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GAAP Targeted Improvements— Illustrated Universal Life Earnings

By Steve Malerich

Among the proposals to improve Generally Accepted Accounting Principles (GAAP) for long-duration insurance contracts is a simplification of deferred acquisition cost (DAC) amortization.¹ The changes should make it easier to understand some aspects of an insurer’s financial statements. It will, however, significantly alter the emergence of GAAP earnings from universal life (UL) contracts.

In this article, we’ll see how the changes affect UL earnings and specific sources of earnings, and then end with some thoughts about how we might evaluate performance after the change.

To illustrate these effects, I built models of four simple UL product designs. The traditional design has annually increasing cost of insurance (COI) rates. The front load design is similar to traditional but with added front-end loads and a higher crediting rate. The level COI design has flat COI rates and the same crediting rate as the front load design. The front and level design adds front-end loads to the level COI design and reduces the COI rates. Rates and charges are set to produce roughly equal lifetime profitability.

EARNINGS

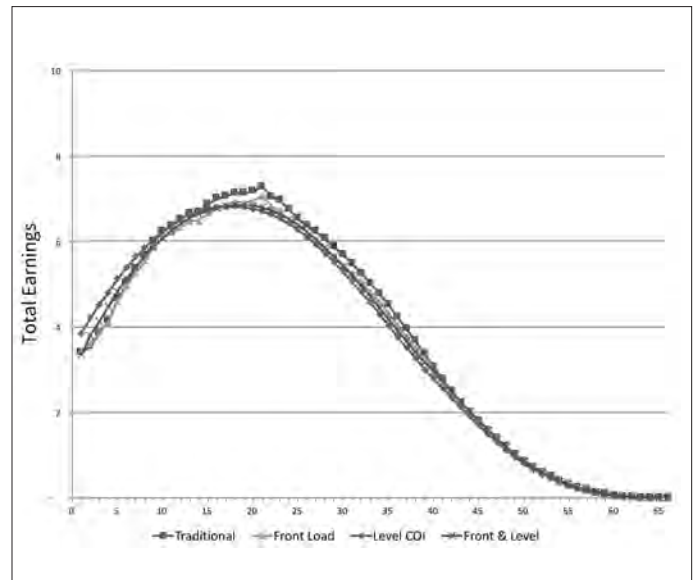
Beginning with current standards, Figure 1 illustrates earnings emergence for all four products.

Despite different charge structures, the products see little difference in the emergence of GAAP earnings.

The similar patterns result from current standards that integrate accounting for the whole of each contract. The interaction of DAC amortization with an additional liability (reserve) on the level COI products and an unearned revenue liability (URL) on the front-loaded products substantially equalizes GAAP timing.

The 20-year increasing pattern comes from interest margin on increasing policyholder account balances. The combination of

Figure 1
Current Standards



aggregate COI rates and a select mortality assumption causes insurance margins to decrease throughout the life of the business.

Figure 2 illustrates the same products under the proposed standards. Two things are immediately apparent.

First, there are greater differences among the products. Second, earnings emergence is significantly delayed for all products.

Both effects can be understood by looking at the patterns of expense recognition.

