited rate and discount rate are both higher by the same amount as compared to Approach A.

If a company views the annual credited rate guarantee, instead, as a credit default swap, where a company’s own credit standing is leveraged, as in our example, it will choose Approach B. If this approach is chosen, a

company needs to think about how to value this credit default swap, because if its own credit standing is not taken into account, as in Approach B1, the difference between the two approaches is dramatic.

SUMMARY

Our examples show only one of a myriad of modeling nuances and decisions that one must make as fair value type techniques become more widespread. Not only does the particular issue discussed above affect companies implementing MCEV and pilot testing potential IFRS Phase II outcomes, it also affects US GAAP reporting companies this year-end as companies estimate the fair values of investment contracts for their FAS 107 disclosures.

LIMITATIONS

This article is not meant to be considered accounting advice, and should not be construed in that manner. It is not meant to represent the view of Ernst & Young LLP. ■

APPENDIX

PRODUCT FEATURES

Guaranteed interest credited rate: 1.50%

Annual free partial withdrawal allowance: 10%

POLICY YEAR	1	2	3	4	5	6	7+
COMMISSIONS	7%	0%	0%	0%	0%	0%	0%
SURRENDER CHARGE	6%	5%	4%	3%	2%	1%	0%

MODEL ASSUMPTIONS

Pricing/experience/GAAP assumptions

Shareholder distributions assumed such that invested assets at end of year equals statutory reserves plus required surplus.

Maintenance expenses: 0.20% of AV

STATUTORY RESERVES:

POLICY YEAR	1	2	3	4	5	6+
STATUTORY RESERVE / AV	95%	96%	97%	98%	99%	100%

Regulatory required capital: 3.00 percent of AV
 Earned rate: 5.40 percent (No assumed unrealized gains, MV assets = BV assets)
 Credited rate: 4.00 percent
 Target spread: 1.40 percent
 Pre-tax ROI generated using pricing assumptions: 11 percent

Mortality: 90 percent A2000 Table, 1 percent improvement per year.

LAPSES AND FREE PARTIAL WITHDRAWALS:

POLICY YEAR	1	2	3	4	5	6	7	8+
LAPSES	2.0%	3.0%	4.0%	5.0%	6.0%	7.0%	35.0%	15.0%
FREE PARTIAL WITHDRAWALS	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%

GAAP expense deferrals: commissions
 GAAP non-deferrable acquisition and overhead expenses: none

Approach A fair valuation assumptions

Discount rate: risk-free rate
 Credited rate: risk-free rate less 1.40 percent (pricing spread) plus .10 percent (cost of option) equals risk-free rate less 1.30 percent

POLICY YEAR	1	2	3	4	5	6	7	8	9	10
RISK-FREE FORWARD RATE	5.09%	4.91%	4.75%	4.70%	4.68%	4.70%	4.69%	4.71%	4.68%	4.70%
CREDITED RATE	3.79%	3.61%	3.45%	3.40%	3.38%	3.40%	3.39%	3.41%	3.38%	3.40%

POLICY YEAR	11	12	13	14	15	16	17	18	19	20
RISK-FREE FORWARD RATE	4.70%	4.71%	4.75%	4.77%	4.80%	4.84%	4.86%	4.86%	4.90%	4.94%
CREDITED RATE	3.40%	3.41%	3.45%	3.47%	3.50%	3.54%	3.56%	3.56%	3.60%	3.64%

Mortality: Same as experience assumptions.
 Lapses: Same as experience assumptions.
 Partial withdrawals: Same as experience assumptions.
 Maintenance expenses: Same as experience assumptions.
 Risk margin: 10 percent increased lapse.
 Service margin: None.

