



Coordinating Actuarial Opinions/Formulating Opinions

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I. Coordinating Actuarial Opinions

Editor's Note: *This is the first of a two-part article on actuarial opinions and addresses the coordination of opinions found in the financial reporting environment of the brown or blue book actuary. A second article will address considerations for formulating an opinion.*

Many audiences rely on the work of the financial actuary. These include CEOs, CFOs, senior management, the board of directors, shareholders, creditors, the IRS, rating agencies, state regulators, business partners such as reinsurers, prospective customers, and, last but not least, policyholders and their beneficiaries. In the financial communications that reach these audiences, there are many opinions expressed by the actuary, both explicitly and implicitly.

The most visible opinions primarily exist to support the compilation of reserves and related items for statutory, GAAP, tax, and value-added (or some other type of management reporting) accounting bases. Management reporting frequently includes a business plan, showing financial results projected into the future. The preparing actuary follows the principles (or in some cases, the rules) of the appropriate accounting basis in selecting assumptions and applying techniques to perform the evaluation. The results can be largely reflective of the actuary's judgment.

The basis on which judgement is drawn must be documented. Certainly rationale for choices is documented

in the actuary's work papers. But the result of the actuary's work is often expressed publicly, in writing. It may be stated annually but implied every quarter or month when financial statements are prepared and released to any of the audiences listed above.

Background

I will now identify the opinions necessary to complete the actuarial elements of the three prominent accounting bases.

Federal Income Tax. This is primarily rule-driven. When compared to other accounting bases and to the prior tax law, there is relatively little room for interpretation or judgment. No actuarial opinion is required. The preparing actuary follows professional guidelines and presents the results.

GAAP. For stock companies, these are the numbers that are presented to shareholders. Certainly, these are the numbers that drive the stock market value of a company. Many mutual companies are preparing GAAP financial statements. Corporate model projections of GAAP results are used for strategic planning and goal setting. These goals are then used as measuring sticks for determining levels of additional compensation that may be paid.

In virtually all cases, an audit report will accompany a GAAP statement once a year. The auditor will state

whether he/she agrees with the presentation of the numbers in the report and whether they conform with GAAP. The numbers that the auditor reviews are those prepared by the company and its actuary. Thus, in light of the actuary preparing these numbers, he/she is stating that his/her results conform with GAAP. While the auditing firm's opinion is explicit, the company actuary's opinion is normally implicit. However, the auditor and/or a holding company may ask the chief actuarial officer for a written representation on critical matters.

What are the significant areas of judgment used in GAAP? For *FAS 60*, the actuary adds a provision for adverse deviation along with best estimates of future experience for new business. For existing business, the actuary must be satisfied that the net liability position allows for recoverability of unamortized acquisition costs using current best estimates. For business reported under prospective unlocking techniques, again, formulating best estimates of future experience is involved.

Under *FAS 97* and *FAS 120*, the actuary is continually preparing the DAC using current best estimates of future experience. These best estimates evolve daily and are influenced by the actuary's viewpoints on the current economy, new competitive products, the tax outlook, political events, and so on, as well as what has recently happened to the block of business.

While no explicit statement in writing is required, the actuary, at any time a GAAP statement is prepared, has formulated an opinion about a single scenario that represents a "base line," or best estimate, set of assumptions.

Statutory. For most companies, two types of reserve opinions are prepared: one for formula reserves and the other for asset adequacy analysis, most often referred to as cash-flow testing. These opinions have been signed by the appointed actuary. In total, four opinions can be prepared to support an annual statement:

- **Determination of Nonguaranteed Elements and Opinion.** One question asks about policies and procedures for determining credited interest. Answers typically refer to target spreads, earnings on assets, and/or market position. Other questions call for disclosure of any changes in illustrated and charged/credited values. Yet another question asks whether the anticipated experience differs from the current experience. Finally, the undersigned is asked whether he/she believes there is a substantial probability that the values illustrated cannot be supported.
- **Determination of Dividend Elements and Opinion.** This comprises interrogatories and an opinion. One question asks whether there have been changes in the

dividends illustrated. Another inquires whether the undersigned believes there is a substantial probability that the dividends illustrated for new or existing business cannot be supported for at least two years.