Figure 2
Proposed Standards

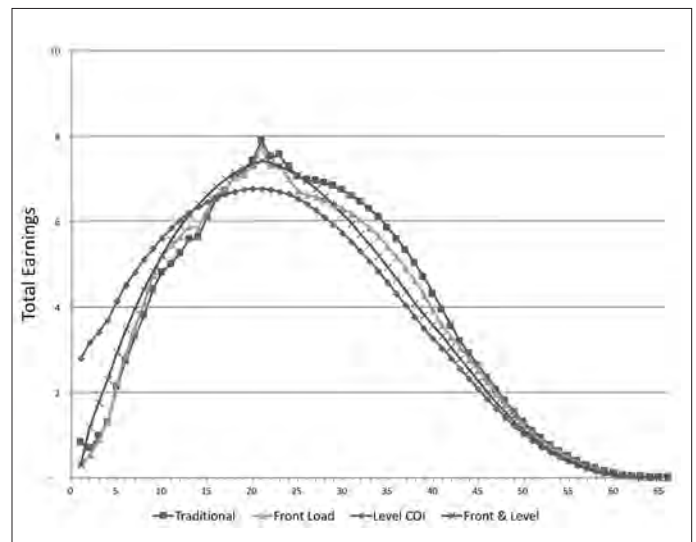
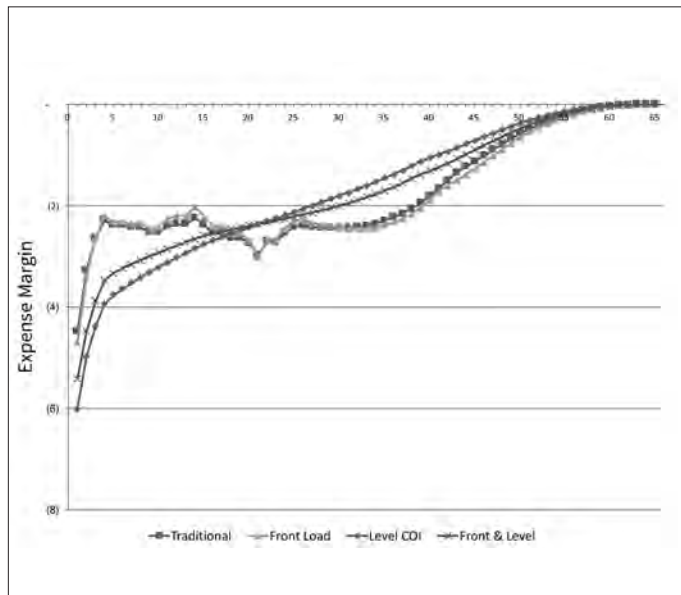


Figure 3
Current Standards



EXPENSE

Figures 3 and 4 illustrate GAAP expenses (in the form of negative expense margins) under current and proposed standards, respectively.

Unlike total earnings, the expense margin varies significantly among products under current standards, in what appears to be two distinct patterns.

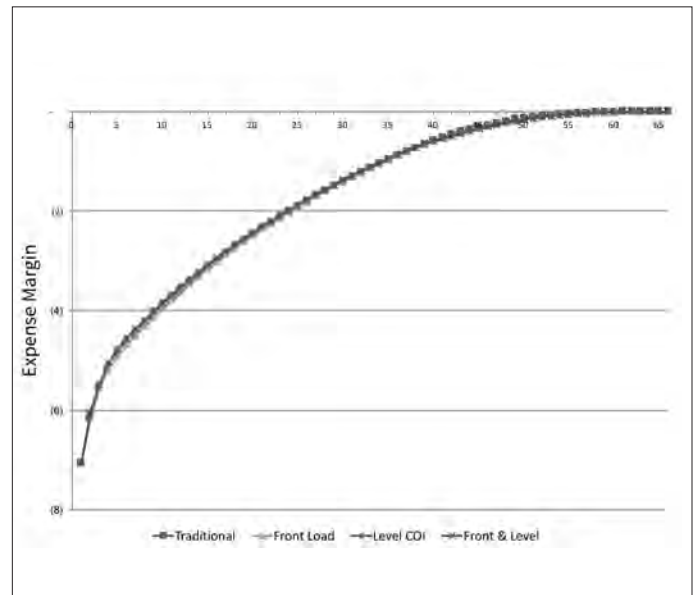
Level COIs, besides making a reserve necessary, shape both the reserve accrual and DAC amortization as part of their respective bases (assessments and gross profit). Thus, they produce a distinctly different amortization pattern than the increasing COI products.

Front-end loads are excluded from gross profit but amortized into assessments. Thus, they have no direct effect on DAC amortization. Their secondary effect, resulting from their amortization into the reserve calculation, is relatively small.