Approach B fair valuation assumptions

Credited rate: risk-free rate less 0.70 percent
 Discount rate:
 Approach B1: risk-free rate
 Approach B2: risk-free rate plus 0.35 percent
 All other assumptions: same as Approach A

A Change in Own Credit Risk

by Steve Malerich



Since the adoption of FAS 157, there has been much concern about the use of own credit risk in the valuation of liabilities. The biggest concern seems to be the effect of a change in credit standing on the value of liabilities. It is believed that, for example, if a company's rating declines, the discount for risk would increase, thereby reducing the value of liabilities and giving the appearance of increased strength. Or, a credit upgrade would result in lower discounting and higher liabilities, thus giving the appearance of decreased strength.

In principle, I think our discussion to date has oversimplified the issue. If we broaden our thinking, we may find that the effect is often not as significant as we have believed. And, we might find situations where a downgrade results in higher liabilities or an upgrade in lower liabilities. However, we might also find that the effect, for some products, is even greater than we have believed.

Even as I explain these conclusions, I recognize that actuarial research to-date may be inadequate for our need to include own credit risk in the valuation of liabilities. As we see greater emphasis on fair value reporting, we will need to focus more research on the new demands of this framework.

A HISTORICAL PERSPECTIVE

For hints at how this could happen, let's take a closer look at FAS 97. Although FAS 97 is not a fair value calculation, it does have some common or similar elements, including best estimate assumptions and own credit risk. Own credit risk has always been implicit in FAS 97 valuation of both the benefit reserve and the deferred acquisition cost asset. And, in principle, a change in own credit risk should alter the net GAAP liability—increasing it for a downgrade and decreasing it for an upgrade. In practice, I doubt whether this actually happens concurrent with a change in credit standing. Perhaps that's where FAS 157's focus on a reference company will come into play.

Consider a reasonably strong company. It can and does promote itself and its products on the basis of its financial strength. Yes, it must offer a competitive product, but its financial strength is itself an element of its competitive position. For a given set of product features and a given interest crediting rate, this company will be at a competitive advantage over its not-so-strong competition and at a disadvantage to its stronger competition.

To illustrate my point, I'll look at a simple fixed annuity product and limit this discussion to two approaches for recognizing relative competitive positions of companies with different strength ratings—interest crediting and termination rates.

SAMPLE COMPETITIVE STRATEGY—VARIED INTEREST CREDITING

Let's look first at interest crediting. All else being equal, our hypothetical company can maintain its competitive position while crediting a lower interest rate than its weaker competition but must credit a higher rate than its stronger competition.

Under FAS 97, the benefit reserve is just the account balance that has accumulated on the annuity contract. But it can also be viewed prospectively—as the present value, discounted at the interest crediting rate, of future cash flows to the policyholder and charges to the policy. In our hypothetical competition, the interest

crediting rate reflects the credit standing of each company. Hence, discounting the liability at the interest crediting rate also reflects own credit standing.

Also under FAS 97, the deferred acquisition cost (DAC) asset reflects own credit standing in the same way, by discounting at the interest crediting rate.

Now, let's look at the principled effect of a change in credit standing.

If our company's standing is downgraded to match what was its weaker competitor, then the company must increase its crediting rate to maintain its competitive position. This has no immediate effect on the benefit reserve. Even when we look at it prospectively, the company now projects higher benefits but discounts at a higher rate, with a precise offset between the two. DAC, however, immediately declines with this change in competitive characteristics. Because the interest rate was increased, there was no effect on expected termination rates, but expected interest margins are reduced. Furthermore, remaining margins are discounted at a higher interest rate. Both effects cause a lower present value of expected gross profits and, consequently, an immediate reduction in the DAC asset.

So, in a market that reflects relative credit standing by the level of interest credited on a contract, a decline in credit quality results in a higher net GAAP liability under FAS 97.

SAMPLE COMPETITIVE STRATEGY— MATCHED INTEREST CREDITING

Next, let's consider a market where interest crediting rates are insensitive to financial strength. Here, a company's strength is reflected in termination rates, with stronger companies experiencing lower surrenders. Since my focus is on the value of existing liabilities, I ignore the fact that a stronger company also has an advantage in the market for new sales.