- **Section 7. Statement of Actuarial Opinion Not Including an Asset Adequacy Analysis.** This opinion requires the signer to opine whether provision has been made for all actuarial reserves and related statement items that ought to be provided.
- **Section 8. Statement of Actuarial Opinion Based on an Asset Adequacy Analysis.** In addition to the Section 7 item cited above, the actuary opines whether the reserves and supporting assets make adequate provision for the cash flows anticipated by the obligations and related expenses of the company. *Actuarial Standards of Practice (ASOP) 7, 14, and 22* guide and direct the actuary in preparing the basis for his/her opinion. Typical cash-flow testing involves the establishment of base-line assumptions for mortality, interest, expense, and withdrawals. It involves establishing a base-line relationship between management actions, the market environment, and policyholder behavior. Finally, it involves the testing of at least seven future interest rate curve movements.
- **Illustration Actuary (IA).** The certification (which is an opinion) to support the NAIC Life Insurance Illustrations regulation must be filed annually with the state and the board of directors. The company may appoint more than one IA.

The disciplined current scale is integral to the opinion. The illustrated scale cannot be more favorable to the policyholder than the lesser of the disciplined current scale (DCS) or the currently payable scale. What is the DCS? It is a set of assumptions that is certified by the actuary. These assumptions are based on actual recent historical experience.

The IA certifies that the DCS conforms with *ASOP 24* and that the illustrated scales (in which the DCS and expense assumptions play a major role) meet the requirements of the regulation.

The IA discloses several items: (a) whether the currently payable scale has been reduced for reasons other than experience, (b) whether any illustrated value inconsistencies exist between old and new similar policies, and (c) whether illustrated values are actually inconsistent with those currently being paid, charged, or credited to similar policy forms.

The DCS is also used as the basis for economic testing. The DCS provides the assumptions for the viability and nonlapse support analysis. The policies

must generate assets equal to the cash value by year 15 to be illustrated.

Findings

The explicit and implicit opinions that must be stated by the actuary overlap in many areas.

Some issues addressed by the illustration actuary parallel those addressed by the actuary preparing the nonguaranteed elements and dividends determination interrogatories and opinions. If the same actuary signs both, these opinions must be consistent. If these opinions are rendered by different people, an honest difference of opinion could exist. I suspect this would not be well-received by readers of these opinions. This situation will likely exist in many companies as product actuaries assume the IA role and financial actuaries retain all annual statement duties.

At first glance, the IA opinion itself may not seem to relate to any financial reporting basis. However, the company should consider the need to inspect the correlation between the assumptions underlying the DCS and those assumptions utilized for GAAP.

Recent history is called for in establishing the DCS. Current best estimate is called for in establishing DAC under *FAS 97* and *FAS 120*. Can there be two versions of recent history? The only plausible scenarios would be when a one-time event in history would not be expected to repeat in the future, or when the size might be too small to be credible for IA purposes. Otherwise, one would expect the recent history to be similar.

The ASP supporting the illustration actuary says that once changes in experience have been determined to be significant and continuing, they should be reflected promptly. *FAS 97*'s estimated gross profits call for assumptions to be a best estimate and to be evaluated regularly.

Now, let us consider GAAP and cash-flow testing. Is there any reason that the best estimate assumptions for *FAS 97* and *FAS 120* should be any different than the base-line assumptions for cash-flow testing? For *FAS 60* business, do the assumptions used for gross premium valuations (or cash-flow testing) to support an adequacy conclusion correlate to the assumptions used for loss recognition, recoverability, and prospective unlocking in GAAP?

Are the credited interest rates shown on illustrations producing a spread that is consistent with that used in

the *FAS 97* process? Are the dividends used in forecasting *FAS 120* revenue streams consistent with those used in the estimated gross profit stream?

Are the current COIs (or other policy charges or credits) consistent among what is being used for GAAP, illustrations, and cash-flow testing?

Illustrations often show nonguaranteed bonuses. Are reserves being established, in both statutory and GAAP, for these liabilities? What if the assumptions, under which GAAP revenues are determined, would cause the bonuses to be paid?

Are the issue costs being capitalized under GAAP consistent with those used in the economic testing done by the IA?

Are the assets allocated by line for cash-flow testing consistent with those used to determine the interest factor by the IA?

Expenses must be allocated and analyzed. In the annual statement, they are identified by lines of business and distinguished between insurance and investment. For asset-adequacy analysis, maintenance expenses must be considered in the cash-flow testing. For GAAP, per policy maintenance expenses must be considered in future revenue streams. For the economic testing to support the IA opinion, direct company expenses will likely be utilized. For that matter, expenses are forecast to support the business plan, which is frequently used to set financial objectives for employee incentive plans.

Just how do all these expense assumptions correlate? Is there a possibility that different values are being used for different reporting purposes?

Conclusion

There are many actuarial opinions that represent public expression of current and expected financial performance. These opinions often utilize common assumptions. The life company, and especially its actuaries, need to be sure that the assumptions underlying conclusions, and the expression of those conclusions, are consistent.

