



Managing Mortality Costs Within COLI/BOLI Programs

By Matthew B. Schoen and James P. Van Etten

Editor's note: This article originally appeared, with minor differences, as the second article in a series on corporate-owned and bank-owned life insurance (COLI/BOLI) programs. Part 1, "Effects of Experience Rating on COLI/BOLI Programs," can be found in the June 2020 issue of Product Matters!

This article is designed from the point of view of the purchaser of corporate-owned life insurance (COLI) and bank-owned life insurance (BOLI) policies to:

- provide guidance regarding when experience-rated designs are more suitable than other designs (and vice versa) and
- enumerate some strategies for minimizing exposures to excessive mortality-related costs.

In our previous article we described differences between experience-rated and non-experience-rated designs, explained why the purchaser of COLI/BOLI products has an exposure to the risk of excessive mortality costs and tried to quantify this exposure.

One troubling fact about this exposure is that, like locusts, it can lie dormant for years, even decades, before surfacing to wreak havoc. Given that most COLI/BOLI plans have half-lives extending more than 25 years, seemingly benign inexpression during early years can conceal the troubling consequences.

Insurance companies that remain active players in the COLI/BOLI markets must use exceptional caution before attempting to increase mortality charges because they risk alienating distributors, clients and prospective customers alike. Those carriers no longer subject to competitive demands (i.e., those that have withdrawn from the market) are far more likely to



exhibit unwelcome behavior. This is even more likely to occur, and to a more injurious degree, after new management is given oversight of a closed block of business. Incoming management may not have an existing relationship with clients or brokers. It isn't difficult to imagine them less constrained by client loyalty and therefore more prone to pursue increased profitability.

RECENT CASES IN POINT

We believe the norm is that carriers adjust their mortality charges based on changes in mortality experience. Consistent with this, we are aware of at least one carrier that has limited changing its cost of insurance (COI) in keeping with its expectations regarding mortality experience. This practice happened to result in a significant reduction in COIs. The carrier specialized in experience-rated plans for larger COLI/BOLI plans but had accumulated a large block of pooled mortality cases. A fair amount of conservatism was built into the COI rates the carrier initially charged for the pooled cases. Once there were sufficient lives insured and adequate years of experience to reassess COI rates, rates were reduced for all policyowners and have remained at the lower level for over eight years.

We are also aware of some deviation from this norm.

For well over a decade a carrier we'll call Company X was a significant player in the general account and separate account BOLI markets until completely withdrawing from the BOLI market in 2010.

In December 2013 Company X announced to its clients and brokers that it would be increasing COIs beginning in early 2014.¹ Among other things, Company X stated: "Due to the persistently low interest rate environment, cost of insurance rates on general account policies written or serviced by the [Company X] COLI/BOLI Service Center will increase."

The economic impact of Company X's action varies depending on the insured census and purchase date of each plan, but in all cases it has been very significant. The observed impact on overall performance has been in the range of 20 to 70 basis points, and the impact is expected to increase over time as the insured populations age.

More recently, in early 2016, another carrier, which we'll call Company Y, informed its BOLI policyowners of a similar impending COI rate increase:

Beginning on your first monthly deduction date on or after April 1, your policy's cost of insurance (COI) rates will increase. The COI changes comply with the terms of the policy(ies). As a result of this change, your monthly deduction will increase and your cash value growth rate will decrease.

[Company Y] does not take these actions lightly. As a reflection of our commitment to our policy owners, we have been maintaining COI rates during a time of historic low interest rates. However, these adjustments are necessary based on material changes in future expectations of key cost factors associated with providing this coverage, particularly lower investment income in today's low interest rate environment.²

Of note, unlike Company X, Company Y remains active in BOLI and COLI markets.

Both the Company X and Company Y BOLI policies contained contractual provisions maintaining broad control over increasing COI rates. For example, one of Company Y's BOLI policies included the following language:

The monthly cost of insurance rates are determined by us. Rates will be based on our expectation of future mortality, interest, expenses, and lapses. Any change in the monthly cost of insurance rates used will be on a uniform basis for Insureds of the same rate class. Rates will never be larger than the maximum rates shown on page...³

Note the requirement that changes be applied on a uniform basis does provide some protection to policyowners (i.e., it suggests

Given that most COLI/BOLI plans have half-lives extending more than 25 years, seemingly benign inexpression during early years can conceal the troubling consequences.

Company Y cannot apply changes on a discriminatory basis). Illustrations our clients have received from Company Y suggest that the COI increase is temporary, projected to revert back to the original rates five years after the initial increase. Data on actual charges has been consistent with a subsequent decrease in rates, and Company Y has provided a schedule that predicts further decreases. Of course, Company Y could elect to extend the period of the increase, but in theory at least, all policyowners will be treated in a uniform manner.

One of Company X's BOLI policies included the following language:

The monthly rates that apply to the cost of insurance for the initial Face Amount at all ages will not be greater than the maximum rates shown in the Table of Guaranteed Maximum Monthly Cost of Insurance Rates attached to this policy. We will set the actual rate applicable, in advance, at least once a year. Any change in the cost of insurance rate will be on a uniform basis for all Insureds of the same classification, such as attained age, sex and risk classification.⁴

Considering the generous discretion retained by each carrier over setting COI rates, it is difficult to lay all of the responsibility with them. Policyowners and their advisers could have secured better contractual terms (and better outcomes).

By raising COIs, Company X and Company Y have become industry outliers; unfortunately for most general account (GA) BOLI owners, many other insurers that offer GA BOLI products retain the discretion to increase COIs for reasons other than mortality experience.

MB Schoen & Associates, Inc. performs an annual study that contrasts insurer net yield (as published by A. M. Best in its annual *Best's Key Rating Guide*)⁵ and the annual net return on assets of policy cash values for business MB Schoen & Associates services. One aspect of that study is a graph that plots the difference between these two measures. Due to lack of comparability of data, this study is merely indicative and does not provide any absolute results. However, Figure 1, excerpted from that study, is instructive; it clearly shows effects from Company X's change, which was announced in 2013 and effective in 2014. The results for each of A, B, C and D incorporate the average

for a collection of companies, other than Company X. The other 20 companies have been grouped into four cohorts representing relative historic spread levels. We do not yet see effects from the Company Y change, which was announced in 2016 and, as noted earlier, appears to be temporary.

When viewing Figure 1, keep in mind that earned interest rates on new investments dropped substantially after the financial crisis that began in 2008, and since that time have generally been less than guaranteed minimum credited interest rates. The figure indicates that the majority of companies experienced some spread compression over this period. Prior to its COI rate increase (through 2013), Company X was in the majority.

The graph suggests that in the immediate aftermath of Company X's COI rate increase, its spreads increased by approximately 50 basis points (from approximately 2 percent to 2.5 percent). Although it's impossible to empirically determine whether and to what degree the recovery in spread above the policy crediting rate is attributable to the COI increase, it seems reasonable to assume some portion can be credited to this action. As rates rise and Company X is in position to achieve its targeted spread on investment returns, it will be interesting to see whether they lower COIs or increase crediting rates.

