Detail Matters: Level vs. Relative Premium Increases and Their Effect on Actuarial Equivalence in Long-Term Care Insurance

By Mike Bergerson and John Hebig

As the long-term care (LTC) insurance industry continues to seek ways to manage disparities between premiums and costs—especially on older books of business—premium increases and benefit reductions are likely to remain significant factors in business decision-making for some time to come.

While states have generally come to accept the need for premium increases, the process of obtaining approval for any given set of changes can still be complex and challenging. In addition to the need for regulatory approval, insurers must also carefully consider the impact of rate changes on their bottom line—not just in terms of raw numbers, but in how they relate to experience and the potential for future profits or losses across the spectrum of benefits.

Regarding both state approval and business soundness of changes to premiums and benefits, one important factor to consider is actuarial equivalence among benefit levels. In the NAIC Model Regulation, Section 27, Subsection C.(2), it is stated that a premium for reduced coverage should be consistent with the approved rate table. In theory, absent variation for competition and other reasons, each rate in the original rate schedule represents a "value" for its corresponding benefit that is actuarially equivalent to the "value" of other rates in the original schedule.

In general, to state that rates are "actuarially equivalent" implies the premium rates for various risks are commensurate in relation to the expected claims. This suggests that across-the-board rate increases are considered actuarially equivalent. However, because of differences in emerging experience with respect to how various benefits and benefit levels affect future losses, such an increase may not preserve actuarial equivalence among cells. Preserving actuarial equivalence may require adjusting the premium charged for a given benefit option in a manner proportional to its expected value.

While ideally actuarial equivalence would always be preserved, in the real world of LTC benefits, doing so is somewhat more complex. In theory, when a given product was originally priced, premiums reflected the issuer's best estimate of what risks would cost, with some variation for other reasons, such as competitiveness of rates. However, in the time since pricing, emerging experience most likely tells a different story.

For example, the expected future cost of a four-year benefit period might be 20 percent higher than was originally expected when pricing the plan, while the cost of a two-year benefit period might be 20 percent lower. Raising the cost of both policies by 10 percent would penalize the holder of the two-year benefit period policy and favor the holder of the four-year benefit period policy. Add in all the various options for elimination period, inflation protection, reimbursement method, and so on, and the picture can get complicated very quickly even within a single product. In this case, one could request a flat increase and follow the NAIC's guidance and still produce rates that are not, in fact, actuarially equivalent based on current outlook of the value of benefits.

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Let's take a look at examples using two ways in which justified rate increases can be determined. In each case, we will compare justified rate increases based on the entire block to the justified increases of specific cohorts within the block to see how different they might be.

The first method, Lifetime Analysis, calculates a justified rate increase based on the entire life of a policy. So, if a product was priced to yield a 61 percent loss ratio, and that product is currently projected to yield a 100 percent loss ratio, a 64 percent increase would be needed. This 64 percent reflects the increase in premium which would be necessary from the product's inception to achieve the initial target loss ratio of 61 percent. It is important to note that, as we cannot increase premiums which have already been paid, the resulting projected loss ratio would still exceed the pricing target.

Table 1
Actuarial equivalence using the Lifetime Analysis method

	Combined	Lifetime Benefit Period	Limited Benefit Period
A. Pricing Loss Ratio	61%	64%	58%
B. Current Loss Ratio	100%	115%	90%
C. Justified Rate Increase = B / A - 1	64%	80%	55%
Subsidization (from C)	n/a	16% (= 80% - 64%)	-9% (= 55% - 64%)

Table 2
Actuarial equivalence using the Future Analysis method

	Combined	Lifetime Benefit Period	Limited Benefit Period
A. Pricing Loss Ratio	304%	304%	303%
B. Current Loss Ratio	335%	361%	312%
C. Justified Rate Increase = B / A - 1	10%	19%	3%
Subsidization (from C)	n/a	9% (= 19% - 10%)	-7% (= 3% - 10%)

Table 1 examines cohorts within the block to determine whether the justified rate increases differ by cohort. In this case, the cohorts represent projected experience for policies with either a lifetime benefit period or a limited benefit period.

