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A Reevaluation of ASOP 27, Post-Enron: Is It an Adequate Standard of Professionalism?[1]

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Note: the following paper was originally written and published as part of the SOA's "The Great Controversy: Current Pension Actuarial Practice in Light of Financial Economics Symposium," held in Vancouver, BC, Canada in 2003. Except for some minor edits, the paper is reprinted here as originally published. The two discussant papers and the author's response which follow were written specifically for this edition of the Pension Forum.

Abstract

This paper calls for a reconsideration of Actuarial Standard of Practice (ASOP) 27 in the wake of the scandals that began with Enron and have rocked the world of finance. Financial professionals have been under scrutiny, and actuaries have not been spared. The profession is being questioned not just about its financial models, but also about its ethics.

ASOP 27 was the culmination of seven years' effort over three exposure drafts—a difficult consensus informed neither by financial economics nor, necessarily, by the financial scandals still to come. The paper critiques two aspects of ASOP 27: the actuary's obligation with respect to employer-selected Financial Accounting Standard (FAS) 87 assumptions, and the concept of the "best-estimate range."

ASOP 2 had required the actuary to disclose any disagreement with employer-selected assumptions. ASOP 27 removed this requirement, relying instead on the weaker standard of ASOP 4. The paper examines the development of this change in thinking and argues for a return to the ASOP 2 standard.

ASOP 27 also introduced the "best-estimate range." Continued reliance on this construction could prove dangerous to the profession: it is a contradiction in terms, it is arbitrarily wide, and it permits the selection of aggressive assumptions. The paper argues for a tighter standard, perhaps based on the different approach taken in ASOP 35.

1. Introduction

U.S. pension actuarial practice is facing perhaps its most serious challenges in its existence as an identifiable discipline. One of those challenges comes from advocates of financial economics. These critics charge that the standard actuarial model represents, quite simply, bad economics—and that this flawed model creates problems such as inequitable cost allocations and inefficient investment policies. But another set of critics is directly attacking the profession's *ethics*, rather than its economic model. Their charges are part of the broader criticism of various professions and groups in the post-Enron environment, notably, accountants, investment bankers and analysts, lawyers, and corporate executives.

[1] The opinions expressed in this paper are solely those of the author and do not necessarily reflect the views of his employer, Mercer Human Resources Consulting.

The two critiques of actuarial practice are, in fact, related, because financial economics may offer means to reduce or eliminate some ethical dilemmas now faced by actuaries. However, any changes to the regulatory landscape induced by financial economics will be slow in coming, and may not come at all. The profession needs to address the direct ethical criticisms at the same time that it debates an overhaul of its underlying economic model. Debating financial economics in isolation would leave the profession with an incomplete picture of alternative paths and their implications.

This paper looks at certain ethical problems *within the context of the current pension actuarial model.* While some individual firms and practitioners have already taken steps to review and more clearly delineate their own professional standards, the issues addressed herein go beyond the inevitable episodes of malfeasance that afflict every profession to some extent. Rather, the argument here is that the profession's practice standards themselves may lead to certain ethical dilemmas, increasing the likelihood of individual behavior that may—after the fact—be challenged as questionable, and leaving the profession vulnerable to criticism.

The standards in question are Actuarial Standard of Practice (ASOP) 27, "Selection of Economic Assumptions for Measuring Pension Obligations" (Actuarial Standards Board [ASB] 1996b) and its counterpart for demographic assumptions, ASOP 35 (ASB 1999). This paper offers the opinion that these standards should be strengthened; at the very least, I hope that, in the new post-Enron environment, the continued appropriateness of these standards will be vigorously debated.

This paper will focus on ASOP 27, bringing in the similarities and differences with ASOP 35 as needed. It will scrutinize two aspects of ASOP 27: (1) the actuary's obligations with respect to prescribed assumptions, and (2) the concept of a "best-estimate range." The remaining sections of this paper will present some of the recent critiques of actuaries, examine in turn each of the two questioned aspects of ASOP 27, discuss alternative approaches and possible solutions, and look briefly at the process of setting standards. The paper draws heavily on published material; the primary technique employed is to tell a story and develop an argument by letting the public record speak for itself.