Here, too, there is no difference in the benefit reserve among our three competitors. It's not that they expect the same cash flows. Rather, the stronger a company is, the more time it expects to pass before it pays

benefits. With additional interest credited over that time frame, it will pay greater benefits, but the effect on the reserve is exactly offset by discounting for a longer period of time. Here, own credit standing does not affect the discount rate, but it is reflected in the current liability by differences in termination rates.

Once again, DAC reflects differences in credit standing in the same way as the benefit reserve, in the different termination rates. Now we need to look at the effect of a change in credit standing in this simple world.

If the credit rating of our company is increased to match that of its once stronger competitor, it should expect its termination rates to decline. This has no immediate effect on the benefit reserve. The delayed benefit payments will mean higher benefit payments but at a later date, with the two effects exactly offsetting because benefits are discounted at the same rate at which they grow. DAC will immediately increase with this improvement in credit standing. Because expected surrenders are delayed, the company expects to earn margins on the business for a longer period of time. Even after discounting, these additional margins result in a higher present value of expected gross profits and an immediate increase in the DAC asset.

FAIR VALUE

Having looked at the principled effects of own credit risk changes on an FAS 97 balance sheet, let's turn to a fair value balance sheet.

Here too, there is more to a company's own credit risk than the interest rate it uses to discount cash flows. As under FAS 97, the company's strength is expected to have an effect on its cash flows. A strong company may expect to pay higher benefits but at a later time, resulting in a comparable or lower value of the current liability. Upon losing strength, it would lose those advantages. Staying within the simplified world described above, either the company would have to accelerate the payment of benefits or increase the amount of benefits it expects to pay without increasing the time it has to discount those higher benefits. Even if it is now discounting at a higher rate of interest, that may not be enough to offset all of the effects of earlier or increased benefits.



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Even a typical FAS 60 product, with a fixed schedule of benefits, should expect some change in experience along with a change in financial strength. Here too, the advantage of an increased discount rate could tend to be offset by expecting to pay some benefits sooner, or having less time in which to earn profit on the business, thus reducing the value of expected profits and increasing the amount that another entity would require to assume the liability. If the product happens to have a high reserve but low cash value, a change in lapse rates might actually compound the effect of a change in discount rate.

CONCLUSION

While this simple analysis highlights the ways in which the feared effects of own credit risk might not be as bad as we thought, putting this principle into practice will not be easy. We simply do not have good sources upon which to base the subtle alterations in assumptions that should accompany a change in credit standing. It will be

difficult to make the appropriate changes in a way that leads to an appropriate result. And, it will be difficult to know after the fact whether we have made truly appropriate changes to all elements of the valuation.

If we are to have any hope of doing this right, we need to start thinking very carefully about how we can approach this challenge. Considered in this light, including own credit risk, and changes in own credit risk, in determining the fair value of liabilities does start to make sense. The challenge for us is to make sure the results make sense.

In trying to anticipate what would make sense, my basic expectation is that a decline in credit standing (short of insolvency) will generally move fair value closer to current surrender value. For different products, that may be an increase or a decrease in the fair value of the liability. ■

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Principle-Based Reserves Update

by Karen Rudolph



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Looking back to progress made during the NAIC Summer National Meeting, much of the meeting agenda was devoted to the Standard Valuation Law (SVL) and little to the proposed Valuation Manual (VM). My update in the June 2008 issue focused on a series of amendments, none of which were specifically addressed during the summer meeting. As a result, many interim conference calls are being held during the months of June, July and August with the objective of completing the review and consideration of these amendments.

SVL

Progress has been most notable on the evolution of principle-based requirements within the law itself. The timeline of the regulatory community is to pursue discussion and resolution of remaining issues during the period between the summer and fall meetings. It is hoped that by year end 2008 the revised SVL will be formally adopted by the NAIC and on its way to state legislatures during 2009. To that end, these remaining critical issues need to be agreed upon and finalized in the coming months.