APPROACHES TO MINIMIZE EXCESSIVE MORTALITY COSTS

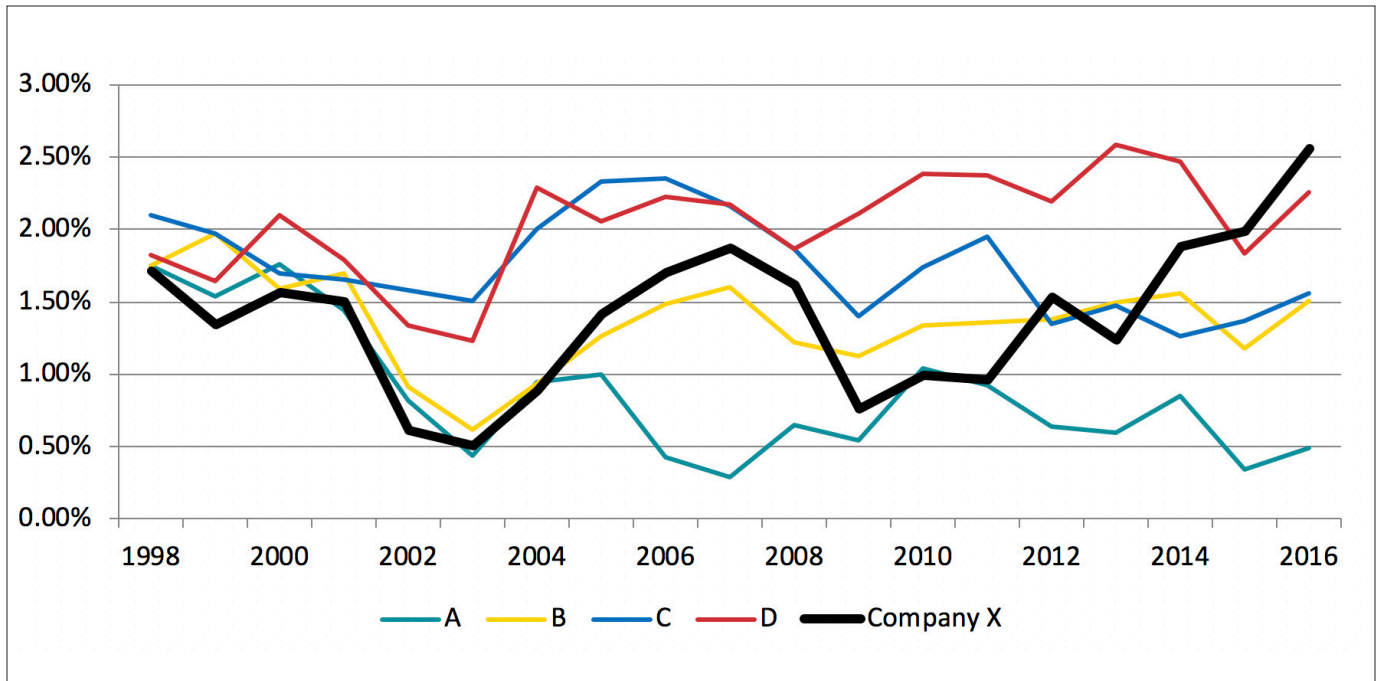
By now it likely appears obvious that the authors strongly favor policy purchasers securing experience-rated mortality designs whenever facts and circumstances permit (subject to the other considerations discussed, including size and demographic composition of insured population, and risk transfer).

But it bears stating that experience rating in and of itself doesn't eliminate exposure to excessive COI costs. Even with experience rating there are approaches that provide at least some exposure to unanticipated costs.

As Table 1 in our previous article shows, the exposure for non-experience-rated plans is significantly greater, so far more attention is warranted on how to minimize excessive COIs in non-experience-rated plans. The balance of this section is therefore devoted to improving outcomes of pooled mortality designs.

The most fundamental step in the direction of minimizing excessive costs with pooled mortality designs is to obtain written assurance that the carrier will only change COIs based

Figure 1
Spread Between Annual Carrier Net Yield and Net Return on Assets on Policy Cash Surrender Value



Source: MB Schoen & Associates.

on changes to mortality experience and expectations of future mortality experience.

There are many ways to achieve this. Unambiguous language within the policy is an ideal starting point. However, seemingly unambiguous policy terms may not always be sufficient. Consider the 2012 lawsuit *Norem v. Lincoln Benefit Life*.⁶ Dennis Norem, M.D., who purchased a variable life policy from Lincoln Benefit Life, filed a putative class action against Lincoln Benefit claiming it breached the terms of the policy by the method it deployed in calculating COIs. The policy stated, as quoted by the court in relevant part: “The cost of insurance rate is based on the insured’s sex, issue age, policy year, and payment class. The rates will be determined by us, but they will never be more than the guaranteed rates shown on Page 5.”⁷

In essence, Norem alleged that Lincoln Benefit broke the terms of the policy when it considered factors beyond the insured’s sex, issue age, policy year and payment class when calculating the COI rates. Although Lincoln Benefit admitted that, when establishing COI rates, it utilized numerous additional factors (i.e., beyond those enumerated in COI section of the policy), nevertheless its COIs were still “based” on those same enumerated factors because they still had significant influence on the COI rate calculation.

The district court granted summary judgment in favor of Lincoln Benefit, a decision later upheld by the U.S. Court of Appeals for the Seventh Circuit. The judges reasoned that if the insured’s sex, issue age, policy year and payment class were principal components of the COI rate calculation, they need not be the exclusive factors used in setting them. Key underpinnings of their logic are summarized as follows:

Most notably for our purposes, none of the definitions lends itself to Dr. Norem’s proposed interpretation: that “base” or “based on” implies exclusivity ... no one would suppose that a cake recipe “based on” flour, sugar and eggs must be limited only to those ingredients. Thus, neither the dictionary definitions nor the common understanding of the phrase “based on” suggest that [the insurer] is prohibited from considering factors beyond [the enumerated factors of] sex, issue age, policy year and payment class when calculating its COI rates.⁸

Thus, the judges viewed sufficient ambiguity stemming from inclusion of the words “based on” to effectively open the door to Lincoln Benefit having broad discretion to use additional factors.

When negotiating terms with a carrier on behalf of clients purchasing hundreds or even thousands of policies, we often advise taking steps beyond reviewing the policy language. What does one do when the policy, when viewed in isolation, grants far more latitude to the carrier? Our clients have been able to obtain

side letters, sometimes referred to as letters of understanding, that clarify and/or modify terms or costs inadequately or unfavorably covered in the policy itself. These can provide important additional protections to both parties. Supplemental agreements, endorsements or similar legally enforceable documents can include detailed explanations regarding what circumstances will and will not justify future COI increases, something that is absent from too many policies.⁹

It is also advisable to obtain, prior to purchase, a full and authenticated copy of the policy filing applicable to one’s contemplated purchase (i.e., for the product as it was filed in the state where the policy is to be purchased). Among other things, the filing may include an actuarial memorandum, which typically sets forth what are known as “non-guaranteed elements” and “determination procedures” for changing these elements of policy pricing in the future. Where an actuarial memorandum is not available or does not contain determination procedures, it is possible the carrier has alternative documentation on these procedures. These determination procedures will reveal whether the carrier has retained the right to increase COIs for non-mortality-based reasons and may therefore be instructive regarding the extent additional written warranties are called for.

When supplemental documentation is advisable, we work closely with our clients’ counsel to obtain the most suitable forms for each transaction.

REGULATORY LIMITS ON INCREASES IN COST OF INSURANCE CHARGES

On Sept. 5, 2017, New York promulgated Insurance Regulation 210.¹⁰ This regulation:

establishes standards for the determination and readjustment of nonguaranteed elements that may vary at the insurer’s discretion for life insurance policies and annuity contracts delivered in [New York], and to ensure that policy forms do not contain provisions that may mislead policy owners as to the crediting of nonguaranteed amounts or the deduction of non-guaranteed charges, and to ensure that the issuance of any policy forms would not be prejudicial to the interest of owners or members or contain provisions that are unjust, unfair or inequitable.

Regulation 210 was effective as of March 19, 2018. It does apply to future changes in nonguaranteed elements with respect to business issued before this date. However, Regulation 210 does not apply to corporate- and bank-owned life insurance, so it may not have an effect on nonguaranteed elements for COLI and BOLI plans (it appears the industry succeeded in lobbying for a specific exemption).

The regulation prohibits increases in profit margins, unless they are approved by the superintendent after finding the increase is necessary due to the financial condition of the insurer.¹¹ The

regulation requires any adjustments made to existing policies to be based on expectations as to future experience and not made in order to recoup past losses. (Experience factors from the date of the last prior revision up to the date of the new revision will be assumed to equal the anticipated experience as of the date of the last prior revision.)

California approved a statute on Sept. 19, 2018, that requires notice of adverse changes in non-guaranteed elements.¹² We are not aware of any effective regulation of changes in non-guaranteed elements, including COI charges, in any other jurisdiction. Insurers could decide to voluntarily follow the requirements of Regulation 210 for all of their business, including COLI and BOLI. It remains to be seen whether this new regulation will have an effect on future insurer rate actions. Although the regulation is not directly applicable to COLI/BOLI plans, it is possible that some carriers will consider the

requirements when changing non-guaranteed elements on COLI/BOLI products. It provides an excellent framework for buyers to avoid being gouged by carriers, while granting the insurer a defensible degree of latitude in adjusting non-guaranteed elements over the life of a policy.