Though all products start with nearly the same acquisition costs and maintenance expenses, the interactions among loads and charges, interest margin, benefits, maintenance expenses, URL and reserves lead to significantly different patterns of DAC amortization, and hence to different expense margins.

The proposed DAC standards ignore those interactions, producing similar amortization among all four designs. They also move more of it into the early years.

Figure 4
Proposed Standards



The significant differences that we saw emerge in Figure 2, coincident with the significant expense convergence seen in Figure 4, suggests that other margins are significantly different among products.

INTEREST AND INSURANCE MARGINS

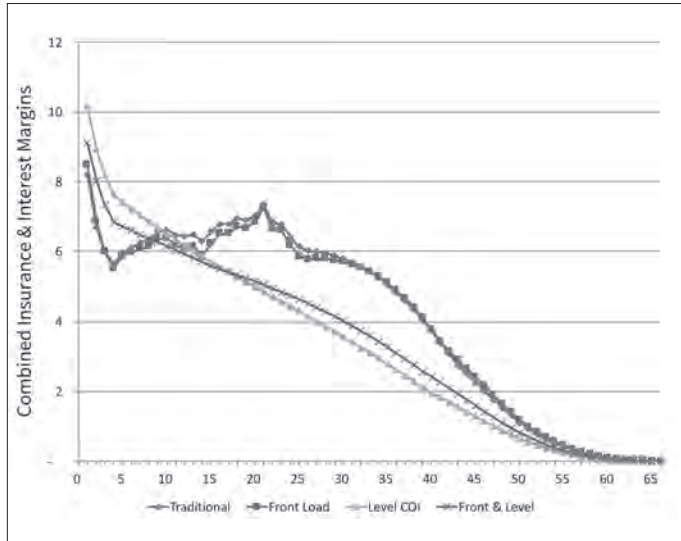
Other margins can be classified into two types, interest and insurance. Interest margin is the difference between interest credited on policyholder account balances and investment income on assets backing those balances. Insurance margin is the difference between the various charges against the policyholder accounts (adjusted for URL deferral and amortization) and the cost of insurance benefits (adjusted for reserve accrual and release).

Since the proposed standards keep interest margin in assessments for the reserve calculation, looking at interest and insurance margins separately would reveal some odd looking insurance margins, including negative margins when account values are at their highest.²

To avoid confusing this analysis, Figures 5 and 6 (see pg. 10) illustrate the combined interest and insurance margins.

In Figure 5, under current standards, the combined margin resembles a magnified mirror image of the expense margin in Figure 3. Where an additional reserve is present (the two level products) we see a smoothly declining progression of the margin over the life of the business. Without a reserve, the two products with increasing COI rates aren't as smooth and see a nearly flat margin for several years after the first few.

Figure 5
Current Standards



The proposed standards do little to alter the combined interest and insurance margin. There certainly are some changes, but they tend to magnify rather than shrink the differences among products.

Of particular concern, the proposed standards do not move the combined interest and insurance margin more heavily to the early years as they do the expense margin.

SUMMARY

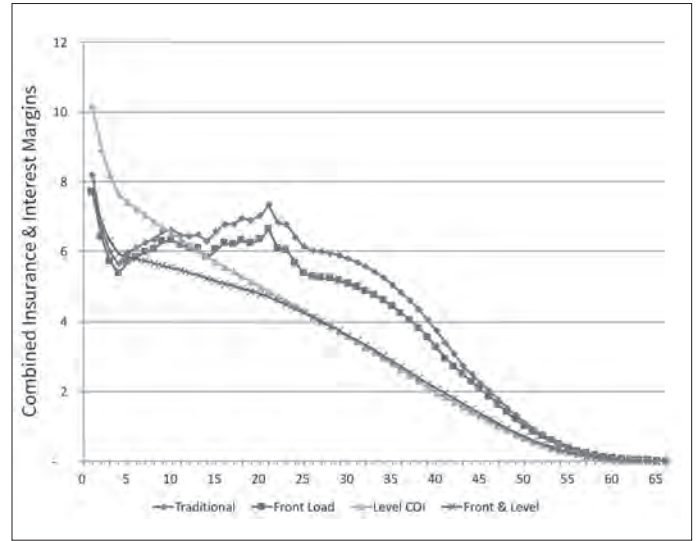
An overall shift toward later UL earnings under the proposed standards is largely due to heavier DAC amortization in early years. If the product is evaluated in terms of GAAP earnings emergence, it will appear less profitable after the changes and it will also be more sensitive to product design.