1. **Confidentiality:** The current SVL language provides a level of confidentiality around the appointed actuary's actuarial opinion and memorandum. Under a principle-based regime, the Commissioner has the authority to call for an examination of the principle-based reserves of the company to determine the appropriateness of any reserve assumption or method used by the company. To accomplish this, the Commissioner may engage a qualified actuary to perform an examination of the principle-based reserves or compliance with the VM. In the course of such an examination, the qualified actuary will have made available to them confidential materials. Industry representatives would like the benefits of confidentiality extended to this examination process and its associated materials.
2. **Statement of Principles:** The SVL includes, in Section 12, six conditions that must exist for a valuation to be considered a principle-based valuation. Generally speaking, regula-

tors agree these principles belong in the SVL, as opposed to the VM, but the exact description of the principles remain under discussion.

3. **Minimum Floor:** In general, regulators agree a minimum floor is necessary for reserves calculated under a principle-based environment. In the current draft dated May 31, 2008, the floor is stated as a per policy or per contract amount not less than the greater of (i) zero; (ii) the cash surrender value; or (iii) the present value of cash flows associated with or allocated to the policy or contract, where the present value calculation is based on the appropriate interest rate or rates as specified in the VM. Whether such language should reside in the SVL or in the VM is still up in the air. Some regulators feel strongly this language should appear in the SVL and thus be enshrined in the law rather than in a document like the VM which can be modified through an NAIC process rather than a state legislative process. If in the SVL, then questions arise from other regulators about the applicability of items (ii) and (iii) to all policies within scope of the law.

These are not trivial issues and need to be given an appropriate level of consideration when it comes to finalizing the language of the SVL. As a law, the parameters laid out in Sections 11, 12 and 13 will need to service valuation well into the future without the bother of re-opening and again adopting this law through legislative measures.

VM

Although little time was spent covering amendment proposals to the VM, the fact that the VM-20 subgroup has a fairly concise list of outstanding issues is encouraging. Six hours of conference call time has been scheduled to discuss remaining amendments. In addition, the following items require resolution before this group can consider themselves ready to submit the manual to the full LHATF.

1. The absolute level of CTE for the stochastic reserve needs to be determined as well as

whether such level should vary by product type or not. The current VM-20 draft refers to varying CTE level by product type. Arguments have been given for setting a single level for all products. The CTE metric captures variability by nature of its calculation. All other things being equal, scenario reserves in the tail of the distribution of scenario reserves for a product with greater variability with respect to interest or equity returns will produce a higher CTE value than will a product without such variability.

2. Products without exposure to interest rate or equity return risk may be exempted from stochastic analysis through the use of a stochastic exclusion test. The pass level of this test needs to be determined. LHATF has requested from the Academy a recommended pass mark. The Academy's LRWG has preliminarily established the mark and will be providing a supporting argument to LHATF before the NAIC September 2008 National meeting.
3. The concept of establishing margins around valuation assumptions is a wide open area. The regulators and the actuarial profession realize the need for more guidance on this piece of the requirements. Though it may not require amended language in VM-20, it is recognized that an Actuarial Standard of Practice may need to be formed in order for practical implementation of the PBR requirements.
4. A fundamental principle of PBR is recognition, in the valuation exercise, of a company's risk management methods, models and techniques. In other words, a company's valuation approach should be synched up with their risk management approach. However, when it comes to aggregating liabilities within a stochastic analysis in order to produce an aggregate stochastic reserve, the regulators are hesitant to allow for offsetting liability risks. Allowing aggregation in the stochastic analysis is under consideration.
5. The inclusion or exclusion of federal income tax cash flows is on the outstanding issues list. This would produce circularity in the calculations, since taxable income depends on changes in reserve levels.
6. Revenue sharing arrangements in separate account fund offerings, for example, have not typically been guaranteed. Though non-guaranteed, these arrangements are a critical source of income for the companies offering these products. The company provides a valuable service to the fund itself, which in turn offers a portion of its profit in return. Some regulators would rather see these arrangements ignored in the projected cash flow streams if not guaranteed.
7. Credit for a company's dynamic hedging risk mitigation techniques are currently allowed as long as the hedging program qualifies as a clearly defined hedging strategy. Suggestion that credit for such risk mitigation techniques should be capped at something less than 100 percent in the cash flows is under discussion. Implementing a cap would arguably be in conflict with the fundamental principle of reflecting a company's risk management strategies. The concern of regulators is primarily rooted in the uncertainty of how well these strategies play out in relation to their original design and under extreme scenarios.
8. Whether a minimum number of scenarios should be required for the stochastic reserve and if so, what that number should be.
9. The discount rate used in the determination of the stochastic reserve is last on this list of nine issues, but certainly not the least important. There are several amendments currently proposed that alter the nature of derivation of the discount rate. These amendments arise primarily for two reasons: (i) a company should not be encouraged to invest in securities with higher risk profiles in order