The articles in this series were designed to provide institutional purchasers and sponsors of life insurance with knowledge about the mortality costs, benefits and risks associated with COLI/BOLI programs. Articles in the original series that are not expected to appear in Product Matters! include “Risk Transfer Considerations,” which addresses these considerations from a variety of perspectives, and “Common COLI/BOLI Misconceptions,” which concludes with a discussion that debunks common misconceptions that have been used to criticize the purchase of COLI/BOLI programs. The interested reader can find the entire series at www.mbschoen.com under News and Publications (dated March 1, 2019) in the Resources tab. ■



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ENDNOTES

- 1 Company X’s COI rate increase was announced in a Dec. 9, 2013, letter from the company’s chief operating officer and relationship manager within the Company X COLI/BOLI service center.
- 2 Company Y’s COI rate increase was announced in a March 15, 2016, letter from an affiliate of Company Y.
- 3 Policy Form 94-310 (originally issued by an affiliate of Company Y and assumed by Company Y).
- 4 Policy Form 1-11811199.
- 5 A. M. Best defines “net yield” as “net investment income expressed as a percentage of mean invested assets and accrued investment income, less borrowed money. It does not reflect the impact of realized and unrealized capital gains or income taxes.” Note that the net yield reflects the insurer’s return on its entire portfolio of assets, whereas the credited interest rate may be based on a segment of the portfolio.
- 6 *Norem v. Lincoln Benefit Life Co.*, No. 12-1816 (7th Cir. 2013).
- 7 Universal life policies contain a table of guaranteed maximum cost of insurance rates. Evidently, the table contained in this policy is on page 5.
- 8 *Supra* note 6.
- 9 It is important to establish these legally enforceable documents at the point of policy issuance, because changing legally enforceable terms subsequent to policy issuance may give rise to material changes that have adverse consequences for policyowner tax purposes.
- 10 New York State Department of Financial Services, 11 NYCRR 48 (Insurance Regulation 210).
- 11 The language of the regulation states, “At the time of revision of a scale of non-guaranteed elements . . . , the difference from the point in time of revision and application of the revised scale and the scale in effect at the later of the date of issue or the date of last revision, shall be reasonably based on the difference from the point of revision of the anticipated experience factors underlying the two scales with respect to expenses, mortality, investment income and persistency.”
- 12 California Assembly Bill 2634 added Section 10113.70 to the Insurance Code. This bill requires notice to policyowners as well as additional information for any adverse change in the current scale of non-guaranteed elements that is scheduled to take effect on or after July 1, 2019. The bill requires an explanation that the adverse change is “based on the future cost of providing the benefits under the policy.” Section 10113.70 does not incorporate the same requirements as New York, namely that “adjustments made to existing policies to be based on expectations as to future experience and not made in order to recoup past losses.”



The Happiness Hedge

By Doug Robbins

One of the nuts that the life insurance industry (especially the retirement side) has been trying to truly crack for as long as any of us can remember, is selling its customers on the value of guaranteed income in retirement. There has been progress made on some fronts; for example, deferred annuities that include a guaranteed lifetime withdrawal benefit (GLWB) have sold reasonably well. However, I'm not convinced that our customer base (sales or client, really) grasps the full value of the guaranteed income stream itself. Until they do, I don't believe such a feature will ever be sold or utilized to its maximum advantage.

Part of the problem is this: The way the concept is sold is incomplete. Guaranteed income—which in this article I will always refer to as a single premium immediate annuity (SPIA), although a GLWB can fulfill the same purpose—often touted simply as a hedge against outliving one's assets. Although that is important, it is an incomplete picture of what guaranteed income does for a retiree.



INTERNAL HEDGES

If a given investor holds one security and wants to remove the risk, they likely must purchase derivatives in the marketplace. By doing so they take a security with nice expected returns (let us say lognormal with $\mu = 7$ percent and $\sigma = 15$ percent), and remove the risk premium that provides those expectations in the high single digits. The more fully we hedge the risk, the closer our earnings get to the risk-free rate (which today is roughly 0 percent).

If they hold two such securities that are highly positively correlated, it diversifies away some risk, but not a ton. A 50-year accumulation example might look like Figure 1.

Figure 1
Equities With 59 Percent Positive Correlation

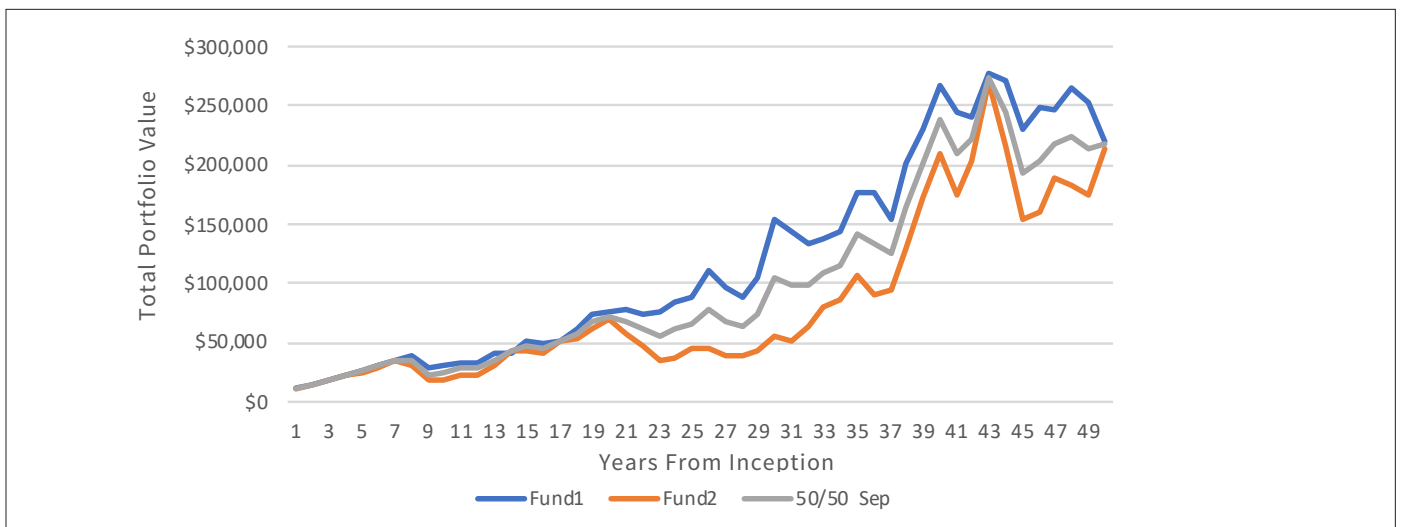
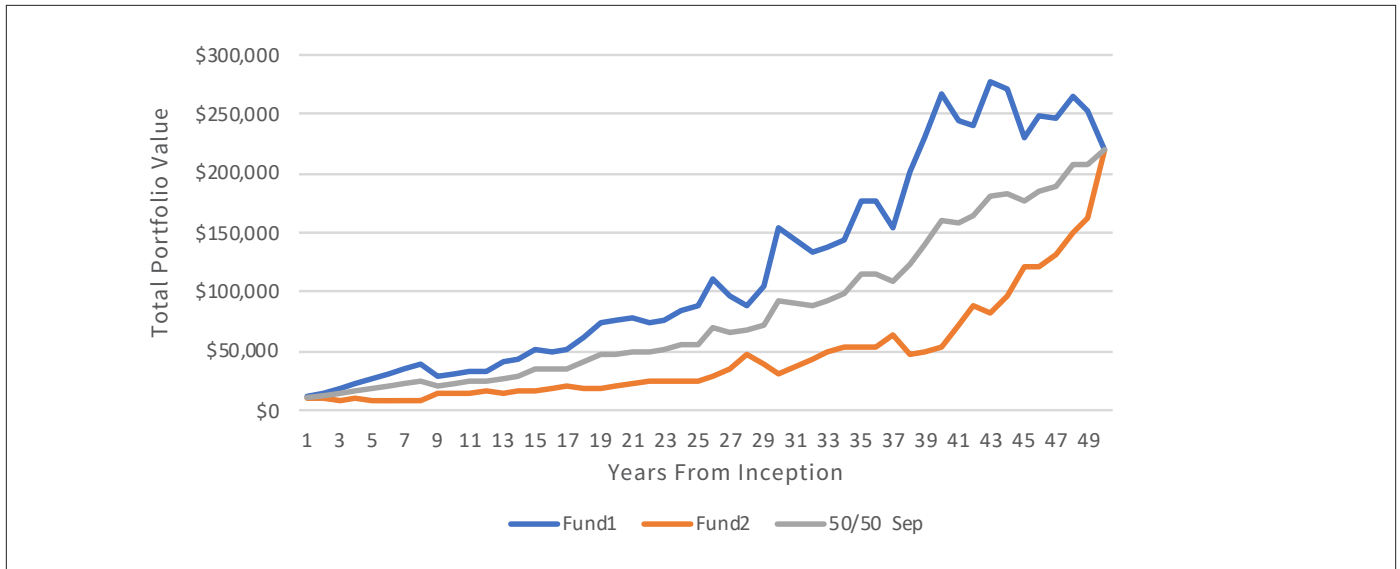


Figure 2
Equities With 83 Percent Negative Correlation



But if they could find two equity instruments that were highly negatively correlated, they’d have a situation more like Figure 2.