It seems unlikely that FASB will retreat from the simplification of DAC amortization. Though some have objected to this divorce of amortization from revenue, most comment letters and investor feedback has been supportive. In short, both insurers and investors are tired of the many complications in existing DAC amortization standards.

Beyond DAC, if there is an underlying theme to the proposed changes, it seems to be a movement to break apart the complex integration of different functions (insurance, investment, and administration) that exists in the current standards.

As is obvious from Figures 3 and 4, the proposed changes should make it easier to understand and explain expense performance. Interest spread should remain easy to understand and explain.

Figure 6
Proposed Standards



The proposed changes, however, will not make it any easier to understand insurance margins. Perhaps further deliberations will bring refinements to address some of the remaining complications.

Whatever the shape of the final standards, the move to account separately for separate functions will visibly change universal life earnings emergence. We may find it best to join the movement—to evaluate earnings in pieces. Expenses, including DAC amortization, will be more easily evaluated in terms of unit costs rather than revenue. We may even choose to evaluate expenses in total rather than separately for each cohort; one benefit of simplified amortization is that it will no longer depend on an allocation of investment income and maintenance expenses among cohorts. ■



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ENDNOTES

- 1 For a description of the DAC changes, see “Major Activity at FASB” by Leonard Reback in the June 2015 edition of *The Financial Reporter*.
- 2 Since URL and reserves generally do not alter a company’s total asset requirement, interest on these liabilities and investment income on assets backing them are both excluded from product margins and assessments. To include them would distort the comparison of margins among products with and without such liabilities. These are, however, included in Figures 1 and 2 along with overhead expenses and equity investment income.

Setting Ascribed Premiums for Market Risk Benefits under FASB Targeted Improvements

By Shaowei Yang and David Ruiz

On Sept. 29, 2016, FASB released an exposure draft of Proposed Accounting Standards Update for Financial Services—Insurance (Topic 944) or “FASB Targeted Improvements to the Accounting for Long-Duration Contracts.”¹

Paragraph 944-40-25-25C introduced a new concept of market risk benefits (MRB), defined as:

“A market risk benefit shall be recognized for contracts and benefits that meet both of the following criteria:

a. Contract: The contract holder has the ability to direct funds to one or more separate account investment alternatives maintained by the insurance entity, and investment performance, net of contract fees and assessments, is passed through to the contract holder. The separate account need not be legally recognized or legally insulated from the general account liabilities of the insurance entity.

b. Benefit: The insurance entity provides a benefit protecting the contract holder from adverse capital market performance, exposing the insurance entity to other-than-nominal capital market risk. A nominal risk, as explained in paragraph 944-20-15-21, is a risk of insignificant amount or a risk that has a remote probability of occurring. A benefit is presumed to have other-than-nominal capital market risk if the net amount at risk (that is, the guaranteed benefit in excess of the account balance, cash value, or similar amount) varies more than an insignificant amount in response to capital market volatility. Capital market risk includes equity, interest rate, and foreign exchange risk.”

The various guaranteed minimum benefit (GMxB) guarantees embedded in variable annuity contracts clearly fall under this definition. There is still debate as to which riders should be scoped in as MRB, but it is undeniable that certain GMxB rider types that previously did not qualify as embedded deriv-

atives (ED), as defined in FAS 133, will be scoped in as MRB (e.g., GMIBs and certain life-time GMWBs that are not valued as ED).

