

## Long-Term Care Rate Increases: *Where did you get that number?*

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For those familiar with the long-term care (LTC) insurance industry, the misses of the past pricing assumptions and the need for rate increases have been well established. This has led to oftentimes double- and sometimes triple-digit rate increases because one of the primary risk mitigation factors for companies is the ability to increase premiums for in-force business. But how are these rate increase percentages determined?

This article walks through five formulaic approaches for calculating a rate increase percentage (others are possible) and discusses the objectives and implications of each approach. When determining a rate increase, a myriad of other considerations come into play, such as applicable regulation, policyholder protection, regulatory or political limitations, solvency concerns, management objectives, and reinsurer requirements. These other considerations also have a key role in determining the rate increase magnitude and the preferred rate action approach for a company, but this article does not intend to cover these other aspects of the rate increase determination process. Furthermore, the approaches discussed generally focus on methods that involve loss ratios as those are often the most common and easiest performance measure, and also the easiest benchmark for regulators.

### Formulas to Determine a Rate Increase Percentage

#### Approach #1: Lifetime actual-to-expected ratio of 1.0

The lifetime actual-to-expected (A:E) ratio of 1.0 approach determines the rate increase that produces a lifetime loss ratio equal to the original pricing loss ratio. That is, the rate increase percentage is calculated as the lifetime A:E ratio minus 1. With this approach the rate increase is determined by applying the increase to the future premiums. Implementing a rate increase calculated according to this formula returns the lifetime loss ratio to the target and restores the profitability of the block to that assumed in pricing.

Some additional considerations regarding this approach include:

- In early policy years when claims are low, a portion of premiums received are set aside to pre-fund expected future claims. A rate increase determined using this approach does not recognize the pre-funding aspect of LTC insurance in that the calculation does not take into account that historical premiums should have been higher to help pre-fund claims. As a result, higher future premiums are needed to replace the historical pre-funding that would have otherwise occurred.
- This approach determines the full cost of the rate increase that is needed to return the block to its original pricing loss ratio expectation. By using a rate increase percentage developed under this approach, the entire cost of the increase is borne by the policyholder. One thing to note is that if a company chooses to determine the rate increase percentage under a

different approach, the resulting increase can be compared to that calculated based on a lifetime A:E ratio of 1.0 in order to quantify the portion of the increase borne by the consumer versus the company.

- This approach is sensitive to the cost of waiting to request or implement a rate increase. Over time as the proportion of future premium decreases relative to the lifetime premium, the rate increase significantly increases. As more time passes without a rate increase, the future premium base to which the rate increase would be applied continues to shrink. Deferring the rate increase just five years to wait and see how experience unfolds may double the rate increase needed to produce the same lifetime loss ratio that would have been achieved had the increase been implemented today.
- For business that is subject to rate stability regulation, a rate increase developed using this approach may be limited by the 58%/85% test (i.e., original premium is subject to a 58% loss ratio and increase premium is subject to an 85% loss ratio) or capped by new business premium rates.
- The remainder of this article provides alternative approaches that reduce the full rate increase from that developed using approach #1 and allow the company to share in the burden of the rate increase with the consumer.

#### Approach #2: Restated lifetime actual-to-expected ratio of 1.0

The objective of this approach is to achieve a restated lifetime A:E ratio of 1.0. The rate increase percentage is determined by restating all premiums since inception to the proposed rate level, not just future premiums, and targets a lifetime loss ratio equal to the original pricing loss ratio. Algebraically, the rate increase is equal to the lifetime loss ratio divided by the original pricing lifetime loss ratio minus 1.

A variation of this approach is to cap the historical experience at the original pricing historical loss ratio. Algebraically, this is equivalent to calculating the lifetime loss ratio as the weighted average of (a) the historical loss ratio capped at the original pricing loss ratio and (b) the current future loss ratio, using the present value of earned premium as weights.

Because premiums for past years cannot be increased in reality, implementing an increase calculated according to this formula will never return the lifetime loss ratio to the target. This approach does not collect past lost revenue, but does allow for some relief of past losses to the extent historical experience was worse than that expected in original pricing. However, generally speaking, the amount of past lost revenue outweighs any rate increase relief attributable to those past losses.

