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Long-Term Care Insurance Rate Increase Considerations

by Allen J. Schmitz

Consumers, agents, insurers and regulators all have a vested interest in the magnitude and frequency of rate increases. The latest version of the National Association of Insurance Commissioners (NAIC) Long-Term Care (LTC) Insurance Model Regulation (August 2000) was adopted in part to address the issue of "responsible" pricing and to minimize the likelihood of future rate increases.

Though the Model Regulation contains a specific section that addresses rate increase filings, it only applies on a prospective basis to policies written after a given state's adoption date. As of August 2003, approximately 15 states have adopted the rate increase provisions. Additionally, many of the regulation provisions are subject to interpretation and discussions with various regulators reveal differing interpretations.

This leads to the questions, "What should an insurer do about a poorly performing block of business today?" And, "What analysis and considerations should be reviewed to determine if a rate increase is the necessary and appropriate action?"

The first step is to continually monitor emerging experience in order to properly manage the LTC insurance risk. Poor experience needs to be addressed; however, there are several important considerations prior to taking any rate action. These considerations include experience analysis issues, maximum rate increase calculations, business considerations and valuation issues. The inter-relationship of these considerations can be surprisingly complex. This article only scratches the surface of some of these issues.

Experience Analysis Issues

Experience analysis is the first step in determining whether a rate increase is necessary. Historical premium and claim experience is used to project future premiums and claims. Decisions must be made regarding the credibility of experience, ultimate projected morbidity levels and the pooling of various classes of business.

In order to develop a best estimate of future morbidity levels, past experience should be examined to the extent credible. The amount of credibility given to actual experience is often more of an art than a science. Statistical tools may be able to help guide, but often practical considerations, such as discernable actual to expected trends and information from other data sources drive the morbidity assumptions. Classical credibility theory can be used to determine the amount or number of claims necessary for full credibility given a distribution assumption. However, the parameters chosen for this analysis are somewhat arbitrary, the distribution assumption may not be suitable for the LTC risk and the application of partial credibility assumes that the original claim costs assumption was appropriate. A Bayesian approach to credibility addresses some of these issues, but still requires either a distribution assumption or an assumption on the universe of claims. The use of regression techniques offers another statistical tool that can be used to

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help determine underlying claims patterns and key claim drivers, but the results often need to be supplemented with practical interpretations.

The development of incurred claims can be heavily dependent on the claim reserve, particularly for more recent incurrals. Therefore, careful examination of the appropriateness of the claim reserve assumptions, including retrospective claim runoff analysis, is necessary.

To develop the ultimate projected morbidity level, the actual to expected trends should be analyzed by as many policyholder and plan characteristics as possible. This data stratification will help in developing an accurate projection of future morbidity, particularly when different "cuts" of the data have different slopes to the morbidity curve. And while every "cut" of the data may not be used because of credibility issues, this level of stratification can help in understanding which segments of the business are driving the rate increase and which segments have good experience. For example, it may help answer questions such as whether or not married business looks better than expected because married policyholders are younger on average, or conversely, if younger age business looks better than expected because more of them are married.

This morbidity analysis will lead to the issue of pooling. There are several key considerations in determining the degree of pooling of various classes of business and/or blocks of business for rate increase purposes. This includes the following, sometimes competing list of issues:

- Policyholder Equity
- Credibility of Data
- Rating Flexibility (regulatory maximums)
- Future Rating Flexibility
- Profitability

Maximum Rate Increase Calculations

After experience is analyzed and a projection of future premiums and claims is created, determination of the appropriate level of rate increase, if any, can be calculated. The determination of the maximum rate increase is based on loss ratios. There are at least two ways to calculate that rate increase, as well as some variations of the two approaches. The first is based on a lifetime loss ratio calculation and the second is based on a future loss ratio calculation. In all formulas below, present value calculations are discounted at 4.5 percent.

Lifetime Loss Ratio Approach – The lifetime loss ratio approach is calculated using the following formula and solving for the rate increase percentage.

$$\frac{{}_{rev}PVIC_{life}}{{}_{orig}PVP_{up\ to\ curr} + {}_{orig}PVP_{curr+} * (1 + RI\%)} = LR_{min}$$

${}_{rev}PVIC_{life}$	=	Present value of incurred claims over the life of the business under revised assumptions
${}_{orig}PVP_{up\ to\ curr}$	=	Present value of historical premium from issue up to the current duration
${}_{orig}PVP_{curr+}$	=	Present value of premium from the current duration over the remaining life of the business
$RI\%$	=	Rate increase percentage
LR_{min}	=	Minimum loss ratio or original filed loss ratio

It could be argued that the lifetime loss ratio approach essentially allows an insurer to recoup past losses. However, it should be noted that this is parallel to the approach taken in the NAIC Guidance Manual—though the example given there utilizes the loss ratio requirements of the Model Regulation adopted in August of 2000.