As is the case in many endeavors, the criticism will prove to be easier than the solution. The creation of ASOP 27 itself became an enormously difficult venture—a seven-year effort encompassing three exposure drafts. The first exposure draft itself consumed "more than three years of study, discussion, and drafting" by the Pension Committee of the Actuarial Standards Board. The committee lamented that

> The field it [the first exposure draft] addresses is characterized by so many complex issues and divergent actuarial approaches that obtaining consensus has presented the committee with extraordinary difficulties. (ASB 1992, transmittal memo, p. 6)

The committee had the following to say about the comments to that first exposure draft:

> When the comments were assembled in a section-by-section format, there were nearly two hundred pages of material to be reviewed.
>
> The diversity of opinion among the comments is striking. There was a yes, no, or maybe on almost every topic. The Pension Committee initially intended to revise the first exposure draft on a minimal basis. However, in the course of the one and one-half years of attempting to respond to the comments, at least ten progressively different drafts were produced. Consequently, this second exposure draft is in large part a complete rewrite of the original material. (ASB 1994, app. 2, intro., p. 23)

The attacks on the profession, combined with the extreme difficulty in reaching consensus on ASOP 27 in the first place, warrant a new look at this standard.

1.1 Actuaries under Siege

Actuaries have been taken to task probably most famously by financier Warren Buffett. He was quoted in *Fortune* magazine in December 2001, speaking about the expected return on asset assumption required under Statement of Financial Accounting Standard (SFAS) 87:

> Heroic assumptions do wonders…for the bottom line. By embracing those expectation rates [shown in the article]…, these companies report much higher earnings—much higher—than if they were using lower rates. And that's certainly not lost on the people who set the rates. The actuaries who have roles in this game know nothing special about future investment returns. What they do know, however, is that their clients desire rates that are high. And a happy client is a continuing client…I think that anyone choosing not to lower assumptions—CEOs, auditors, and actuaries all—is risking litigation for misleading investors. (Loomis 2001, p. 94)

Here Buffett is accusing the profession not of bad models but of bad ethics.

Pensions & Investments Europe reported in 2003 that

> Actuaries are under fire at the moment, with newspapers calling for the profession to face the same scrutiny as accountants did following the Enron collapse. For its part, the Actuarial Profession [the umbrella body for England's Institute of Actuaries and Scotland's Faculty of Actuaries] says it has been "exploring the introduction" of compulsory peer reviews. (Brooksbank 2003, p. 5)

The U.S. profession is well aware of the attention. A report from the 2002 Enrolled Actuaries meeting observed that "With Enron serving as everybody's worst-case scenario, much of the discussion at the…meeting…revolved around ethics and professionalism" (*Actuarial Update* 2002, p. 6). While American Academy of Actuaries President Dan McCarthy stated that actuaries have "an extremely low rate of (ethical) complaints compared to other professional groups that practice before the IRS," panelists "warned that actuaries and other pension professionals should expect their actions to be closely scrutinized in light of heightened public awareness of pension issues" (ibid.). One session planned for the November 2003 Annual Meeting of the Conference of Consulting Actuaries was entitled "Am I My Client's Keeper?—Precept 8 Explored."[2]

Meanwhile *Pensions & Investments* reported that

> SEC officials in recent months have become increasingly concerned that many companies overstated their pension assets using artificially high return assumptions. Now, they are also concerned that companies are understating their pension liabilities, using inappropriately high interest rates to calculate the present value of their obligations.
>
> If the impact is material, "we could ask companies to re-present their information on a historic basis," said Carol Stacey, chief accountant in the SEC's division of corporation finance. (Anand 2003, p. 1)

Commission staffers have since indicated that they will audit any company assuming an expected rate of return in excess of 9%, and require it to restate earnings if it can't justify the rate (Walsh 2003).