to effect lower reserves, and (ii) there is a question regarding the appropriate discount rate for points in a projection where the asset balance is zero. Another concern is general auditability of the calculations from an examination perspective. I expect this issue will receive attention in coming conference calls.

Regulator concerns not listed above include establishing a credibility methodology for assumption setting and the concept of scenario generators. Regulators have suggested using pre-determined scenarios of interest rates and equity returns during the initial years of principle-based valuations. Once a comfort level is established, the requirements could begin to allow for a company's generator, if calibration criteria are met.

I will mention a few more key items here. VM-00 no longer includes a VM-22 section for non-variable annuity contracts. The work on non-variable annuities will follow on the heels of the life insurance work, since regulators feel that initial PBR efforts should be focused on life insurance. VM-00 points to current statutory requirements as minimum requirements for these contracts. VM-00 allows a company a five-year transition period starting after the operative date of the VM. During this five-year period the company may choose to value newly issued policies using principle-based methods. After the five-year period, new issues must recognize the requirements of VM-20. VM-50 establishes the experience reporting requirements mandated by the SVL. The current version would require submission of experience data for all policies rather than just those policies subject to principle-based requirements. ■

Predictive modeling

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SEC Objects to Prospective Unlocking of LTC Reserves

by Rowen Bell

Earlier this year, the Securities and Exchange Commission (SEC) informed one of its registrants that prospective unlocking of benefit reserves for long-term care (LTC) insurance was not an acceptable practice under current US GAAP. The purpose of this article is to make actuaries aware of this action and provide some additional context.

Recall that under FAS 60, the assumptions used for benefit reserves on long-duration insurance contracts are locked-in at policy issuance. US GAAP accounting literature specifies two situations where these reserve assumptions can be unlocked. One situation, addressed in FAS 60, is when a premium deficiency exists, in which case the reserve is re-calculated using current assumptions. The second situation, addressed in AICPA SOP 05-1, is when an internal replacement is deemed to occur. In this case, reserve assumptions are updated on a prospective basis only, meaning that the current reserve is unchanged but the future pattern of reserve changes is altered.

This latter concept is variously referred to as prospective unlocking, the prospective revision methodology, or pivoting. Although the issuance of AICPA SOP 05-1 in 2005 represented the first time that this concept appeared in U.S. accounting literature, the prospective unlocking concept has a long history in actuarial circles. Many actuaries have believed that prospective unlocking is an acceptable GAAP practice with respect to benefit reserves for long-term care, issue-age-rated Medicare Supplement, and other long-duration health contracts for which the timing and magnitude of actual premium increases (as well as changes in morbidity levels) may differ from the assumptions made at policy issuance. Prospective unlocking has been referenced in the SOA's US GAAP for Life Insurers textbook, as well as in ASOP 10.

Until this year, standard-setting bodies had not taken any known position on whether or not prospective unlocking is an appropriate GAAP practice. That changed during the first quarter of 2008. In March 2008, an SEC registrant filed a 2007 Form 10-K that included the following language:

In the critical accounting policies section of our 2006 Form 10-K, we disclosed that we used a

prospective revision methodology (also known as pivoting) to account for premium rate increases on long-term care policies. Under this accounting policy, we prospectively changed reserve assumptions for long-term care policies when premium rate increases differed significantly from our original assumptions. We based the use of this accounting policy on our interpretation of GAAP. ... In accordance with the request of the SEC staff, we prepared a document which summarized our use of the prospective revision methodology and the authoritative guidance we followed in determining our accounting policy. On February 28, 2008, the SEC staff informed [the Company] that the use of this method is not consistent with the guidance of FASB Statement of Financial Accounting Standards No. 60, "Accounting and Reporting by Insurance Enterprises."

