Getting More From Your Actuarial Loss Reserve Analysis

For Property/Casualty Insurance and Reinsurance Companies

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Introduction

Many property/casualty insurance and reinsurance companies retain the services of a third-party, credentialed actuary to provide an analysis of the company's loss and loss adjustment expense reserves. The third-party loss reserve estimate may be used as the primary support for the company's balance sheet reserves, offer special insight into less traditional reserves, or provide an independent perspective on reserves estimates the company's internal actuarial staff provides.

Company chief financial officers (CFOs), controllers, internal actuaries and others who work directly with the external actuary generally obtain a reasonable level of value from the actuarial analysis. However, these companies often miss opportunities to get more value from it.

This paper contains ten questions that a CFO (or anyone else working with an actuary) should discuss with their actuary. By asking these questions, the CFO may uncover opportunities to obtain more value from the actuarial analysis, including ways to improve the usefulness and reliability of the company's actuarial reports.

Ten Questions to Get More From Your Actuarial Loss Reserve Analysis

By asking the following ten questions about your company's work with its external actuary, you can benefit more thoroughly from an actuarial analysis.

1. Is your actuary playing a broader role than just providing basic numbers?
2. Does your actuary have sufficient expertise for all relevant lines?
3. Have you and your actuary collaborated to customize an actuarial report that fully meets your needs?
4. Is your actuary aware of *all* intended uses of the actuarial report?
5. How does your actuary stay informed about changes in your company's business?
6. How good is the price monitoring data the actuary receives?
7. How does your actuary reflect external information in the actuarial analysis?
8. How much information does your actuary provide on reserve variability?
9. Is your actuary's quality control process sufficient?
10. What is the succession plan for your external actuary?

1. Is your actuary playing a broader role than just providing basic numbers?

If your company's actuary is providing just the basic "headline" estimates of loss reserves, you may be missing out on significant value. Actuaries can help in other ways, including:

- Conducting "drilldown" analysis to identify the key drivers behind the changes in loss ratios.
- Help develop customized corporate dashboards to more effectively manage the company.
- Engage in discussions with rating agencies and other external parties.
- Analyzing retention options by comparing expected overall costs and considering risk and variability tradeoffs.
- Providing actuarial support for loss portfolio transfers.
- Providing industry information on trends, including comparisons to relevant industry benchmarking information.
- Presenting results to senior company management and the audit committee.
- Providing industry perspective on reserve setting processes and public disclosures around reserves.

2. Does your actuary have sufficient expertise for all relevant lines?

Your actuary's credentials from a major actuarial organization do not necessarily imply sufficient relevant reserving experience and expertise for your insurance company's lines of business. Specialty lines, like surety and medical professional liability, non-standard exposures, such as asbestos, environmental liability and construction defect, and lines with international exposures, often require specific actuarial expertise.

To the extent your actuary's expertise is not sufficient for some lines or exposures; you may consider retaining a second actuary to analyze those lines or exposures. If your actuary is employed by a larger professional services firm, he can also tap into the expertise of the broader firm to better meet your needs. This broader expertise may include non-actuaries that specialize in individual claims analysis.

3. Have you and your actuary collaborated to customize an actuarial report that fully meets your needs?

You should not be expending significant time and effort to pull together information that is scattered throughout an actuarial report or adjusting/combining estimates in the report. This time and effort decreases your efficiency and increases the risk of errors in transferring information from the report to the company's financial statements. Your actuary can customize the report by building exhibits and an executive summary that make readily accessible the information you and other report users need.

Some examples of information that actuarial report users often need to have easily accessible include:

- An executive summary that includes the internal and external reporting information that your company management finds most important.
- One exhibit that summarizes the overall reserve estimates (rolled-forward to the date of your company's year-end, as needed).
- Summary exhibits that show key performance metrics such as loss ratios, loss rates, claim frequency, average claim size and other claim diagnostic information.
- Exhibits that compare the ultimate loss and reserve estimates from the current and prior report.
- Exhibits that reconcile the raw data your company provides the actuary and the data the report displays. This type of reconciliation assists your company's internal and external auditors in testing the actuarial report.

4. Is your actuary aware of *all* intended uses of the actuarial report?

The "headline" purpose for an actuarial report is often a reserve estimate to support the company's financial statements.

The company's CFO and others may find additional uses for the report. In order to confirm that the estimates are appropriate for intended uses the actuary should understand the various ways a company uses the report. Absent an understanding of the additional uses, the actuary may not devote sufficient attention to other aspects of the report that support the additional uses.