In these instances the SEC did not point its finger at actuaries the way Warren Buffett did. But will this blow back on actuaries? Will more people ask, "Where were the actuaries?"

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[2] The Code of Professional Conduct (AAA 2003), Precept 8, states, "Control of Work Product: An Actuary who performs Actuarial Services shall take reasonable steps to ensure that such services are not used to mislead other parties."

Other professions have already been forced by Enron-energized regulators to change the way they do business: investment bankers and analysts via a recent settlement agreement between the major firms and the SEC (Labaton 2003), and accountants and lawyers by the Sarbanes-Oxley Act. The latter's restrictions on lawyers have been attributed in part to "the American Bar Association's failure to adopt proposed changes to its own model ethical rules" (Glater 2002, p. 4). Will the actuarial profession be next, if we don't raise our own standards first?

2. Issue 1: Prescribed Assumptions

Much of the recent criticism of actuaries centers on the selection of economic assumptions in accounting for employer-sponsored pension plans, particularly the return on asset and discount rate assumptions. These assumptions affect corporate earnings and balance sheet liabilities; often they affect executive compensation as well, to the extent such compensation is linked to net income or related measures of performance. What should be the actuary's responsibility in the process of selecting these assumptions? What do our standards say?

Assumptions for SFAS 87 are chosen by the employer,[3] though for many of the assumptions, particularly the demographic ones, the employer is dependent on and will rely on the actuary's advice. The expected return on assets and the discount rate are the two assumptions where the employer will most often exercise its power of choice.

Precept 8 of the Code of Professional Conduct, titled "Control of Work Product," states that "An Actuary who performs Actuarial Services shall take reasonable steps to ensure that such services are not used to mislead other parties" (American Academy of Actuaries [AAA] 2003, p. 85). Since unreasonable return on asset or discount rate assumptions could arguably mislead investors and other parties, Precept 8, on its own, would suggest that the actuary has some responsibility to avoid the use of unreasonable assumptions. The actuary could refuse to perform the calculations unless reasonable assumptions are employed, or at least state an opinion about the assumptions in the actuarial communication.

Precept 3 of the Code, "Standards of Practice," states that "An Actuary shall ensure that Actuarial Services performed by or under the direction of the Actuary satisfy applicable standards of practice" (AAA 2003, p. 84). Therefore, we must turn to the ASOPs for further guidance on what, specifically, is expected of the actuary.

ASOP 2, "Recommendations for Actuarial Communications Related to Statements of Financial Accounting Standards Nos. 87 and 88," was released in 1987. It includes the following "disclosure of exceptions" requirement:

> Disclosure of Exceptions—If the calculations conflict significantly with the actuary's understanding of SFAS No. 87 and SFAS No. 88, *including conflict with respect to the assumptions utilized*, that fact should be disclosed as part of the actuarial communication. (Interim Actuarial Standards Board 1987, sec. 5, pp. 1–2, emphasis added)

ASOP 2 explicates Precept 8 by defining what is a "reasonable step" to ensure that an SFAS 87 communication is not used to mislead other parties. That step, embodied in the disclosure of exceptions requirement, is to disclose the actuary's disagreement with the employer's assumptions as part of the actuarial communication. ASOP 2 did not go so far as to say that the actuary should turn down the assignment, even if the employer's assumptions "conflict significantly with the actuary's understanding of SFAS No. 87."

[3] Most of the discussion in this paper surrounding SFAS 87 applies to SFAS 88 and SFAS 106 as well, which will be left out for simplicity.