Currently GMxB riders are generally valued as either embedded derivatives (as defined in FAS 133) or insurance risk benefits. EDs are valued at fair value using risk neutral valuation techniques. Insurance risk benefits are valued as SOP 03-1 reserves using assumptions consistent with those used for DAC valuation (real-world economic assumptions).

FAIR VALUE RESERVE CALCULATION

Fair value reserves are based on a prospective projection of guarantee cash flows and computed as

$$PV(\text{claim costs}) - PV(\text{ascribed premiums or ascribed fees})$$

At rider issue, the ascribed fees are set and locked in so that there is no gain or loss at inception; that is, the fair value reserves at inception is zero.

Ascribed fees are commonly expressed in two ways:

- A constant proportion of rider charges, and
- A percentage charge independent of rider fees.

If a GMxB rider is scoped in as an MRB, one task a responsible valuation actuary is faced with is to set the ascribed fees for the rider. For existing riders that are valued as ED, the valuation actuary will continue current practice. However, if a rider is currently valued according to SOP 03-1, the actuary will need to set the ascribed fees for such a rider even though the rider may have been issued a long time ago. Such a seemingly easy task may turn out to be challenging. There are several alternative approaches and each has its merits and shortfalls.

This article discusses several alternative approaches to setting ascribed fees for riders that are not currently valued at fair value.

ALTERNATIVES FOR SETTING ASCRIBED FEES FOR MRB

Alternative 1: Go back to issue

A natural approach is to go back to the inception of a rider and set ascribed fees as if it were a new contract. Cash flows associated with the riders would then be projected based on the market conditions at inception and other cash flow assumptions.

This approach is based on first principles and consistent with how ascribed fees are normally set for a rider. This approach is a theoretically correct way to set ascribed fees. It will produce materially correct fair value reserves at the transition date and

Going back in time to old systems and assumptions could pose challenges to actuaries.

going forward only if the assumptions are materially consistent with how they would have been set at inception.

However, this approach is not without shortcomings. It would create potential bias in assumption setting, be costly to implement, pose projection system challenges, and require balance sheet restatement.

When computing ascribed fees as of rider inception, the actuary must come up with assumptions (economic and policyholder behavior) based on the environment at rider inception.

In fair value projections, one is required to use as much market observable information as possible. To the extent that an assumption is observable from the market, there would be little controversy. Two examples are risk-free rate of return and implied volatility.

However, certain assumptions are not observable. One example is volatility for long durations. The derivative market is liquid only for shorter durations and the actuary needs to set volatility assumptions for durations beyond observation. Liquidity for long-dated derivatives since the 2008 financial crisis has become very limited. If a rider was issued prior to the 2008 financial crisis, knowledge about the high volatility during the financial crisis could naturally bias the assumption setting.

Another example is policyholder behavior assumptions. When a GMxB type is new in the market, little to no experience exists. With accumulated policyholder behavior experience, the actuary's assumption setting could be influenced by recent experience. Over time, the assumptions an actuary would set at rider inception and the assumptions used in today's valuation would potentially converge through assumption updates as more experience emerges. However, ascribed fees are normally locked-in at inception, so the assumptions used to set such fees will affect the fair value reserves for the life of the rider guarantee.

Assumption setting involves a great deal of professional judgment and the knowledge the actuary has gained since rider inception could filter into the assumption setting process. Consequently, the assumptions might be different from what he would use if he was performing the work when the rider was issued.

This approach would also be very costly to implement. It would entail a great amount of work to set assumptions and run projection models at various rider issue dates. One key consideration for this accounting update is cost/benefit tradeoff. Incurring a great deal of costs to set ascribed fees for valuing MRB may not be in the spirit of the standard update.