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Some additional considerations regarding this approach include:

- This approach considers the pre-funding component that is required for LTC insurance by determining a rate increase that assumes the “increased” historical premiums can in part be used to pre-fund future claims. However, that historical increased premium will not actually be collected.
- The increase percentage developed using this approach does not change if the rate increase is deferred (assuming all else equal), unlike that calculated under approach #1. However, waiting to request a rate increase calculated using this approach will result in less premium collected in the future. This cost of waiting is borne entirely by the company.

Another variation of this approach would be to project the in-force business using current assumptions from inception. That is, this approach performs a complete repricing in order to determine the rate increase percentage. The rate increase would then be calculated as the ratio of the repriced lifetime loss ratio divided by the original pricing lifetime loss ratio minus 1. By determining the rate increase percentage using this method, the increase would not recognize variations in the historical experience that were not fully credible—assuming the current assumptions were developed by only considering historical experience to the extent credible.

### Approach #3: Future actual-to-expected ratio of 1.0

This approach determines the rate increase that produces a future loss ratio equal to the original pricing loss ratio relative to the same future period (i.e., from the valuation year through the end of the projection). The rate increase percentage calculated using this approach is equal to the future A:E ratio minus 1. This returns the future loss ratio to the level expected in original pricing.

Some additional general considerations regarding this approach include:

- This approach does not consider historical experience, except where historical experience was used, to the extent credible, in developing the current assumptions.
- This approach assumes that expenses and profit for the future period are consistent with that expected in original pricing. Because renewal expenses in the future period are lower than the total expenses collected over the lifetime, the rate increase percentage determined under this approach is generally smaller than that calculated using approach #2.
- When the need for a rate increase is driven by higher persistency than originally anticipated, as is the case for many blocks of business, the increase percentage developed using this approach will generally decrease if the rate increase is deferred because the future period continues to shrink as more time passes without a rate increase. However, the increase percentage calculated under this approach is not as sensitive

to waiting as that determined using approach #1, and the cost of waiting is borne by the company.

### Approach #4: Available assets equal to expected liabilities

This approach determines the rate increase needed to achieve sustainability, not profitability, in the future by increasing future premiums so that the available assets at a valuation date (future premiums plus reserves) are equal to the expected liabilities (future claims plus expenses). That is, the amount of increased premium at the valuation date is equivalent to the deficit in expected assets relative to expected liabilities on a present value basis.

Some additional considerations regarding this approach include:

- The rate increase percentage developed using this approach is the amount needed to break even going forward; there is no profit in the future period (except for the release of any margin in the statutory contract reserves). In general, this approach will determine the smallest rate increase of the five approaches.
- The increase percentage developed using this approach will decrease if the rate increase is deferred in early years when the reserves are growing rapidly. However, over time, as the reserve growth slows (and eventually decreases) and the present value of future expenses becomes a larger proportion of the remaining future premiums, the rate increase percentage may actually increase.
- Unlike some of the other approaches, a rate increase determined under this approach is calculated without a direct comparison of how current assumptions compare to the original pricing expectation. However, this approach does consider the amount of pre-funding that has been accumulated to date through consideration for the reserves.

### Approach #5: Deviations in natural reserve

This approach determines the rate increase based on a comparison of a variation of the current lifetime loss ratio to the original pricing lifetime loss ratio. The variation of the current lifetime loss ratio is equal to the present value of future incurred claims less reserves divided by the present value of future earned premium. Using natural reserves (i.e., original pricing assumptions and net level premium method), this loss ratio will be constant over time, assuming experience unfolds exactly as expected in original pricing. However, to the extent that experience deviates from the original pricing expectation, such deviations are used to determine the rate increase percentage.

Some additional considerations regarding this approach include:

- This approach is the same as approach #4, except it assumes that lifetime expenses and profit are consistent with original pricing,

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whereas approach #4 reflects the current expectation for future expenses and no future profit.

- This approach is also similar to approach #3, except approach #3 assumes that future (rather than lifetime) expenses and profit are consistent with original pricing. This approach will generally produce a higher rate increase percentage than approach #3.
- The increase percentage developed using this approach will decrease if the rate increase is deferred because, over time, the reserve growth slows. The cost of waiting increases substantially in later years when the reserve growth decreases or reserves begin to be released.