Coordination in measurement, conclusions, applications, and documentation should exist across the company. If actuaries take the lead in establishing this consistency, they will minimize the chance of being forced to explain or defend their practices in public.

II. Formulating Opinions

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The most visible opinions exist primarily to support the compilation of reserves and related items for statutory, GAAP, tax and value-added (or some other type of management reporting) accounting bases. Management reporting frequently includes a business plan showing financial results predicted into the future. The preparing actuary follows the principles (or in some cases rules) of the appropriate accounting basis in selecting assumptions and applying techniques to perform the evaluation. The results can largely reflect the actuary's judgment.

As the first article of this two-part series addressed, the actuary must coordinate the assumptions underlying an opinion with all other opinions being expressed about the company. This article addresses some of the considerations the actuary must deliberate when formulating his or her opinion.

Background

Most actuarial opinions do incorporate the work of others, both inside and outside the actuarial profession. The opining actuary must rely on the performance of his/her staff and peers. While this support is documented in the workpapers, the final opinion drawn is the sole responsibility of the signer.

The concepts that underlie the development of an opinion are generally diverse and numerous. The supporting data may involve many varied sources. These can include hundreds of thousands of policies, a large contributing staff, obscure or incomplete descriptions from distant parties, hundreds of plan codes, outside cash flows, imprecise or conflicting regulations, months of study, crediting strategies, and so on. In short, the actuary encounters ample opportunity to examine data and statements provided by others and has many opportunities to evaluate and later re-evaluate work steps and decisions reached along the way to an expression of the hoped-for, unqualified opinion.

What are some of the crossroads the actuary encounters along this path?

Findings

The opinions drawn by practicing actuaries have significant impacts on the presentation of financial, primarily statutory, and GAAP results.

Spotting Trends. An opining actuary needs to develop a perspective on how to determine whether fluctuations have become trends. At what point does a series of consistent observations become a pattern? If it is a trend, is it the shape of the future or is it triggered by related events? If it is a trend, what future actions or inactions will shape its movement?

Bumps in the Road. Cash-flow testing reserves are frequently established at year-end. They are maintained either precisely or approximately throughout the year. A revealing question was posed to the panel at a Valuation Actuary Symposium several years ago. Interest rates were on the rise and portfolios were already below market. The question involved preparing to set up obviously needed cash-flow-testing reserves for December 31. However, the audience was left wondering why these reserves hadn't already been established.

Quality of More than Data. The term "data quality" can refer to more than the accuracy of an inventory. It can apply to future actions stated by management or the presentation of relationships. In cash-flow testing, management must present its crediting strategy. Test work

to verify this strategy could well reveal that the stated policy has seldom, if ever, been followed.

Sometimes the crediting strategy may also not reproduce the current rates being declared. This may apply to the investment strategy as well.

Frequently companies will create fund buckets on which to base the determination of credited interest rates. However, in actual practice, one bucket may be used to subsidize another without any market charge. Thus, the actuary will have to evaluate the validity of presented practices.

Prognostications by Professionals. The selection of assumptions is an essential step in cash-flow testing and FAS 97/120 GAAP. Since results are very dependent upon the assumptions, the conclusions may be only as trustworthy as the reliability of the weakest assumption. While actuaries are educated and experienced, their expertise does not guarantee they will predict into the future accurately. Every year the Investment Section of Society of Actuaries sponsors an interest rate predicting contest. Entrants must forecast values for T-bills, T-bonds and the S&P 500 for one year after the date of the contest. Because contestants are investment actuaries, last year's results were revealing. The results? No entries exceeded the actual S&P close and only one entry was below the T-bond close. The newsletter editor himself finished last in one category and the overall winner lived in a foreign country. This humbly reveals that while assumptions may be our best estimate at the time, they may have a very short life. Results can only be as good as our assumptions.

Restating Prior Results. While financial statements are generally audited only once a year, their results are communicated quarterly to shareholders and monthly to management and directors. Thus, decisions are made (and equity positions are taken or relinquished for stock companies) based on interim results. The actuary has the obligation of maintaining a consistent standard of practice and presentation each month results are reported. In a GAAP environment, this would involve items such as not waiting too long to unlock (especially retrospectively) and not unwittingly restating previously-reported numbers. This can happen if the amount capitalized year-to-date is not adjusted each month for what was actually incurred.

Keeping an Ear to the Ground. The actuary needs to understand the purpose and use of the reports being generated. The actuary must also constantly be thinking of how the results could be misinterpreted or misused.

One example is the selection of which obligations to provide for in cash-flow testing. The actuary may want to go beyond a strict reading of the ground rules to meet the intent of cash-flow testing.