This is a gorgeous result, maintaining the equity premium but with almost no risk. Unfortunately, obtaining this result is like experimenting with Schrodinger’s cat—nice in theory, but untethered from reality.

However, as insurers we are sometimes able to sell liabilities that do work like this. Some players, for example, that sell both variable and fixed indexed annuities have been able to parlay those offsetting risks to reduce hedging requirements on both. Many other such applications are possible.

RETIREE “HAPPINESS”

Any long-term guaranteed income product (SPIA or GLWB) is a direct hedge of longevity risk. The longer an annuitant lives (related to the “risk of running out of money”), the greater in hindsight the value of the guaranteed income stream. This is obvious on its face.

However, guaranteed lifetime income in a retirement portfolio can act as a hedge of something much more important than that!

To be truly happy in retirement, I believe any retiree needs both a guaranteed income and a fairly reliable pot of extra discretionary or liquid money. If you don’t believe me, spend some time with seniors who have been reduced to a fixed income and virtually nothing in the bank. They are not happy campers—not at all. Failure in either part of this paradigm is retirees’ true long-run

risk. Retirees need to know that our industry has a complete solution.

How might one measure and test this “happiness” concept? Well, I’m sure there are many possibilities, but for someone retiring with a pot of money, Table 1 provides the rubric I’ve chosen.

Table 1
Retiree Long-Term Happiness Rubric

Scenario	Fund % of Initial	% of Full Withdrawal Taken	Happiness Score
Happiness Range 2	200%+	100%	2.0
Happiness Range 1.5	150–200%	100%	1.5
Happiness Range 1	75–150%	100%	1.0
Normal Situation	30–75%	100%	0.0
Sadness Range 1	20–30%	70%	-2.0
Sadness Range 2	10–20%	40%	-4.0
Sadness Range 3	0–10%	20%	-6.0

I will assume that any retirement package chosen will work reasonably well for the first 10 years or so. Starting in year 11, the retiree will accumulate happiness or distress (negative happiness) units, according to the probability that they are still alive. My base-case mortality scale is 0.75 percent in year 1, increasing by 10 percent a year after that. The desired withdrawal benefit, representing the retiree’s income need to live comfortably (beyond Social Security and any other planned outside income),

is 4.5 percent of that initial fund, until death. That is, given a \$1 million nest egg:

Fund for retirement: \$1,000,000

Income need: \$45,000

Starting in year 11, a neutral (i.e., neither happy nor particularly distressed) situation is a liquid fund between 30 percent and 75 percent of the amount initially invested. (A retiree expects to spend down their fund over time, but there’s still a reasonable amount for future needs.) If the fund is instead at 76 percent or more of the initial amount, then happiness points are accumulated each year that remains true, as shown in Table 1—the more the happier.

Distress points occur if the fund drops below 30 percent of the initial amount, again as shown in the table. Half of the distress score is due to their liquid fund approaching \$0, and the other half is because they reduce the withdrawal they are living on. One can of course quibble with my “happiness” formula; but I would suggest that, indisputably, any retiree’s stress and distress in a bad scenario will begin long before their fund equals \$0.

We now have the tools to look at a case study. I will assume a lognormal equity/income fund (Mu = 7 percent, Sigma = 12 percent, total fund expenses = 1.75 percent), a lognormal bond fund correlated at -21 percent with the equity fund (Mu = 4 percent, Sigma = 5 percent, total fund expenses 1.00 percent), and a SPIA that is calculated with mortality and yield in line with all of the above, ending up with a guaranteed annual payout of about 6.75 percent of premium.

“HAPPINESS” CASE STUDY

If we accept the happiness paradigm just proposed, then we are ready to investigate potential solutions. One possibility, rarely if ever used lately, is what I’d call the “dance with the one that brung me” approach to retirement. In other words, if the yield premium that I got over time from investing in pure equities led me to a very nice retirement nest egg, then it will logically lead to a very nice retirement. Of course, this will be quite true in good scenarios, but when I tested this over 100 random scenarios for 50 years, the outcome was very different (Table 2)

Table 2
Equity-Only Investing Happiness Results

Percentile	Happiness Score
90th	30.71
80th	25.49
Average	7.77
20th	-11.63
10th	-26.86
5th	-40.60

Now, it shouldn’t be surprising that the upper tails and even the average result are nicely happy ones. The problem with looking at the average, or “expected” result, as I still remember learning as a youngster around 2003 (who had held a lot in equities since the 1990s), is that you don’t get an average life—you get one life—one scenario. In the accumulation phase, I of course could hope that the Bear is followed by the Bull. For me, it indeed was. However, during decumulation, most of us are familiar with the sequence-of-returns risk that can lead to many a nest egg’s demise. This risk caused most of the nasty results in Table 2.

It should also not be a surprise that investing purely in a bond fund with a low expected return is a very poor strategy for someone needing income well above “Mu.” However, mixing a holding (say, 50/50) between equities and bonds that have a decent negative correlation, is much better, as shown in Table 3.

Table 3
50/50 Mix Happiness Results

Percentile	Happiness Score
90th	16.95
80th	13.83
Average	6.55
20th	-3.07
10th	-10.24
5th	-18.14

I daresay that to most retirees, the risk/reward trade-off here is **much** better than before. But a retirement that ends very sadly is still a strong possibility.

A common alternative “income + growth potential strategy” nowadays is to buy a variable annuity and add a GLWB benefit. I’ve created one for this study, which guarantees the 4.5 percent income needed for life, for a fee of 1 percent per annum, while allowing up to a 70 percent equity holding. That strategy would seem to be a slam dunk, right? Not so fast! Table 4 shows the happiness scores for that strategy.

Table 4
Variable Annuity GLWB Happiness Results

Percentile	Happiness Score
90th	17.90
80th	13.80
Average	3.89
20th	-10.35
10th	-14.80
5th	-18.79

The scores here are almost uniformly worse than those of the 50/50 equity/bond mix. And here’s the shocking thing about that: By my own rules, I’ve cut the negative scores for fund reduction in half (–1 through –3, instead of –2 through –6) because the 4.5 percent income piece can never go away. Why such tail sadness?

The problem with this strategy, from the perspective of “happiness” (as opposed to just “not outliving one’s income”) is that the withdrawals plus the rider fees cause the pot of liquid money to evaporate more quickly, more often, than any non-rider strategy does. Thus, the retiree does have a guaranteed income, but quite often, also ends up with the “fixed income plus nothing” result that seniors so dread.

I should hasten to add that, as I said up front, there’s nothing wrong with using a GLWB in place of a SPIA, if the rates are better. It just shouldn’t exist within the same vehicle as the one used to accumulate or maintain a fund of liquid assets.

This is where a “liquid money plus SPIA” strategy can work real retirement magic. Let’s say that a retiree puts 60 percent of their \$1 million into a SPIA on the day they retire and proportions what is left into 65 percent equity and 35 percent bond. Since the SPIA covers only about 90 percent of the \$45,000 income need, the reduced-fund negative scores become –3.3, –2.2 and –1.1. The “happiness” scores are shown in Table 5.