In light of this new SEC stance, companies that issue long-duration health insurance contracts and report under US GAAP should strongly consider discussing this situation with their audit firm prior to year-end 2008.

The Actuarial Standards Board is in the process of determining whether any changes are warranted in light of this situation to the existing guidance in ASOP 10. However, as of this writing we are not aware of any plans by the Financial Accounting Standards Board to promulgate any authoritative accounting literature relating to prospective unlocking. ■



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From Those Wonderful Folks Who Brought You the Subprime Crisis

by Henry Siegel

Just about everything that took place on the international front this quarter was influenced to some degree by the subprime crisis. Every week, it seemed, there was an article either blaming the crisis on bad accounting or countering that argument. Two members of the top leadership of Lehman Brothers were ousted but the bank itself held on, refusing to follow Bear Stearns into oblivion. AIG fired its CEO and is looking for a new CFO. Other banks and insurers continued to report losses on investments but as of this writing the worst seems to be over.

On March 31, Treasury Secretary Paulsen had set out the Department of the Treasury Blueprint for a Modernized Financial Regulatory Structure. Included in this rather lengthy paper was an intermediate proposal to have an Office of Insurance Information in the Treasury Department responsible, among other things, for negotiating international treaties on behalf of the U.S. insurance industry. This could include both accounting and solvency regulation as well as rules for reinsurance. Most people felt these proposals would go nowhere in this Congress.

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It was somewhat to my surprise, then, when Representative Kanjorski introduced a bill in late April to create just such an office. This bill would not only give the Treasury authority to negotiate international treaties, but would allow it to overrule state rules to the contrary. Of further concern, the bill did not mention any role for the actuary in its initial terms.



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What this implies for insurance accounting is still hard to know. But clearly there are people who are questioning whether using a fair value accounting basis for financial instruments lacking a deep trading market makes sense. This is further evidenced by the IASB and FASB decisions on revenue recognition (see below). Nevertheless, the IASB again reiterated that the insurance contracts project is expected to be completed by 2011 with implementation in 2013.

APRIL

The first event of April was the Insurance Working Group of the IASB. As I reported in the last Financial Reporter, this meeting was largely notable for the comments by board members that threatened the future of the insurance project. By the end of the quarter, this concern had not completely disappeared. The Financial Stability Forum¹ issued a report putting additional pressure on the IASB to take immediate steps to improve accounting standards in certain areas. This could take emphasis and resources away from the insurance project. Although most think that the IASB will move forward on the project, it's not clear whether the 2011 time frame for completion will be met.

The Academy has established a Financial Regulation Reform Task Force to work on the general topic of Federal Financial Regulation with the goal of assuring that the actuarial profession has a role in any such Federal office. One way to characterize the Academy's position is that it is not philosophically in favor of or opposed to a Federal regulatory role in insurance; it just wants to be sure that whoever makes the decision is properly advised on actuarial issues, including accounting and solvency.

Kanjorski's bill is, of course, far from being passed although a hearing has been held on it. Nevertheless, the possibility of a federal role in negotiating U.S. standards for accounting and solvency could have an important impact on future thinking on these topics.

MAY

The key event in May was the FASB Insurance Forum on the 6th. Uppermost in everyone's mind was whether FASB would agree to join the Insurance

FOOTNOTES:

¹See FSForum.org for more information on this group, which consists of the largest central banks of the world.

Project, making it a full joint project between FASB and the IASB.

The industry representative made a strong plea that FASB join the project. Key among their arguments was that the U.S. has a unique legal, tax and regulatory system and that FASB's participation could better assure that those uniquenesses are properly taken into account. The Academy also urged the FASB to join in the project. Some members of FASB, on the other hand, observed that they don't know much about insurance and therefore questioned what they bring to the discussion that would help the project.