ASOP 27 was released at the end of 1996. It introduces the term "prescribed assumption," defined as follows:

> Prescribed Assumption—A specific assumption that is mandated or that is selected from a specified range that is deemed to be acceptable by law, regulation, or other binding authority. (ASB 1996b, sec. 2.6, p. 3)

ASOP 27 views prescribed assumptions as ones for which "the actuary is precluded from exercising independent judgment"; consequently, ASOP 27 "does not apply" to their selection (ASB 1996b, sec. 1.2, p. 2), "although it does apply to advice given to the party responsible for selecting the prescribed assumption" (ASB 1996b, sec. 3.11, p. 15). The standard augments the definition of prescribed assumptions with some examples:

> Examples of prescribed economic assumptions include the required interest rate for determining the present value of vested benefits for Pension Benefit Guaranty Corporation (PBGC) variable rate premiums, the current liability interest rate, and economic assumptions selected by the plan sponsor for purposes of compliance with SFAS No. 87. (ibid.)

ASOP 27 decrees that "When an assumption is prescribed, the actuary is *obligated* to use it" (ibid., emphasis added).

Not only is the actuary obligated to use the prescribed assumption, but the actuary is no longer bound to disclose conflict with the prescribed assumption—for ASOP 27 removes the disclosure of exceptions requirement of ASOP 2. ASOP 27 merely requires that the "actuary's communication…state the *source* of any prescribed assumption" (ASB 1996b, sec. 4.2, p. 18, emphasis added) and states that such disclosure "is deemed to fully satisfy the disclosure of exceptions requirement of ASOP No. 2" (ASB 1996b, sec. 1.2, p. 1).

(That said, we'll see shortly that ASOP 4, "Measuring Pension Obligations," saves some of the substance of the ASOP 2 requirement, albeit more weakly. To round out the picture, ASOP 35, the companion document covering demographic assumptions issued three years after ASOP 27 in 1999, contains guidance identical to ASOP 27 on this issue. ASOP 41, a more general standard on "Actuarial Communications" issued in 2002, did not alter any requirements with respect to the issues at hand.)

The overturning of ASOP 2's disclosure of exceptions requirement was by no means a foregone conclusion. The first exposure draft, in its section on communications and disclosure, states that, for an assumption not selected by the actuary, "If the actuary considers that assumption to be outside the range of reasonable assumptions . . . this should be indicated" (ASB 1992, sec. 6.2, p. 14). The effect is substantively similar to the ASOP 2 requirement, and the exposure draft left ASOP 2 itself untouched.

The second exposure draft contained the committee's summary of comments received on the first exposure draft, which included the following:

> Eight comments referred to section 6.2 [the section in question]. Almost all respondents objected to the language in the first exposure draft that required the actuary to indicate whether assumptions chosen by others were outside the range of reasonable assumptions…*Although the language was somewhat modified, the board felt that this added disclosure was professionally appropriate*. (ASB 1994, app. 2, sec. 6.2, p. 40)

Thus, despite opposition, the second exposure draft was unchanged on this matter, taking the position that the required disclosure was "professionally appropriate." It is noteworthy too that, in this instance, the response to the comments cites the opinion of "the board"—that is, the Actuarial

Standards Board, which votes on whether to approve exposure drafts and standards of practice; normally, responses to comments almost always cite the opinion of "the committee"—that is, the Pension Committee of the ASB, which does the hard work to make exposure drafts and new standards possible.

The third exposure draft was a different story. Summarizing reactions to the second exposure draft:

> Five comment letters requested deleting the last sentence of section 6.2 (now 4.2…), which required the actuary to disclose when an assumption selected by someone else is inconsistent with the standard. One comment letter urged that this requirement be retained because it was the public plan actuary's only tool for dealing with unreasonable legislative mandates. *The committee agreed with the majority of commentators on this issue, and deleted the sentence.* (ASB 1996a, app. 3, sec. 6, p. 37)

In addition to this turnaround, the third exposure draft introduced the term "prescribed assumptions" and stated the inapplicability of the standard to such assumptions and the actuary's obligation to use them. The final ASOP 27 "dotted the i" by formally overturning the disclosure of exceptions requirement of ASOP 2.