Table 5
SPIA-Based Strategy Happiness Results

Percentile	Happiness Score
90th	14.22
80th	12.13
Average	6.92
20th	1.30
10th	0.09
5th	0.00

The average result is almost as good as in a 100 percent equity portfolio and better than any other strategy tested. There’s still a reasonable chance to outperform “average,” but the potential for retirement “sadness” is muted to practically nothing.

WHAT IS THE SECRET SAUCE?

The thing that seems counterintuitive—almost magical—about the SPIA-based strategy, is this: The pot of liquid money for this retiree starts at only \$400,000 after the SPIA is purchased, and a minimum of \$750,000 in the fund is required for any positive “happiness” score. And yet, there we are—the lion’s share of economic scenarios result in quite a good happiness score.

The explanation is that the SPIA gives the retiree something almost more valuable than longevity protection—it eliminates

most of the market-timing risk that bedevils many retirement plans.

Another way to say this is that the SPIA’s **value** is negatively correlated in a retirement plan, not only with longevity risk, but also with equity-market risk. The SPIA’s value to the retiree is greater, in a sense, in poor or high-risk equity scenarios than in good or tame ones.

With this particular SPIA covering about 90 percent of the retiree’s income need, the \$4,500 that must be drawn from the liquid fund each month is fairly trivial, and given enough time, this almost ensures that an equity/bond mix grows nicely.

CONCLUSION

A couple final thoughts show just how strong our “happiness hedge” is. On the one hand, if you reduce mortality by, say, 10 percent across the board, most of the strategies in this article show a “happiness” increase in good equity scenarios, but a sharp decrease in the poor ones. The SPIA strategy parallels the increase, but not the decrease. This has great “happiness” value! When I consider my own retirement, the last thing I’d want is to go for a checkup, be told, “Mr. Robbins, you’re in great health,” and my gut reaction to be, “Gulp ...” How much nicer to hear that and be able to only think of added years of enjoyment with my family!

On the other hand, no one really knows whether equity markets might be a bit overvalued just as they retire. What if my assumed equity “Mu” were to be reduced by 10 percent? For most strategies, this produces a sharp decrease in “happiness” in all scenarios. But with the SPIA, the decrease in happiness is really only felt in the good scenarios. In poor scenarios, my retirement, which was already more or less neutral in terms of “happiness,” is not affected in any significant way—the income bedrock ensures that.

The particular equity/bond/SPIA solution shown here is tailored to a specific situation—not “one size fits all”—but I’m confident that some solution containing guaranteed income will have a similar effect for almost any senior. It just needs to be worked out, based on the retiree’s desires.

Of course, in our world, no financial plan can be perfect, but the inclusion of some form of guaranteed income is a great way for retirees to vastly increase the likelihood that they will be “financially happy” for as long as they are blessed to live. ■



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Universal Life and Indexed Universal Life Survey Results

By Susan J. Saip

Milliman recently completed its 13th annual comprehensive survey addressing universal life (UL) and indexed UL (IUL) issues. UL/IUL products continue to play a significant role in the individual life insurance market. According to LIMRA, for the past five years the market share of these products has been stable at 35 percent to 38 percent of total life sales measured by first-year premium. Survey results are based on responses from 30 carriers of UL and IUL products. The survey covers a range of specific product and actuarial issues such as sales, profit measures, target surplus, reserves, risk management, underwriting, product design, compensation, pricing and illustrations.

The following products (as defined here) are included in the scope of the survey:

- **UL/IUL with secondary guarantees (ULSG/IULSG).** A UL/IUL product designed specifically for the death benefit guarantee market that features long-term no-lapse guarantees (guaranteed to last until at least age 90) either through a rider or as a part of the base policy.
- **Cash accumulation UL/IUL (AccumUL/AccumIUL).** A UL/IUL product designed specifically for the accumulation-oriented market, where efficient accumulation of cash values to be available for distribution is the primary concern of the buyer. Within this category are products that allow for high early cash value accumulation, typically through the election of an accelerated cash value rider.
- **Current assumption UL/IUL (CAUL/CAIUL).** A UL/IUL product designed to offer the lowest-cost death benefit coverage without secondary death benefit guarantees.



Within this category are products sometimes referred to as “dollar-solve” or “term alternative.”

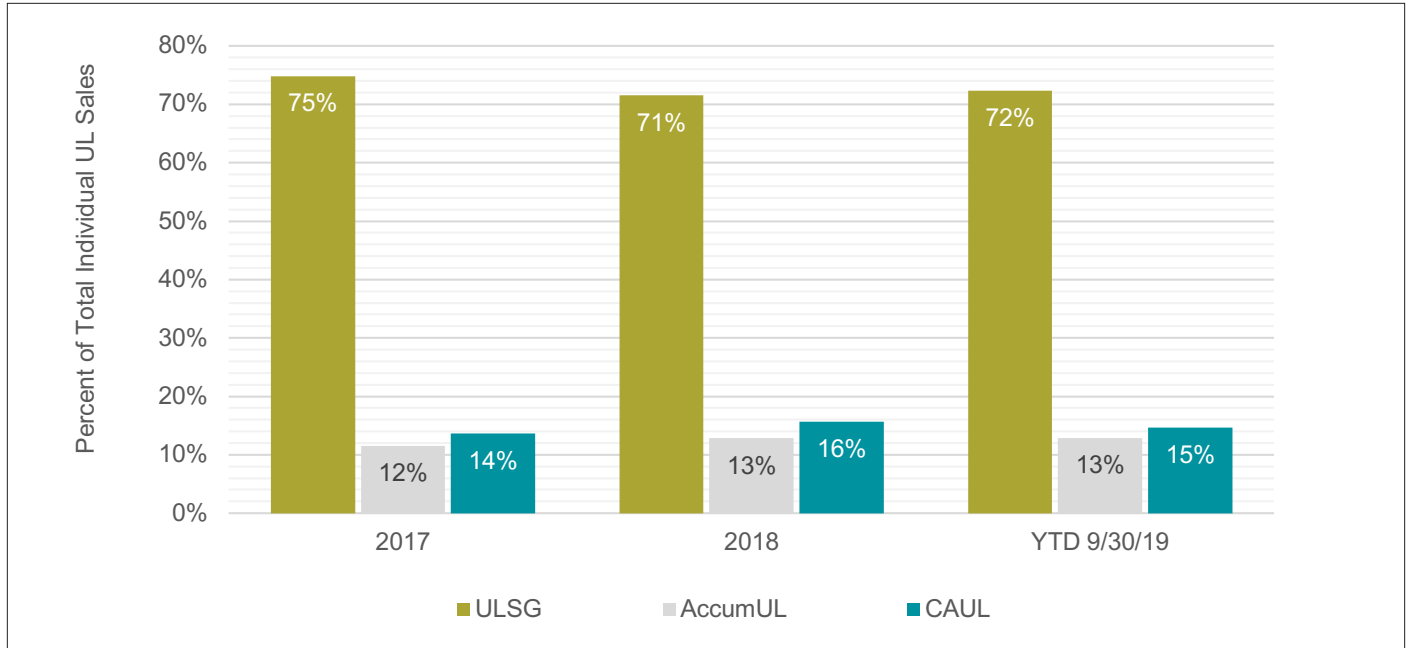
Throughout this article, the use of the term *UL* is assumed to exclude IUL.

Note that input comes from survey participants related to the UL/IUL environment in late 2019. Data does not reflect the current interest rate environment or the impact of the coronavirus (COVID-19) pandemic. The key discoveries of the survey are highlighted in this article.

UL SALES

Figure 1 illustrates the product mix of UL sales reported by 26 of the 30 survey participants for calendar years 2017 and 2018, and for year-to-date (YTD) 2019 as of Sept. 30, 2019 (YTD 9/30/19). Sales were defined as the sum of recurring premiums plus 10 percent of single premiums for purposes of the survey.

Figure 1
UL Product Mix by Year



Abbreviations: AccumUL, cash accumulation universal life; CAUL, current assumption universal life; ULSG, universal life with secondary guarantees; YTD, year to date.

UL sales declined significantly when comparing 2017 sales to annualized YTD 9/30/19 sales. Total individual UL sales decreased 31 percent, with 14 of the 26 participants reporting decreases in their UL sales. Eleven of the 14 reported decreases of 20 percent or more. The decline in sales by product was 34 percent for ULSG, 24 percent for AccumUL and 26 percent for CAUL sales. One driver of the decrease could be movement in sales from UL to IUL. Nine of the 14 participants appear to be focusing less on UL sales and more on IUL sales. Seven of the nine reported significant increases in IUL sales from 2017 to YTD 9/30/19 (on an annualized basis).