The most recent information continues to be that this decision will be made during the third quarter, probably in September. So by the time you read this the decision may be out.

At its May 14 meeting, the FASB discussed Revenue Recognition again. This time they tentatively adopted a customer consideration methodology that is very different from the current exit value approach that the IASB had been promoting. Under the customer consideration model, the initial liability is tied to the initial payment so that there is no gain at issue.

Unfortunately, the examples in the Meeting Handout leave many questions unanswered. For instance, in allocating revenue by year, does one use the gross cost or the discounted cost? If the latter, a single premium whole life contract would have nearly no revenue allocated to the latter years it's in force. This is not necessarily a problem, but it would produce an interesting income statement for those years when almost all income would be investment income for the contracts still in force.

Another question is whether the costs are measured as incurred or paid. In the Meeting Handout, the costs are assumed to be incurred and paid simultaneously, but this would not be true, for instance, for health insurance. It would make most sense for it to be based on incurral date with a claim reserve being held for IBNR. Whether that's the intent isn't clear. Finally, it appears in their decision that the FASB

did not allow any deferral of acquisition expenses and they also did not allow for any unlocking of assumptions. How these decisions will work for insurance also requires further discussion.

The following week the IASB also tentatively adopted the customer consideration model, but in their discussion they allowed for prospective unlocking. Again, how this would influence the insurance project remains to be seen, but it appears that the current exit value model may not prevail.

JUNE

The IAA held its semi-annual committee meetings in Quebec from June 11-14. The meeting got off to an exciting start as a freak storm blew in the window of the Loew's Hotel Lobby where the meeting was being held. You can find a video of the situation on Youtube if you search on Freak Storm, actuaries, Quebec.

At the meeting, the Accounting Committee discussed a number of topics. Most importantly, it decided on a few projects on which further work would be undertaken. These included Revenue Recognition, Financial Statement Presentation, Cash Flow Recognition and Alternative Measurement Attributes. These are all issues that are important to Phase II of the insurance contracts project.



The Risk Margin Task Force reviewed all the comments it had received on its last Exposure Draft. They announced that they will attempt to incorporate all those comments into the paper and issue a final draft. No further exposure drafts will be issued. If someone feels a topic is not adequately covered in the 200-plus pages, they are free to draft another paper on that subject. It is the expectation of the Accounting Committee that this will happen.

The Actuarial Standards Subcommittee recommended that there be two types of standard; Actuarial Notes which would be similar to Academy Practice Notes and Model Standards of Practice which would be similar to NAIC model laws. Like the NAIC model laws, model standards would only take effect if adopted by the standard setter in a particular jurisdiction. As of today, all the standards issued by the IAA would be Notes.

At the Financial Accounting Standards Advisory Committee meeting on Jun 24th, SEC Chief

Accountant, Conrad Hewitt, announced that the SEC staff is working on a blueprint on how the conversion from US GAAP to IFRS will work. According to Hewitt, there will be a firm date set for the conversion, but that the date won't be known for two years, depending on the progress that the FASB and IASB make on important projects like the Conceptual Framework, Revenue Recognition and Presentation.

NEXT QUARTER

The next quarter should see further discussion at the IASB on how to proceed with the insurance project. In September the IASB will discuss a holistic approach to various accounting models for insurance (sorry, don't know how to interpret those words, but that's what Peter Clark said). Shortly before that the FASB will probably decide whether or not to join the project.

Insurance accounting is too important to be left to the accountants. ■

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SESSION 73	Tuesday, October 21	10:30 a.m. – Noon
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Preparing for PBA and Stochastic Modeling

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Stochastic long-term care insurance models being developed for principle-based reserve purposes incorporate complex stochastic approaches. This session will discuss those approaches including how interaction effects of mortality, lapse and claim incidence are handled.

SESSION 52	Tuesday, October 21	8:30 – 10:00 a.m.
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LTC Claims Management of the Future

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