As seen in the example, the projected loss ratios for the lifetime benefit and limited benefit groups differ both at the original point of pricing and using current projections based on actual experience and updated assumptions. As a result, the justified rate increases for these cohorts differ from that calculated on a combined block basis. The question arises: is a rate increase actuarially equivalent if some policies are subjected to increases larger than they should be based on current projections? As shown in Table 1, the limited benefit period policies would be subsidizing the lifetime benefit period policies if a flat increase across all policies was pursued. While subsidization could be measured in a number of different ways, it is shown as the difference in justified increases in this article.

The second example provides a similar analysis, with the exception that it uses a different approach for calculating the justified rate increases. This approach only looks at future experience and determines the necessary rate increase for experience going forward from the point of calculation, with the goal of achieving a future loss ratio consistent with that under original pricing assumptions. This method does not look at any historical experience (in this case, 2016 and before) and is referred to as the Future Analysis method.

The result of this analysis is similar to that of Table 1, as the justified rate increases vary based on the cohort of policies being analyzed. The end result is the same: some policies will be subsidizing others if a flat increase across all policies is implemented, due to the fact that differences in pricing relativities exist in current expectations even without the use of historical experience. Even though both methods result in one cohort subsidizing another, the methods result in different levels of subsidization as seen by comparing Tables 1 and 2. So to state that rates are actuarially equivalent to one another, even in a scenario where the rate increases are broken down by benefit characteristics, will depend on perspective and the analysis (future, lifetime, or some other method) chosen for the block.

RELATIVITY IS RELATIVE

Given the potential for significant differences among benefit groupings in a plan, issuers must carefully consider whether a uniform increase is the best approach. For example, the richest policies in terms of benefits tend to be the worst-performing in terms of losses, and yet these policyholders are often the most likely to hold onto their coverage in the face of rate increases. If the holders of leaner policies are subsidizing the holders of the richest policies, this could result in higher losses over the long term than if a rate increase that minimized subsidization were pursued. In a scenario where subsidization exists but a flat rate increase is pursued, it is plausible that larger numbers of leaner policies lapse or reduce their benefits while the richer policies (being subsidized by the leaner policies) hold on to their coverage more fervently. Experience will vary among issuers and

plans, but potential differences in loss ratios and policyholder abandonment at least justify looking at the issues in detail.

There are also several arguments against cell-wise adjustment of rate relativities. First, one must consider what is allowed by a given state's department of insurance. States may limit an insurer's ability to adjust rates based on certain class characteristics and these restrictions vary from state to state. As a result, applying for a rate increase which is more granular than a uniform rate increase may result in more scrutiny from state regulators and in vastly different rate increases being approved from state to state. Company legal counsel should be consulted before making any decisions regarding varying rate increases across different cohorts of policyholders for confirmation of the variation being considered a class characteristic from a legal perspective.

Secondly, there is the issue of statistical credibility. Cutting a plan into individual cells across various benefit levels can leave relatively small numbers of policyholders in each cell, which in turn reduces the credibility of the analysis. Additionally, non-level increases based on limited experience can introduce non-logical relationships that make it difficult to justify rate decisions.

There is also the issue of transparency. Level increases are easy to explain to policyholders and regulators without delving into the finer points of differences in emerging experience and actuarial equivalence. This can make it easier to obtain approval from regulators and buy-in from policyholders, even if it may be objectively more accurate to calculate different rate increases for separate cohorts.

The in-force management actuary should also consider the complexities of benefit administration. A company's administrative systems are already built to accommodate existing rating cells. Changing these relativities may require additional changes be made to processes and software, which can be non-trivial in terms of cost and complexity. The company should consider any added administrative costs with potential revenue added from a varied rate increase to determine the rate increase strategy that is best for both the company and policyholders.

Finally, any changes to benefits as a result of the requested rate increase need to be factored in. If benefit reductions are offered as an alternative to premium increases, the projected experience of those changes need to be part of the equation. A decision must be made whether the level of needed rate increase be based on the original set of benefits or the new set held after the policyholder accepts a benefit reduction in lieu of a premium increase. Which of these approaches should be considered appropriate, is up for debate.

As experience on blocks of LTC emerges and time passes from original pricing, the expectation of the value of benefits across rating cells also changes. These changes in the relative value of benefits have resulted in questions regarding fairness of rate increase requests and benefit reductions. One potential way forward would be for the LTC industry to accept that fairness among rates, or actuarial equivalence, is an ideal to strive for. However, it may be unattainable in a system that has so many limitations, variations, and where original pricing expectations rarely become a reality. ■

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