UL sales were reported by underwriting approach for 2018 and YTD 9/30/19. For the purpose of the survey, underwriting approach was defined as follows:

- **Simplified issue (SI) underwriting.** Less than a complete set of medical history questions and no medical or paramedical exam.
- **Accelerated underwriting (AU).** The use of tools such as a predictive model to waive requirements such as fluids and a paramedical exam on an otherwise fully underwritten product for qualifying applicants without charging a higher premium than for fully underwritten business.

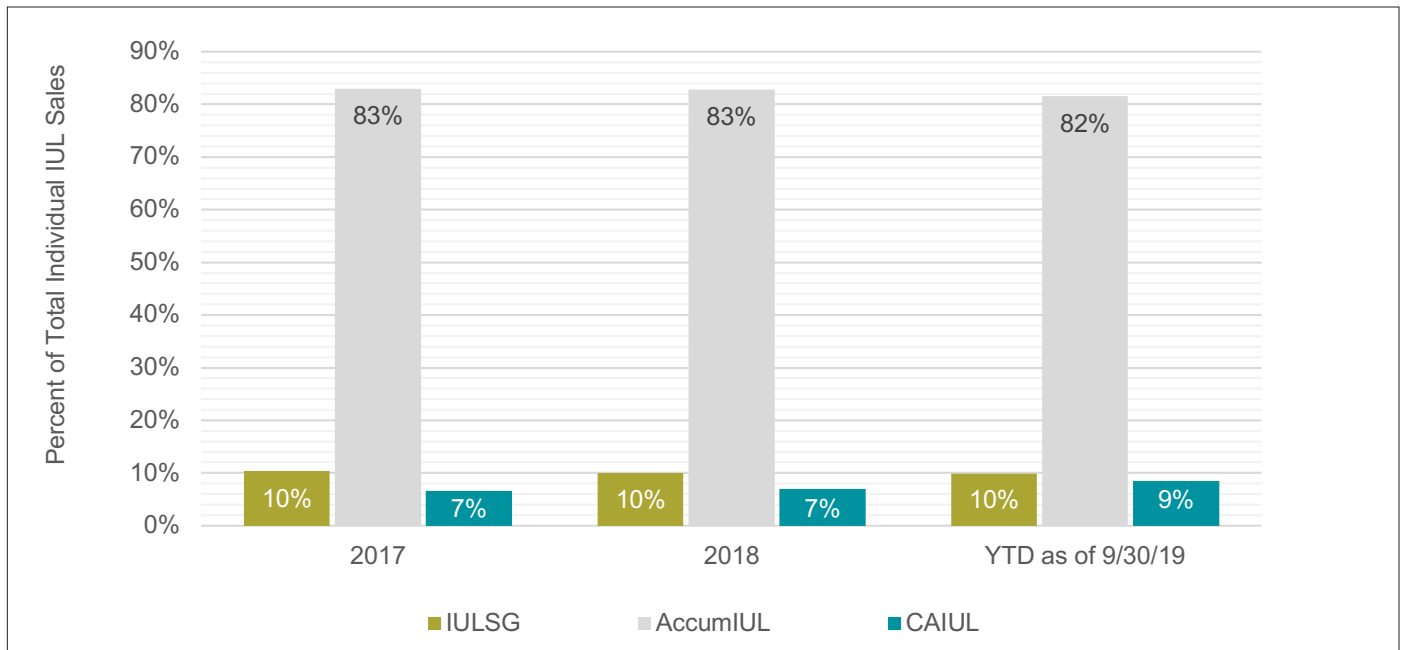
- **Fully underwritten.** Complete set of medical history questions and medical or paramedical exam, except where age and amount limits allow for nonmedical underwriting.

For AU sales, participants were instructed to include total sales for products under which AU is offered. The distribution of 2018 UL sales by underwriting approach (on a premium basis) was 5.0 percent SI, 0.4 percent AU and 93.9 percent fully underwritten. For YTD 9/30/19 UL sales, the distribution by underwriting approach was 6.9 percent SI, 0.7 percent AU and 92.5 percent fully underwritten. For both UL and IUL sales, the portion of AU business is surprisingly low. We believe that SI and AU are more commonly used on term insurance plans than UL or IUL.

INDEXED UL SALES

IUL sales reported by 22 of the 30 survey participants accounted for 63 percent of total UL/IUL sales combined during YTD 9/30/19, increasing from the 50 percent of total sales it represented in 2017. The AccumIUL sales percentage increased from 2017 to YTD 9/30/19, from 88 percent to 91 percent of total AccumUL/AccumIUL sales. IULSG sales also increased, from 12 percent to 19 percent of total combined ULSG/IULSG sales over the survey period. CAIUL sales, as a percentage of total combined CAUL/CAIUL sales, increased from 33 percent to 50 percent over this period. Figure 2 illustrates the product mix of IUL sales for calendar years 2017 and 2018 and for YTD

Figure 2
IUL Product Mix by Year



Abbreviations: AccumIUL, cash accumulation indexed universal life; CAIUL, current assumption indexed universal life; IULSG, Indexed universal life with secondary guarantees; YTD, year to date.

9/30/19. Sales of AccumIUL products continued to dominate the IUL market throughout the survey period.

The distribution of 2018 IUL sales (on a premium basis) by underwriting approach was 1.2 percent SI, 1.6 percent AU and 97.1 percent fully underwritten. For YTD 9/30/19 IUL sales, the distribution by underwriting approach was 0.6 percent SI, 1.9 percent AU and 97.5 percent fully underwritten. The portion of IUL sales subject to SI underwriting was 5 percent to 6 percent lower than reported for UL sales. The portion of IUL sales subject to AU was more than double what was reported for UL sales.

LIVING BENEFIT RIDER SALES

There are three common approaches to chronic illness accelerated death benefit (ADB) riders: the discounted death benefit approach, the lien approach and the dollar-for-dollar approach. The dollar-for-dollar approach includes an explicit premium, but the other approaches do not. Definitions of the various approaches are as follows:

- Discounted death benefit approach.** The insurer pays the owner a discounted percentage of the face amount reduction, with the face amount reduction occurring at the same time as the accelerated benefit payment. This approach avoids the need for charges up front or other premium requirements for the rider, because the insurer covers its costs of early payment of the death benefit via a discount factor.

- Lien approach.** The payment of accelerated death benefits is considered a lien or offset against the death benefit. Access to the cash value (CV) is restricted to any excess of the CV over the sum of the lien and any other outstanding policy loans. Future premiums and charges for the coverage are unaffected, and the gross policy values continue to grow as if the lien did not exist. In most cases, lien interest charges are assessed under this design.
- Dollar-for-dollar approach.** There is a dollar-for-dollar reduction in the specified amount or face amount of the base plan and a pro rata reduction in the CV based on the percentage of the specified amount or face amount that was accelerated.

Of the 26 participants reporting UL sales, 13 reported UL sales with chronic illness ADB riders. Fourteen of the 22 IUL survey participants reported IUL sales with chronic illness ADB riders. Ten of the 14 also reported UL sales with chronic illness riders.

Figure 3 summarizes sales of chronic illness riders as a percentage of total sales by premium (separately for UL and IUL products). During YTD 9/30/19, sales of chronic illness riders as a percentage of total sales were 11.4 percent for UL products and 37.3 percent for IUL products. The difference may be driven by the greater level of IUL product development in recent years relative to that for UL products.

Figure 3
Chronic Illness Rider Sales as a Percentage of Total Sales

Calendar Year	Total Individual UL	ULSG	Cash Accumulation UL	Current Assumption UL
UL Sales With Chronic Illness Riders as a Percentage of Total UL Sales				
2017	9.4%	7.4%	22.8%	9.5%
2018	10.5%	7.7%	24.9%	11.0%
YTD 9/30/19	11.4%	9.6%	20.4%	12.7%
Calendar Year	Total Individual IUL	IULSG	Cash Accumulation IUL	Current Assumption IUL
IUL Sales With Chronic Illness Riders as a Percentage of Total IUL Sales				
2017	28.0%	17.4%	30.6%	13.1%
2018	33.2%	22.8%	36.2%	12.2%
YTD 9/30/19	37.3%	29.1%	40.8%	13.3%

Abbreviations: IUL, indexed universal life; IULSG, indexed universal life with secondary guarantees; UL, universal life; ULSG, universal life with secondary guarantees; YTD, year to date.