This reversal in the drafting of the standard coincided with significant change in the composition of both the ASB and the Pension Committee. Between the first and second exposure drafts, the Pension Committee experienced moderate turnover of 23%; but by the critical third exposure draft, cumulative turnover since the first exposure draft was 77%. For the ASB, the corresponding turnover was 33% by the second exposure draft and a cumulative 56% by the third. Both groups experienced no turnover between the third exposure draft and the final standard.[4]

What one population of the Pension Committee and ASB thought necessary to require because it was "professionally appropriate," another did not. In its responses to comments on the third exposure draft, the committee offered instead the view that ASOP 4, not ASOP 2, had the appropriate guidance for dealing with unreasonable prescribed assumptions: "[T]he committee believes disclosing the source of the assumption is adequate when considered in conjunction with the existing disclosure requirement in section 6.3(g) of ASOP No. 4" (ASB 1996b, app. 3, sec. 4.2, p. 35).

> That ASOP 4 requirement states that
>
> If the actuary expects that the long-term trend of costs resulting from the continued use of present assumptions and methods would result in a significantly increased or decreased cost basis, this should also be communicated. (ASB 1993, sec. 6.3g, p. 16)

The live exposure draft of a proposed revision of ASOP 4 would weaken this requirement, calling for the following: "[I]f the actuary expects the level of pension costs to change *abruptly* from one measurement period to the next…[there must be] a disclosure to that effect" (ASB 2002c, sec. 4.1.b9, p. 12, emphasis added).

Since unreasonable assumptions can be expected to generate significant gains or losses, which will in turn affect costs, disclosure of these cost effects is deemed sufficient under the ASOP 27/ASOP 4 disclosure regime. The problem is that unreasonable assumptions can often *sustain* a misrepresentative level of costs for a long time. The proposed revision to ASOP 4 would cover even fewer situations. Moreover, disclosing an expected cost trend simply does not have the deterrent effect of

[4] Membership data are listed at the end of the transmittal memorandum in each of the exposure drafts and the final ASOP.

stating directly that the assumptions are unreasonable or inconsistent with the requirements of, say, SFAS 87.

In summary, when an employer chooses unreasonable assumptions for SFAS 87, an actuary's reaction (let's say after unsuccessfully attempting to persuade the employer to change the assumptions) could range from among the following:

1. *Strongest*—Refusing to do the assignment, with a "noisy withdrawal."
2. *Next strongest*—Refusing to do the assignment, without a "noisy withdrawal."
3. *Strong*—Performing the assignment, but stating an opinion in the communication that the offending assumptions aren't reasonable or don't comply with the actuary's understanding or interpretation of SFAS 87.
4. *Moderate*—Performing the assignment, but disclosing that the assumptions will result in a long-term trend of increasing costs.
5. *Weakest, obliging*—Performing the assignment without qualification.

Under ASOP 2, the actuary had to at least do #3, and could do #1 or #2. Under ASOP 27/ASOP 4, the actuary almost appears to be prohibited from doing #1 or #2, and at least has support for ruling out such a response; is no longer obligated to do #3; will sometimes have to do #4, depending on the facts and circumstances as well as the outcome of the revision of ASOP 4; and will sometimes, perhaps often, be able to do #5.

ASOP 27 appears to sanction much of the obliging behavior decried by Warren Buffett. The Actuarial Board for Counseling and Discipline has opined that, in interpreting Precept 8's "reasonable steps," "to ensure that [actuarial] services are not used to mislead other parties," "facts and circumstances are always relevant" (Actuarial Board for Counseling and Discipline 2002, p. 7). But ASOP 27 seems to provide a blanket answer: an "obligation" (and, therefore, at least permission) to use any prescribed assumption, no requirement to disclose disagreement, and limited or no effective disclosure of impact. All of this may not have been the intended meaning of some of those who wrote ASOP 27, and, in practice, plenty of actuaries, to their credit, have taken tougher stands with their clients—but the standard does not read well. And with actuaries being blasted in the press, it's time to give it another look.