Illustrative Example
XYZ Insurance Company has maintained a $500,000 per occurrence net retention for workers' compensation since 1985. The most recent actuarial report estimates the following workers' compensation reserves as of 12/31/11:

Accident Year	Undiscounted Net Reserves
1985-1995	$20 million
1996-2011	$480 million
Total	$500 million

The XYZ CFO is planning to negotiate with a reinsurer to assume XYZ's net reserves associated with the 1985-1995 accident years. The CFO plans to use the $20 million estimate in the actuarial report as a starting point for the negotiation.

Unfortunately, the CFO did not discuss this intended use of the $20 million estimate with the actuary. If a discussion with the actuary had taken place, then the actuarial report may have better supported the CFO's negotiation process by:

- Including a discounted version of the $20 million reserve estimate to encourage consideration of the time value of money. According to the company's accounting policy, workers' compensation reserves accrue on an undiscounted basis on the balance sheet. Even so, the time value of money should still be considered in a loss portfolio transfer (LPT) negotiation, and could be worth millions of dollars.
- Incorporating additional actuarial techniques to generate a more refined reserve estimate for the 1985-1995 accident years. A more refined reserve estimate for

the older accident years may not have been necessary in the context of a $500 million total reserve. However, in the context of a $20 million LPT negotiation, the additional refinement could be significant.

- Providing information on the potential variability of the $20 million reserve estimate, including risk margins so that both the expected cost and upside/downside risk can factor into the company's decision making process.

The actuary also could have added value during the negotiation process by reviewing alternative estimates the reinsurance company prepared and helping the company understand the reasonability of the assumptions underlying the reinsurance company's estimates.

5. How does your actuary stay informed about changes in your company's business?

Claims and premium data clearly are critical to an actuary's ability to provide high quality loss estimates. However, qualitative information about changes in the company's business also is important. The types of qualitative information important to your company's actuary may include:

- <u>Claims Management</u>: Changes to the company's approach to establishing case reserves may impact loss development factor assumptions. For example, the claims department might implement a more conservative philosophy for setting case reserves than in prior periods.
- <u>Underwriting Initiatives</u>: Underwriting initiatives have the potential to impact a company's claims experience. Knowledge of a company's recent changes in underwriting can corroborate early signs of improvement in claims data, and thereby allow actuarial estimates to respond more quickly to the improvement.
- <u>Changes in Mix of Business</u>: Changes to the composition of a book of business or within the line of business can also impact a company's claims experience.
- <u>Reinsurance Program</u>: The actuary needs to understand the key features of your company's current and historical ceded reinsurance program. Changes to the reinsurance program can have a significant impact on the actuarial analysis.

The actuary can stay informed about changes impacting your company's business through periodic discussions that cover these changes.

6. How good is the price monitoring information the actuary receives?

Key actuarial assumptions in many reserving analyses are the "a priori" expected loss ratios for the more recent accident years of medium to longer tailed lines such workers' compensation and general liability. An actuary often forms these loss ratio assumptions based on the company's historical loss ratios with adjustments for pricing changes, trend and other items.

Information on the company's year to year changes in pricing is critical in forming the loss ratio assumptions. The actuary generally obtains price monitoring information directly from company management. The price monitoring information for an insurance company may include components such as the company's history of manual rate changes, the average annual departure from the manual rate level or departures from "technical price". For a reinsurance company, the price monitoring information may include similar items as well as other measures such as the loss ratio expected for each reinsurance contract at the time the underwriter negotiated and priced the contract and changes in terms and conditions.

The ability of insurance and reinsurance companies to assemble useful price monitoring information for its reserving actuary varies considerably across the industry. Many companies have significant opportunity for improvement. The reserving actuary may be able to assist with improving the company's price monitoring information.

7. How does your actuary reflect external information in the actuarial analysis?

Depending on the size of your company, the actuary may consider using external information when preparing the actuarial analysis. Often, even for fairly large companies, consideration of external information can improve the quality of an actuarial estimate for some lines of business. Comparison of relevant external information to a company's own claims experience also may be useful, even if it is not used directly in the actuarial analysis. Benchmarking can be an important consideration in understanding a company's loss experience and reviewing the reasonability of actuarial estimates.

Two examples of the external information that actuaries often consider are:

- Loss development patterns. Typically, an actuary will analyze a company's historical loss development data to derive loss development factors that are appropriate for the company. Consideration of supplemental loss development data from a broader industry source is often useful, especially for older accident years where the company's own loss development experience may be limited or not available.