Future Loss Ratio Approach – The second approach solves for the rate increase by setting the future loss ratio equal to the original priced for loss ratio. The formula for this approach is as follows.

$$\frac{{}_{rev}PVIC_{curr}}{{}_{orig}PVP_{curr+} * (1 + RI\%)} = {}_{orig}LR_{future}$$

${}_{rev}PVIC_{curr}$	=	Present value future incurred claims starting from current policy duration
${}_{orig}PVP_{curr+}$	=	Present value of premium from the current duration over the remaining life of the business
$RI\%$	=	Rate increase percentage
${}_{orig}LR_{future}$	=	Original future loss ratio from current duration

Note that this produces a much lower maximum rate increase percentage than the lifetime

loss ratio approach. This difference can be dramatic depending on the deviation in experience and average duration of business being analyzed. For example, for a block of business with a 30 percent deviation in experience, average policy duration of six, and average issue age of 65, the lifetime loss ratio approach can yield twice as large of a maximum rate increase as the future loss ratio approach!

One of the potential problems with using the future loss ratio approach is the necessity to have detailed information on the original assumptions. A variation on the future loss ratio approach described below helps avoid that problem.

Variation in Future Loss Ratio Approach – This variation of the future loss ratio approach uses the following formula and solves for the rate increase percentage:

$$\frac{{}_{rev}PVIC_{life}}{{}_{orig}PVP_{life}*(1+RI\%)} = LR_{min}$$

${}_{rev}PVIC_{life}$	=	Present value of incurred claims over the life of the business under revised assumptions
${}_{orig}PVP_{life}$	=	Present value of premium from over the life of the business
$RI\%$	=	Rate increase percentage
LR_{min}	=	Minimum loss ratio or original filed loss ratio

This expression is set equal to the original priced for lifetime loss ratio and solved for the RI percentage. Interestingly, the only difference between this variation of the future loss ratio formula and the lifetime loss ratio formula is the assertion that past premiums were at the new rate increased level. This is a key difference however, since this drives the difference in the maximum increase allowable. This variation will yield the same rate increase as the future loss ratio above if the only change to the original assumptions is a flat percentage change to morbidity.

If the slope of projected morbidity is different than original pricing, or if the termination rate assumption is different than original pricing, the relationship of the lifetime loss ratio, future expected loss ratio and the variation in the future expected loss ratio approaches will change. However, the lifetime loss ratio approach will generally produce a much higher maximum rate increase than other approaches.

Business Considerations

The maximum rate increase allowable may not be the appropriate increase to be filed due to several potential business considerations. These include:

Marketing and Public Relations Impact – Negative public relations will likely result from filing a rate increase. New business sales may also be impacted. As a result, companies need to carefully estimate the extent of any marketing and public relations impact in light of the continued increased scrutiny and negative public reaction of rate increases. For companies not having filed for rate increases in the past, doing so may change their public image and damage their brand name.

Regulatory Environment – The regulatory environment can impact the ability to obtain necessary rate increases. A typical nationwide LTC rate increase filing may include reductions in the requested amount or significant delays in receiving approval. There is also more emphasis recently on premium rate consistency with new business, policyholder disclosure of past rate increases and contingent nonforfeiture provisions.

A rate increase filed today will likely not fall under the provisions of the new model regulation. However, it is prudent for the actuary to examine the provisions of the new model to the extent they are appropriate or to the extent regulators might refer to them in reviewing a filing.

Legal Environment – There have been some large and public lawsuits regarding the issue of rate increases. Some multi-million dollar lawsuits have already been settled, while others are still pending. A company needs to examine the potential legal risk of a class action lawsuit from filing a rate increase.

Other ways to Address Poor Experience – There are other steps a company should consider as potential ways to improve the profitability of an in-force block of business that may allow them to forego part or all of a rate increase filing. These include, improving claims management, more efficient financial management and expense management and potential policyholder conversion programs.

Policyholder Equity Considerations – A key business concern is how a company treats one policyholder versus another. In general, most rate increase filings are for an entire policy form or group of forms. However, there is some latitude

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One of the potential problems with using the future loss ratio approach is the necessity to have detailed information on the original assumptions.

on how a company defines "class" of policyholders. Some rate increases may vary by benefit characteristics or even issue age. Other business considerations such as the regulatory, legal and public relations environment will impact decisions on policyholder equity and pooling of experience.

Shock Lapses – Many people are concerned about "rate spirals" for closed blocks of poorly performing LTC business. These rate spirals are more common in health insurance where the healthy policyholders may leave to purchase insurance elsewhere, and only the poor risks remain. In LTC the healthy policyholders are not as likely to lapse after a rate increase because the steep attained age claim cost curve applied to issue-age rate business generally does not allow the policyholder to purchase less expensive coverage elsewhere. Therefore, companies have experienced very minimal shock lapse from rate increase filings and rate spirals have not materialized.

Many people are concerned about "rate spirals" for closed blocks of poorly performing LTC business.

Profitability – While the maximum allowable rate increase is determined based on morbidity and termination experience, a company's overall profitability will impact the rate increase decision. Positive investment income or expense management results decrease the necessity for a rate increase.