## Illustrative Example

Figure 1 provides an illustrative comparison of the rate increase percentages calculated under each of the approaches described above. The illustration in Figure 1 is based on a sample block of LTC business and the results may differ for other blocks as there are a number of factors that can impact the size of the rate increase percentage determined under the various approaches.

The illustration in Figure 1 is based on a block of LTC business that was priced in the early 2000s, individually underwritten, and sold on a nationwide basis. The average issue age for the block is approximately 50 and about 75% of policies sold elected some form of inflation protection. The primary reason that this block of business is in need of a rate increase is due to a combination of higher persistency and lower investment earning rates than expected in original pricing. That is, policyholders value the coverage more and/or are living longer than anticipated at initial pricing,

which results in significantly higher incurred claims over the life of the product than were originally expected. Additionally, the assets used to fund future liabilities are not growing as much as expected, which is due to lower earnings rates.

## Going Beyond the Numbers

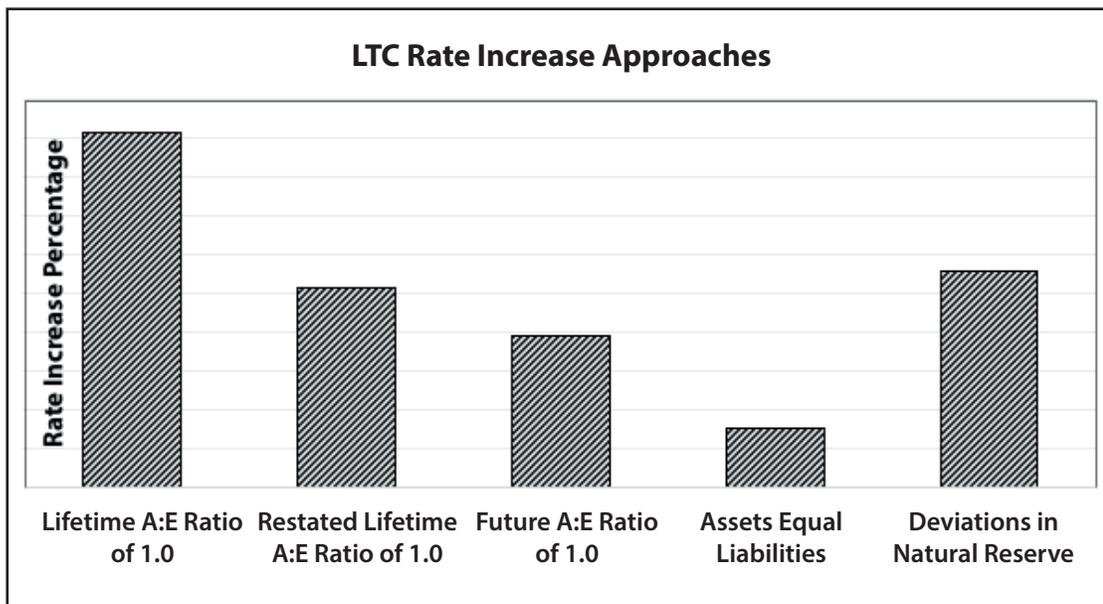
Requesting a rate increase is a complex process that requires a significant number of committed resources and presents unique challenges for all stakeholders involved, including policyholders, insurers, agents, and regulators. When determining the rate increase percentage that is right for a particular block of business, careful consideration must be given to a plethora of factors; going beyond just numbers is critically important.

Some other considerations in requesting a rate increase include the determination of the parameters by which the rate increase varies as well as the size and/or frequency of the request, including whether to phase in the rate increase. Additionally, while a rate increase can affect a company's reputation, it generally does not carry the same stigma as it once did in light of the prevalence with which increases are now being pursued within the industry. That said, it is still a decision not to be taken lightly. One way that companies can mitigate reputation risk and help their policyholders is by offering strong support from agents and a call center, and providing policyholders options to reduce their benefits as an alternative to the rate increase.

While there is no "one size fits all" solution to determining a rate increase, with careful consideration for the various factors and stakeholders involved, the company may be better prepared to

address the multitude of questions with which they will be faced, including, "Where did you get that number?"

Figure 1



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