Actuarial projection systems advance at a fast pace in today's environment. The assumption frameworks change as well, as the industry gets more sophisticated in modeling complex guarantees and accumulates more policyholder behavior experience. Going back in time to old systems and assumptions could pose challenges to actuaries.

Using this approach would very likely produce a reserve that is different from the carrying amount at the transition date. An equity adjustment would be necessary.

Alternative 2: Match transition date reserves

A second alternative is to set ascribed fees so that the fair value MRB reserves are equal or close to the carrying amount for SOP 03-1 reserves at the transition date.

This alternative has several advantages. First, the current market is observable. Any potential bias in assumption setting due to foreknowledge could be avoided. Additionally, by matching SOP 03-1 reserves and MRB reserves, a restatement to GAAP equity can be avoided. The actuary can also use the same cash flow assumptions and certain other economic assumptions that are used to calculate SOP 03-1 reserves; however, the actuary needs to consider adding risk margins to certain best estimate assumptions. Unlike the first alternative, no or limited changes to projection systems would be required. And finally, this approach would naturally incur much less costs.



Table 1

	Go back to inception	Match carrying reserves	Use transition date assumptions
Pros	<ul style="list-style-type: none"> Theoretically correct way to set ascribed fees 	<ul style="list-style-type: none"> Transparency in assumption setting Balance sheet restatement unnecessary No need to come up with assumptions as of inception No or limited system challenges Less costly 	<ul style="list-style-type: none"> Easy to implement Least costly
Cons	<ul style="list-style-type: none"> Potential bias in setting assumptions Costly Potential system challenges Balance sheet restatement 	<ul style="list-style-type: none"> May require several trial runs Differences between SOP 03-1 reserves and fair value reserves 	<ul style="list-style-type: none"> A reserve balance of zero on transition date Balance sheet restatement

This alternative is not without its own drawbacks. Matching the reserves may require several trial and error runs. Additionally, SOP 03-1 and fair value reserves are fundamentally different. The former is calculated with a retrospective and prospective component and the reserves are accrued over time. The latter is purely a prospective view of the liabilities. SOP 03-1 reserves are normally calculated at a cohort level, so there may be diversification benefits within a cohort. Fair value reserves, however, are normally computed at the liability cell level. SOP reserves are required to be floored at zero, and fair value reserves are not.

Alternative 3: Set ascribed fees based on transition date market conditions

Under this alternative, the in-force business would be treated like new business. The ascribed fees would be set for the in-force business using market conditions at the transition date, so that the MRB reserves would be zero or close to zero.

This alternative is easy to implement. It would require a one-time ascribed fee computation without the need to come up with additional assumptions.

On the other hand, this approach will result in an MRB reserve of zero or close to zero, which may not be appropriate for in-force business. Additionally, it would require a restatement to GAAP equity.

The pros and cons of each of the three alternatives are summarized in Table 1.

DISCUSSIONS

Comparing the three alternatives discussed in this article, the second alternative (matching carrying liability reserve on the transition date) has the most advantages and the fewest disadvantages.

Avoiding a GAAP equity restatement may be the primary consideration because many companies use return on equity (ROE) as a key GAAP performance measure. Without a disruption to the GAAP equity balance, the existing ROE measure can continue to serve as an important GAAP measure. It would be easy to compare historical ROE metrics with those after the transition date. Such consistency may be well-received by the industry.

One difference between fair value reserves and SOP 03-1 reserves is that the former are not subject to flooring and the latter are floored at zero. One reason an SOP 03-1 reserve can be floored at zero is due to the retrospective nature of the calculation. When historical claim costs exceed accumulated assessments, the SOP reserve will be negative, and many actuaries will floor the reserve at zero. Fair value reserves are calculated using a prospective approach, considering future claims and premiums without regard to historical claims. The author would not suggest removing the SOP 03-1 floor when matching the current carrying value of the liability. ■



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ENDNOTES

- http://www.fasb.org/jsp/FASBDocument_CDocument-Page?cid=1176168477111&acceptedDisclaimer=true