Figure 4 shows sales of long-term care (LTC) riders as a percentage of total sales (measured by premiums and weighting single-premium sales at 10 percent) for UL and IUL products separately by product type. During YTD 9/30/19, sales of policies with LTC riders as a percentage of total sales by premium were 54.6 percent for UL products and 14.7 percent for IUL products. It is notable that over half of UL sales by premium include an LTC rider. In addition, most of those sales include extension of benefit riders.

Figure 4
LTC Rider Sales as a Percentage of Total Sales by Premium

Calendar Year	Total Individual UL	ULSG	Cash Accumulation UL	Current Assumption UL
UL Sales With LTC Riders as a Percentage of Total UL Sales				
2017	49.5%	62.1%	2.8%	20.1%
2018	51.0%	65.7%	7.4%	19.3%
YTD 9/30/19	54.6%	68.6%	15.7%	19.9%
Calendar Year	Total Individual IUL	IULSG	Cash Accumulation IUL	Current Assumption IUL
IUL Sales With LTC Riders as a Percentage of Total IUL Sales				
2017	17.6%	25.9%	17.2%	10.1%
2018	16.2%	22.8%	15.4%	15.6%
YTD 9/30/19	14.7%	20.4%	13.8%	16.8%

Abbreviations: IUL, indexed universal life; IULSG, indexed universal life with secondary guarantees; UL, universal life; ULSG, universal life with secondary guarantees; YTD, year to date.

Within 24 months, 90 percent of survey respondents intend to market either an LTC or chronic illness rider.

DRIVERS OF UL/IUL PROFITABILITY

The UL/IUL survey included information about the following key drivers of UL/IUL pricing:

- profit measures and targets,
- target surplus,
- reserves,
- reinsurance,
- investment yields and
- expenses.

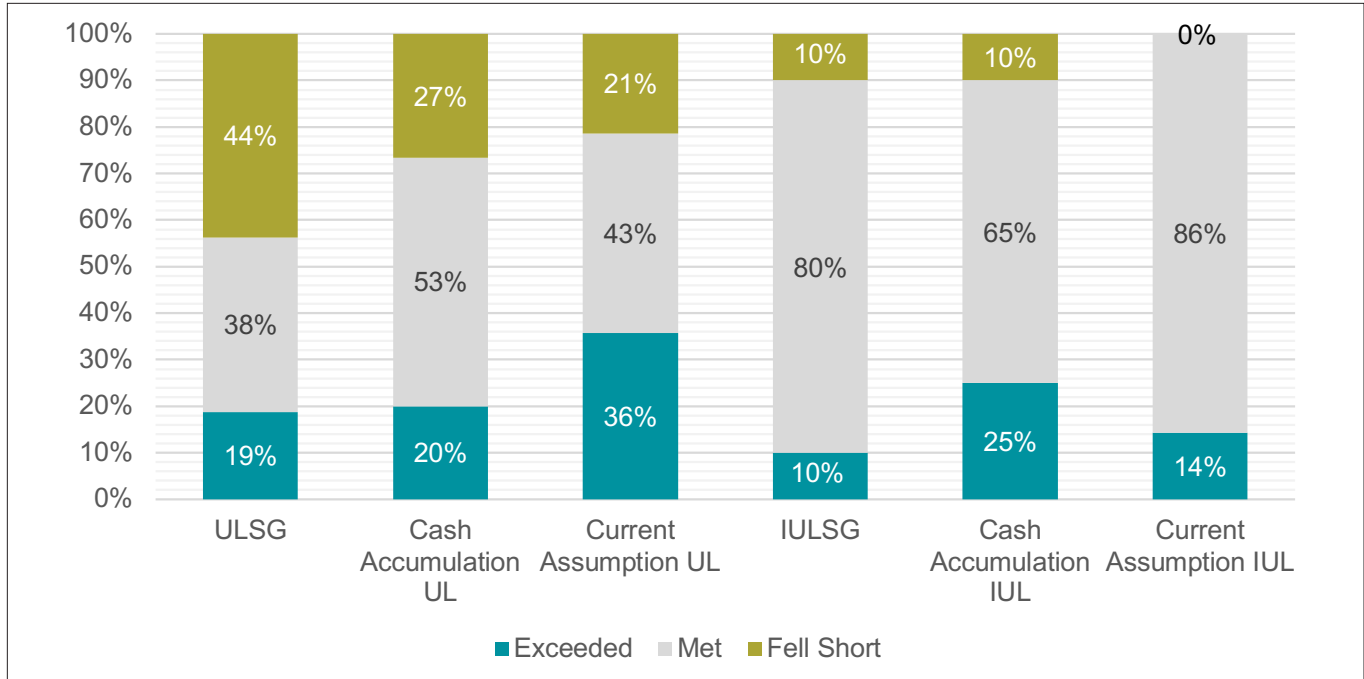
Profit Measures and Targets

The predominant profit measure reported by survey participants continues to be an after-tax, after-capital statutory return on investment/internal rate of return (ROI/IRR). The median ROI/IRR target reported by survey participants was 10.0 percent for ULSG, AccumUL, CAUL and IULSG; 10.5 percent for AccumIUL; and 11.0 percent for CAIUL.

Figures 5 and 6 show the percentage of survey participants reporting that they fell short of, met or exceeded their profit goals by UL/IUL product type, for calendar year 2018 and YTD 9/30/19, respectively. Of note is the percentage of participants that fell short of their profit goals for ULSG products: 44 percent in 2018 and 50 percent during YTD 9/30/19. The primary reasons reported for not meeting profit goals were lower interest earnings and higher expenses.

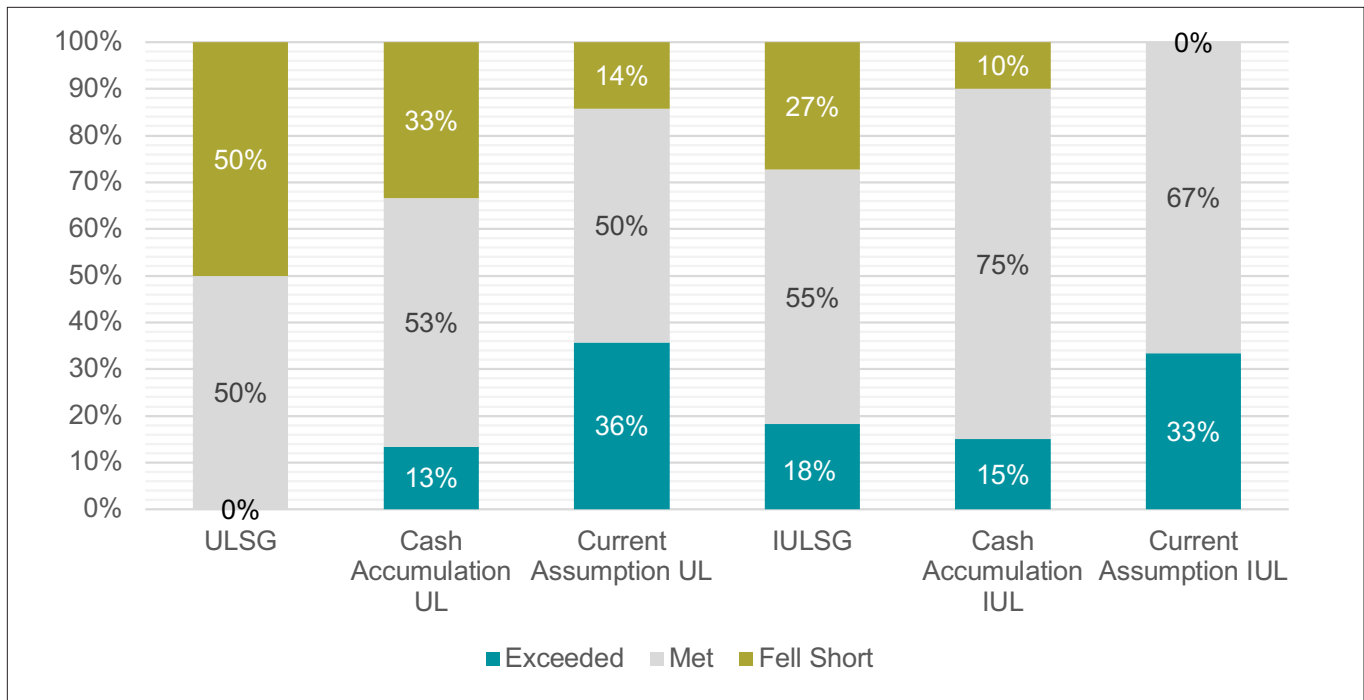


Figure 5
Actual Results Relative to Profit Goals for 2018



Abbreviations: IUL, indexed universal life; IULSG, indexed universal life with secondary guarantees; UL, universal life; ULSG, universal life with secondary guarantees.