2.1 Unbundling Prescribed Assumptions

A useful way to start is by sorting out the various types of prescribed assumptions. As noted earlier, ASOP 27 defines a prescribed assumption as one that is "mandated or that is selected from a specified range that is deemed to be acceptable by law, regulation, or other binding authority" (ASB 1996b, sec. 2.6, p. 3). The examples given include the current liability interest rate, the interest rate for determining PBGC variable rate premiums, and economic assumptions selected by the plan sponsor for SFAS 87 (ASB 1996b, sec. 3.11, p. 15). Other examples of mandated assumptions would be those specified by certain state and local laws regulating the funding of public employee plans and those chosen by state and local government sponsors for accounting under GASB 25 and 27.

ASOP 27 "gives equal deference to all prescribed economic assumptions regardless of their source" (ASB 1996b, app. 3, sec. 1, p. 24), and therein lies a key philosophical underpinning of the standard. If actuarial standards of practice were to require disclosure of disagreement with employer-selected assumptions for SFAS 87, would they not also need to require disclosure of disagreement with all other assumptions not selected by the actuary, including those mandated by federal, state, and local law and regulation? Requiring the actuary to disclose disagreement with decisions reached through legitimate political and judicial processes would put an unreasonable and unnecessary burden on the actuary.

The committee's concern over interfering with political outcomes is illustrated by one of the standard's requirements regarding consistency between prescribed assumptions and those selected by the actuary: "Selection of economic assumptions that do not satisfy this standard in order to accommodate the prescribed assumption(s) is a deviation from the standard" (ASB 1996b, sec. 3.11, p. 16).

The comments and responses to the second exposure draft explain the committee's thinking:

> Some respondents…[argued] that actuaries should not be permitted to evade the intent of law or regulation by selecting assumptions that offset the effect of prescribed assumptions. Other respondents…[argued] that when a prescribed assumption is not individually reasonable, the actuary should be permitted to adjust other assumptions in order to reach a reasonable result. (ASB 1996a, app. 3, sec. 5, p. 34)

The committee agreed with the first argument:

> The actuary may not agree that the result so achieved is reasonable or desirable…However, adjusting other economic assumptions to alter the final result can only lead to further constraints on actuarial practice. Therefore, the committee concluded that the actuarial standard of practice should require compliance with such mandates. (ASB 1996a, app. 3, sec. 5, p. 35)

But can we make legitimate distinctions among different sources of prescribed assumptions? In fact, the profession has already done so with ASOP 32, "Social Insurance," released in 1998: it *does* require the actuary to "characterize the reasonableness of the assumptions," including, apparently, those prescribed by someone other than the actuary (ASB 1998, sec. 4.1.8, p. 9).

The opinion here is that we should make the same exception for SFAS 87 assumptions selected by plan sponsors and reinstate the ASOP 2 disclosure of exceptions requirement. The basis for this conclusion is the profession's responsibility to act in the public interest. For any type of prescribed assumption, we should consider the practical effect of a disclosure of exceptions requirement. For example, it is pointless for an actuary to opine on the current liability interest rate with every determination of current liability; such concerns are more usefully expressed through other channels.

Is it also pointless for the actuary to opine on SFAS 87 assumptions? One could argue that the ASOP 2 disclosure of exceptions regime didn't make a significant difference while it lasted, that such disclosure could not be meaningful since there is no forum for the actuary to communicate directly with investors, and that the profession doesn't have a regulatory basis for inserting itself into the auditor's realm. However, the view here is that, in this post-Enron world, requiring actuaries to opine on employer-selected SFAS 87 assumptions is likely to have significant consequences for the better. A mischievous plan sponsor would confront a second gatekeeper besides the auditor, and a more diligent auditing profession would surely pay heed. It is true that the range of assumptions has been tightening even without changes in formal actuarial standards; the SEC, rating agencies, the press, and individual auditing and actuarial firms are cracking down. But our standards should catch up, and the profession should lead.