Shareholder dividends are generally returns of profits to owners. However, sometimes the owners are a holding company and need these profits to service debt. The management of the insurance company and the holding company may be one and the same.

The actuary may want to incorporate the minimum amount of debt service as an expense to see if and when pressures might exist. This would imply recognition of surplus strain impacts of new business as well. If shareholder dividends can not be maintained under normal circumstances, there may be a high likelihood of altered management behavior, possibly at the expense of diminished policyholder benefits, to continue debt maintenance.

Cash-flow testing is one of the first places where this situation is evident. While this may appear to be more of a dynamic-solvency testing issue, it may be prudent for an appointed actuary to expand the scope of his/her work and document in the workpapers how this issue was dealt with before a final conclusion was reached.

Time Horizon. In the cash-flow testing environment, an opinion regarding today's reserve adequacy is drawn based on results 10, 15, or 20 years in the future. The actuary converts future financial activity into a statement regarding sufficiency of reserve levels today. As the numbers become more distant in time, the less credibility they have. Just where does the actuary start to draw the line? After all, the conclusion is the actuary's and not the software's. Some frequently discussed items include:

- Often annuity blocks have surrender charges that wear off in the future. While we can then expect extra lapsation, we really don't know what policyholders, agents, and management will do at that point. The relationship between the interest environment, credited rates, surrender charges, and surrenders is dynamic.
- Usually, after 10 years, most original assets will have matured. At that point, an entirely different and frankly fictitious set of assets are now supporting the liabilities. While the liability portfolio 10 years hence may be accurately portrayed, there is a significant likelihood that the asset portfolio 10 years hence will also comprise assets not yet invented or reflect a totally different investment strategy.

- The financial structure of the company reflects the beliefs and intents of senior management and other key decision makers. In reality, management teams rarely last 10 years. New management teams may want to do things differently solely to do things differently. The prescription may become the proscription.
- While we project varying financial cycles, we generally do not project varying economic cycles. We usually hold this static. But certainly, during the next 10 and 20 years, we will see dramatic variations in unemployment, corporate and personal tax environments, prevailing political parties, population demographics, consumption and saving preferences, competing industries, and so on. All of these do have an impact on our assumptions.
- New products are always being introduced. Many will impact the longevity or viability of today's products, causing their original vigor to be questioned. An example of this was when annuity bonus riders became popular. This is when an agent can elect to lower his/her commission and credit a comparable amount to the policyholder. This facilitated the churning of annuity products from one company to another and the surrender charge on the original product no longer had its intended protective quality.
- In a cash-flow-testing study, the business being studied is only today's in force. This will likely be a small part of the total picture 15 years hence. Today, for a mature block, issues prior to 1982 may only be 15% of the in force. Clearly that block is not driving decisions being made in 1997. Also, a closed block may be managed differently than an open block that contains new issues.
- In determining asset adequacy analysis, the market value of surplus 10, 15, or 20 years hence is reviewed. While an asset's market value is a concept easy to embrace, a liability's market value, especially in the distant future, remains an intangible issue and somewhat an ethereal exercise.
- The assumptions utilized are base line of some sort. They do not include extraordinary items. Yet, during the course of a 10-year period, virtually every company will undergo some type of catastrophic event. These events include public relations disasters (such as vanishing premium discipline), frivolous law suits (stemming from denied claims in health insurance), more public relations disasters (state prosecution of twisting agents), undesirable activities by affiliates with the same name, or the merger or sale of the

company. These events will impact the behavior of liabilities, but do not contribute to deliberation in cash-flow testing.

Purpose of Opinion Coupled with Model Size. The size of a model needs to relate to its purpose. A policy-by-policy projection would be overkill for reviewing cash-flow-testing results. Conversely, a highly condensed model used for cash-flow testing would likely produce results too inaccurate for establishing quarterly financial objectives for the coming year.

Of course, the model's capabilities need to be sophisticated and sensitive enough to achieve the purpose of the testing.

Two Strikes and You're Out. In cash-flow testing, how many failed scenarios dictate establishing additional reserves? The answer varies among practitioners.

Looking at the seven scenario environment, consider one failed result. Some actuaries will decide that because this is the only failure, no additional reserves need be established. Others actuaries will calculate the present value of ending surplus, weight each of the seven results by 1/7, add the results together, and record a liability if, in total, the single answer is negative. Others will use more scientific weighting. Still others will look at the single worse case and record 100% of its deficiency as a reserve. There is a lot of variation in practice, so what is the right answer? It is most important that the actuary understands the cause(s) of the ending negative surplus to make not only numeric accommodation today, but to induce management action if the situation can be prevented.