Implementation Costs – The cost to notify and bill policyholders needs to be estimated, and the effort required to answer questions from policyholders, agents, regulators and the press needs to be considered.

Multiple Increases – If the needed rate increase is large, a company may want to implement two smaller rate increases, one or more years apart. This needs to be communicated to policyholders so they can make an informed decision on whether to keep their policy in-force. The maximum rate increase formulas can easily be adjusted to use this approach.

Cost of Waiting – There is a tradeoff between credibility of experience and cost of waiting to implement a rate increase. Depending on which approach to the maximum rate increase is used, either the profitability of business (due to the inability to recoup past losses) or level of future rate increases can vary dramatically for every year a necessary rate increase is forgone.

Valuation Issues

A rate increase can often be the impetus for closer evaluation of contract (active life) reserves. Should they be strengthened? Should a gross premium valuation or asset adequacy testing determine what should be done? There are published approaches to reserve changes after a rate increase for other lines of business and various reserve bases other than statutory. Those approaches are summarized and discussed here for LTC statutory reserves, but the issues and concepts apply to other valuation bases as well.

The three approaches that will be defined are static, retrospective and prospective. These naming conventions are chosen in order to be consistent with published work on the subject.

Static – This is the "do nothing" approach. This may well be the most common approach to adjusting statutory reserves after a rate increase, and some may argue is the most appropriate if a gross premium valuation test is satisfied.

Retrospective – This approach assumes that assumptions have been revised from issue. Depending on the degree of the assumption changes, this approach can result in a significant "spike" in the level of reserves.

Prospective – The prospective approach begins with the statutory reserve you are currently holding and calculates a new net premium based on the revised best estimate of morbidity and persistency. The formula for the new net premium is as follows:

$$ {}_{rev}NP = \frac{{}_{rev}PVIC_{curr+} - {}_{curr\text{-}1}V_x}{\ddot{a}_{x+curr}} $$

${}_{rev}NP$	=	Revised net premium
${}_{rev}PVIC_{curr+}$	=	Present value future incurred claims starting from current policy duration
${}_{curr\text{-}1}Vx$	=	Current terminal reserve for duration one less than the current duration
$\ddot{a}_{x+curr}$	=	Annuity factor based on the current attained age

This new net premium is then used in a recursive formula starting with the current terminal reserve and revised morbidity and/or termination assumptions.

While the retrospective approach may result in a sharp change in reserve levels, the change can be graded into over time. The prospective approach however, naturally grades into a new reserve

because it is calculated from the current reserve level.

There are many other variations to the aforementioned approaches, some of which include the gross premium and reflect the level of rate increase in the reserve calculation.

It can be argued that neither the retrospective nor the prospective approach is necessary if the business satisfies a gross premium valuation. However, if the reason for the rate increase is a steeper claim cost curve, it may be that the gross premium valuation is satisfied today, but is not expected to be satisfied several years into the future. In this instance, it may be prudent to gradually strengthen reserves now based on either the retrospective or prospective methods.

As with some of the other rate increase considerations, issues surrounding LTC reserves can be surprisingly complex.

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This article attempts to answer the question of what analysis and considerations should be reviewed to determine if a rate increase is necessary and appropriate. While there often are not any easy answers to the issues raised, rigorous analysis and careful thought to all pertinent issues will yield the best results.

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From the Editor

The Possibilities

by Bruce A. Stahl

When you read my accompanying article on return of premium riders, you will understand why I found myself reminiscing about our former president, Ronald Reagan. He maintained an optimism about everything that was good in our nation. Among those things that he saw as good were entrepreneurs, of whom he said that they see "possibilities where others see only problems."

The LTCI industry grew to what it is because entrepreneurs saw the possibilities inherent in the aging of the baby boomers and their need to have long-term care down the road. They also had the courage to invest capital in something that had little experience. Some will argue that the consumers were the ones who took risks, because many rate increases became necessary. Yet the consumers purchased insurance coverage without premium rate guarantees in order to reduce risk. They may not have eliminated all of the risk, but they certainly reduced a significant part of it. The investors in LTCI were the ones who had the courage to assume the risks that the consumers transferred to them, and they have received a range of rewards, from losses to large gains, for doing so.

Today's investors in LTCI continue to take a risk, though it is somewhat different than it had been 10 or 15 years ago. With the new model regulation, the investor takes a greater pricing risk though the experience supporting the pricing is much more credible than it was.

In this edition, you will find an article by Jim Robinson on pricing within the context of the greater pricing risk that is within the NAIC model regulation. You will also find an article by Al Schmitz on evaluating the need for rate increases on blocks of business that were issued prior to the current NAIC model regulation when the inherent risk was related more to lack of experience. My article is about a specific pricing mistake, which is a risk that today's investors ought to be able to minimize when they rely on members of our profession. It is a conceptual error and is not directly dependent on the quality of experience supporting it. Finally, you will see an article by Steve Cooperstein who sees "possibilities where others see only problems," and who therefore began to develop a policy accordingly.

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