Figure 6
Actual Results Relative to Profit Goals for YTD 9/30/19



Abbreviations: IUL, indexed universal life; IULSG, indexed universal life with secondary guarantees; UL, universal life; ULSG, universal life with secondary guarantees; YTD, year to date.

Target Surplus

The majority of survey participants continue to set target surplus pricing assumptions as a percentage of the National Association of Insurance Commissioners (NAIC) company action level. The overall NAIC risk-based capital (RBC) percentage of company action level ranged from 250 percent to 450 percent.

Reserves

Various questions were included in the survey relative to principle-based reserves (PBR) in accordance with the Valuation Manual Chapter 20 (VM-20).

The stochastic exclusion test (SET) is a means of determining whether the added effort of calculating stochastic reserves under PBR is required. The majority of survey participants are not using the SET. Of the 28 respondents, 20 are not using the test, have not analyzed the test or PBR does not apply to them. Seven participants are using the ratio test for this aspect of VM-20 relative to UL/IUL products. One participant is using the certification option. Four of the eight participants using the SET ratio test or certification option indicated that the SET results are consistent both pre-reinsurance and post-reinsurance. One participant noted that the results are not consistent. Two participants reported that SET results with respect to reinsurance have not been analyzed or completed. The eighth participant indicated that it is not modeling reinsurance at this time because it is immaterial.

Ten survey participants reported they are explicitly modeling the deterministic reserve (DR) and stochastic reserve (SR) in pricing projections (i.e., projecting these reserve components). An additional seven participants are explicitly modeling the DR, but not the SR. The remaining 13 participants said they are not explicitly modeling either the DR or the SR in pricing projections or did not respond to the question.

Many survey participants are struggling with challenges presented by forecasting the deterministic and stochastic

reserves. Difficulties were reported with run times, scenarios, modeling and assumptions.

A variety of responses were received from 18 survey participants relative to how their companies are reflecting reinsurance in the DR/SR for yearly renewable term (YRT) deals. Approaches included not reflecting reinsurance, taking the $\frac{1}{2} c_x$ reserve credit for YRT deals, using prudent estimates for reinsurer actions, adjusting YRT rates consistent with projected mortality, modeling expected experience with a margin on the YRT premium, reflecting the YRT deals in the reserves and treating reinsurance as a cash flow item in pricing.

Survey participants provided responses relative to the aggregation of mortality segments for determining credibility for UL/IUL products. The Valuation Manual defines a mortality segment as “a subset of policies for which a separate mortality table representing the prudent estimate mortality assumption will be determined.” The majority expect to aggregate mortality segments across broad categories, such as all life products, all permanent products or all fully underwritten products.

Reinsurance

Survey participants reported that retention limits on UL/IUL business ranged from \$350,000 up to \$30 million, with a median limit of \$3 million and an average of about \$6.1 million.

Seventeen participants reported the level of reinsurance used for AU UL/IUL business. Seven of the 17 participants reported that AU UL/IUL business is being reinsured consistent with other UL/IUL business. AU business is being fully retained by six other participants. The final four participants reported other reinsurance approaches used with AU UL/IUL business that suggest the expanded use of reinsurance with these cases.

The percentage of new UL/IUL business ceded in 2018 and YTD 9/30/19 reported by survey participants is shown in Figure 7. The percentages for IUL business are higher than the percentages reported for UL business.

Figure 7
Percentage of New UL/IUL Business Ceded

Statistic	Percentage of New UL Business Ceded		Percentage of New IUL Business Ceded	
	2018	YTD 9/30/19	2018	YTD 9/30/19
Number of Responses	25	25	22	21
Average	32.7%	32.3%	36.3%	33.4%
Median	22.0%	19.4%	23.9%	30.0%
Minimum	2.0%	0.4%	4.0%	3.0%
Maximum	90.0%	90.0%	100%	100%

Abbreviations: IUL, indexed universal life; UL, universal life; YTD, year to date.

Investment Yields

The use of a new-money crediting strategy versus a portfolio strategy in pricing UL/IUL products was reported in the survey. Figure 8 shows the split between respondents assuming a new-money strategy and a portfolio strategy by UL/IUL product type.

Figure 8
UL/IUL New-Money vs. Portfolio Crediting Strategy

UL/IUL Product	Crediting Strategy	
	New Money	Portfolio
ULSG	67%	33%
AccumUL	46%	54%
CAUL	42%	58%
IULSG	45%	55%
AccumIUL	26%	74%
CAIUL	50%	50%

Abbreviations: AccumIUL, cash accumulation IUL; AccumUL, cash accumulation UL; CAIUL, current assumption IUL; CAUL, current assumption UL; IUL, indexed universal life; IULSG, indexed universal life with secondary guarantees; UL, universal life; ULSG, universal life with secondary guarantees.

Many survey participants are struggling with challenges presented by forecasting the deterministic and stochastic reserves.

Expenses

Actual expense levels and those assumed in pricing UL/IUL products vary widely among survey participants. For comparison purposes, we converted acquisition and maintenance expenses to a dollar amount for a representative sample policy for each participant. (Commissions and field expenses were not included.) The calculation was done for both pricing expenses and actual (fully allocated) expenses. We assumed an average face amount of \$500,000 issued at age 55, and premiums of \$12 (“low premium”) and \$18 (“high premium”) per \$1,000 of face amount. The calculations were done including and excluding premium taxes.



The tables in Figure 9 show statistics relative to dollars of pricing and actual expenses for the representative sample policy for issue age 55, both including and excluding premium taxes.

Figure 9
Pricing and Actual Expenses for a Representative Sample Policy

Pricing Expenses	Number of Responses	Average	Median	Minimum	Maximum
Issue Age 55—High Premium					
Acquisition	26	\$2,460	\$2,570	\$173	\$7,081
Maintenance with premium taxes	28	\$315	\$289	\$55	\$662
Maintenance without premium taxes	28	\$160	\$143	\$14	\$482
Issue Age 55—Low Premium					
Acquisition	26	\$1,924	\$2,019	\$165	\$4,831
Maintenance with premium taxes	28	\$246	\$228	\$55	\$535
Maintenance without premium taxes	28	\$143	\$141	\$14	\$415
Actual (Fully Allocated) Expenses	Number of Responses	Average	Median	Minimum	Maximum
Issue Age 55—High Premium					
Acquisition	20	\$3,357	\$2,794	\$345	\$14,281
Maintenance with premium taxes	22	\$362	\$330	\$207	\$662
Maintenance without premium taxes	22	\$201	\$178	\$32	\$482
Issue Age 55—Low Premium					
Acquisition	20	\$2,597	\$2,260	\$345	\$9,631
Maintenance with premium taxes	22	\$288	\$269	\$152	\$531
Maintenance without premium taxes	22	\$200	\$178	\$32	\$482

CONCLUSION

The UL/IUL market has seen many years of evolution, with regulatory actions and economic issues commonly facing the industry. The recent COVID-19 pandemic has forced the life insurance industry to react quickly and to develop creative solutions to survive in this challenging environment. What direction will the UL/IUL market take as a consequence of this global crisis with its implications for mortality experience, interest rates and underwriting refinements? Following industry trends and addressing challenges are key actions necessary to staying competitive in this market.

A complimentary copy of the key discoveries of the May 2020 *Universal Life and Indexed Universal Life Issues* report may be found at <https://www.milliman.com/en/insight/Universal-life-and-indexed-universal-life-issues-2019-2020-survey>. ■



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