Expense Determination. In most aspects of cash-flow testing, the actuary will be able to follow well-documented practices and principles. But often he or she is left holding the bag in determining what the right number is for ongoing expenses. Items such as premium tax and future direct-servicing costs are clearly appropriate and always included. But there are many items, such as overhead, incentives, research, and so on, that are not always included. What portion of these can be covered by profits from existing business, provisions in future business, or interest on capital and surplus? There exists a wide range of practice. In some instances, a liberal inclusion of expenses could cause the failure of nearly any scenario.

Timing is Everything. When formulating an opinion, another exposure is the time span between the commencement of the study and the date the user receives the report. All too often there is too much time, allowing for the opinion to grow stale.

Cash-flow testing for December 31 often starts with September 30 values. In early January, the economic conditions (primarily through the yield curve), are compared to those of September 30. Then, perhaps a week later, liability and asset inventories become available and are compared to their September 30 counterparts. Then, four weeks later, the opining actuary takes out his or her pen and signs the opinion. At that point, there is another call for review for propriety. The last call for second thoughts occurs in late February, when the opinion is mailed with the annual statement and it falls into public domain.

Thus, there are five discreet points when the actuary has the opportunity to formulate an opinion on the same set of data. There will, no doubt, be changes during that time period. Throughout the cash-flow testing exercise, new information may be coming to light. While subsequent events would likely impact a numerical result, the actuary needs to determine whether it would change his or her opinion. This leads one to the question of materiality.

What Does it Matter? Materiality is a concept long debated and addressed by the accounting community. Its definition may be found in booklets and pamphlets, not in simple sentences or paragraphs.

Accountants cannot quantify this elusive concept. The two most common measures of materiality apply to earnings and retained earnings. The upper bound of significance usually lies between 5% and 10% of the otherwise reported earnings or surplus. A big question to be asked is, is the reader still drawing the proper conclusion?

The direction of the item measured adds to materiality. In today's volatile environment, earnings can be positive or negative within a short period of time. Consider two companies both reporting \$750,000 of earnings. Company A has always been at this level. Thus, a \$100,000 adjustment would be significant. Company B's earnings have fluctuated between a positive \$20 million and a negative \$10 million. Obviously, a \$100,000 adjustment to \$750,000 of earnings would not change the reader's conclusion regarding company performance.

One live case study regarding cash-flow testing comes to mind. Total reserves were \$125 million. Surplus was enviable, earnings were modest. The actuary performed cash-flow testing and determined additional reserves were required, so an extra liability of \$85,732 was established. This almost raises a question rather

than answers one. Was the provider truly able to be this precise? Is management now totally comfortable knowing extra reserves have been established?

Who Is in the Audience? The opiner should always know who will be relying on the opinion and what types of decisions will be made because of, or in spite of, the opinion. Not only are shareholders and policyholders impacted by the actuary's projections, but also company employees. The fortunes of a business unit, the establishment of performance benchmarks, and rewards for key performers can be severely impacted by the actuary's estimates. What may be immaterial to the company may be very material to a business unit. The actuary must always be aware of his/her audience and their needs.

In preparing and documenting work papers, it is also wise to proceed as if a litigator was looking over the supporting work. It may also be wise for the actuary to consider retaining a copy of his or her supporting work papers at home. Should financial conditions deteriorate, the Board of Directors and the appointed actuary may not have the same interests.

Reliance. While the opinion is the responsibility of one person, no single actuary can personally perform all the functions necessary to create the financial statements and to formulate the accompanying opinions. The responsible actuary must be able to depend on other professionals. These may be members of his or her own staff, members of other business units, or outside professionals. In any case, all providers must have a clear understanding of expectations. Performance is always enhanced if there is a clear picture of the consequences of failure. The preparer's demands must be known and constantly reinforced to get the expected result.

Conclusion

When forming an opinion, the actuary must be aware of many forces. The actuary must be fully cognizant of all published guidelines, standards, and regulations. The actuary must also know current issues that determine the practice issues in the contemporary environment.

The actuary needs to be aware of the consequences of the stated opinion and needs to be thinking of all audiences. The actuary needs to be communicating with his or her peers to be sure all current issues have been addressed.

The opining actuary may feel like a student taking an exam. The feeling is reminiscent of walking into the test room, even though well prepared, and contemplating that more could have been done.

Perhaps the best way to measure one's own performance is a very simple test. How well do you sleep at

night? If an issue nags at you at night then reappears in the morning, it must be addressed. Merely doing the best you can is often not a sufficient standard. One's own conscience may be the best indicator of when an opinion is ready to be rendered.