- Trends. Trend information on claim frequency, claim severities and loss ratios from a broader industry source is useful in corroborating the trend information embedded in a company's own loss experience, particularly when it is difficult to discern a consistent trend within the company's data.

The actuary should exercise care to appropriately incorporate external information. The weight assigned to external information should consider the applicability of the industry information to a company's unique set of exposures. Also, lack of access to external information relevant to the company can sometimes limit an actuary's consideration of external information.

8. How much information does your actuary provide on reserve variability?

Actuaries generally provide a single value or a range of indicated company reserve estimates. A range provides additional information that aids in assessing the reasonability of the company's recorded reserve accrual. Providing a single value or range of reasonable estimates is sufficient for statutory financial reporting purposes.

Actuaries can also provide information about the variability of a company's loss reserves. Information on reserve variability has a number of potential uses, including:

- Form 10-K disclosures to provide increased transparency as to the uncertainty in a company's reserve estimates.
- A key input into a company's enterprise risk management (ERM) process.
- Support for the Own Risk and Solvency Assessment (ORSA) filing requirement proposed by the U.S. National Association of Insurance Commissioners (NAIC).

The actuary can provide qualitative information on the sources of potential reserve variability as well as quantitative measures.

9. Is your actuary's quality control process sufficient?

How does your external actuary check that the calculations in the actuarial report are technically correct and free of spreadsheet errors? How does he confirm that the selection of methods and assumptions and overall results in the report are reasonable?

The absence of a good quality control process increases the chance that an actuarial report will include material errors. Material errors in the report can adversely impact the accuracy of your company's financial statements.

The quality control process at larger actuarial firms typically involves a quality check that actuarial staff who were not centrally involved in preparing the actuarial report perform. Often there are two separate types of quality reviews. The first quality review checks for basic technical accuracy and the second is a peer review of the reasonability of methods, assumptions and overall results that another credentialed actuary performs.

Larger actuarial firms also may have additional components of a robust quality control process, which include practice aids that thought leaders in the firm develop, as well as periodic quality reviews by a central quality review team.

Smaller actuarial firms, including one or two-person groups, also may have a quality control process. For example, some smaller actuarial firms routinely subcontract peer reviews to other actuarial firms.

10. What is the succession plan for your external actuary?

Most insurance companies eventually will need to replace the person serving as its external actuary. The need for a replacement may arise due to the actuary retiring, changing employers or the decision of the insurance company's management. The need for a change may arise suddenly and leave little or no time for an orderly transition to a new actuary.

A company can take several actions today to smooth such a transition, including:

1) *Retaining prior years' actuarial reports and the data provided to the actuary.*

2) *Developing a relationship with another external actuary, and considering engaging him to perform a second external review.*
Transitioning to a new actuary may be easier if a company already has developed a professional relationship with another actuary. The other actuary could be a co-worker of your primary actuary who provides backup support when the primary actuary is not immediately available.

Some companies periodically engage another external actuary to provide a second opinion on the company's loss reserves. The second opinion mainly serves as check on the primary actuary's estimates and helps to ensure proper documentation exists in the primary actuarial report. An additional benefit of engaging a second actuary is having an obvious successor to the primary actuary, should one become necessary.

3) *Ensure that actuarial reports contain complete documentation.*
A transition to a new actuary will be easier if the current actuary's reports contain the information the new actuary will need to replicate the actuarial analysis. A transition will be more difficult if information is elsewhere, such as in the current actuary's internal files.

The types of information that may be useful in facilitating an actuarial transition include summaries of the data used in the actuarial report and text description of the methods, assumptions, background on the company's insurance exposures and similar items necessary for another actuary to follow the report.

If the succession plan contemplates transitioning to a different actuary within the same professional services firm, then complete documentation within the actuarial report is less critical for actuarial succession planning. However, complete documentation is often necessary for other purposes, such as facilitating external audit review of the actuarial report.

Conclusion: Make the most of your actuarial analysis

An insurance or reinsurance company likely has opportunities to increase the benefits it receives from its actuarial reserve analysis. The key to maximizing these benefits is regular and open communication between the company and actuary on, among other topics, uses of the actuarial report and changes taking place within the company. A company can further benefit by receiving input from the actuary on relevant trends and benchmarks. Actuarial value is maximized when the actuary's role goes beyond providing just "the numbers" to becoming an important member of the company's management team.

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