3. Issue 2: The Best-Estimate Range

Both SFAS 87 and Section 412(c) of the Internal Revenue Code (IRC) require "best estimate" assumptions. SFAS 87 states that "Each significant assumption used shall reflect the best estimate solely with respect to that individual assumption" (FASB 1985, par. 43, p. 12). Section 412(c) requires that

> [A]ll costs, liabilities, rates of interest, and other factors under the plan shall be determined on

> the basis of actuarial assumptions and methods—
> (A) in the case of—
> (i) a plan other than a multiemployer plan, each of which is reasonable (taking into account the experience of the plan and reasonable expectations) or which, in the aggregate, result in a total contribution equivalent to that which would be determined if each such assumption and method were reasonable, or
> (ii) a multiemployer plan, which, in the aggregate, are reasonable (taking into account the experiences of the plan and reasonable expectations), and
> (B) which, in combination, offer the actuary's best estimate of anticipated experience under the plan. (IRC 2003, sec. 412(c)(3), p. 325)

ASOP 27 takes away the Section 412(c) option to use implicit assumptions,[5] so that effectively we can regard Section 412(c) as requiring that each individual assumption be a best estimate, just as under SFAS 87.

A major innovation of ASOP 27 was the concept of "best-estimate range":

> Because no one knows what the future holds with respect to economic and other contingencies, **the best an actuary can do** is to use professional judgment to estimate possible future economic outcomes based on past experience and future expectations, and to select assumptions based upon that application of professional judgment. **Therefore, an actuary's best-estimate assumption is generally represented by a *range* rather than one specific assumption. The actuary should determine the best-estimate range for each economic assumption, and select a specific point within that range.** In some instances, the actuary may present alternative results by selecting different points within the best-estimate range. (ASB 1996b, sec. 3.1, p. 3, boldface emphasis added)

The best-estimate range is defined as "the narrowest range within which the actuary reasonably anticipates that the actual results, compounded over the measurement period, are more likely than not to fall" (ASB 1996b, sec. 2.1, p. 2).

The standard outlines the process in which the best-estimate range is used:

> The general process for selecting economic assumptions for a specific measurement should include the following steps:
>
> a. identify components, if any, of each assumption and evaluate relevant data;
> b. develop a best-estimate range for each economic assumption required for the measurement, reflecting appropriate measurement-specific factors; and
> c. further evaluate measurement-specific factors and select a specific point within the best-estimate range. (ASB 1996b, sec. 3.4, p. 5)

The "measurement-specific factors" referred to above "should be considered in constructing the best-estimate range…and/or in selecting an…assumption within the range" (ASB 1996b, sec. 3.6.3, p. 8). In the case of the investment return assumption, 10 examples of potentially relevant measurement-specific factors are cited: purpose of the measurement, investment policy, reinvestment risk, investment volatility, investment manager performance, investment expenses, cash flow timing, benefit volatility, expected plan termination, and tax status of the funding vehicle.

[5] ASOP 27, Section 3.9 states, "Each economic assumption selected by the actuary should individually satisfy this standard" (ASB 1996bb, p. 14)

This whole approach is dangerous to the profession and disserves the public. Both SFAS 87 and IRC Section 412(c) (the latter as bolstered by the explicit assumption practice standard) require an assumption to be a "best estimate." To the layperson and the nonpension financial professional alike, that suggests a single number. Financial reporting must deliver a single pension expense number, and Section 412(c) defines a single minimum required contribution. The actuarial profession has redefined "best estimate" to mean a range, a redefinition that, frankly, could appear Orwellian to some.

The danger is that the ASOP 27 approach could be used by some practitioners as license to select or agree to aggressive assumptions desired by clients seeking pecuniary advantage. The client or actuary might feel free to pick any point in the range without constraint—at least not from actuarial standards. Some published statements of the committee and other actuaries seem to justify this interpretation.

First, let's look at the propriety of selecting conservative funding assumptions to enhance benefit security. Here is the guidance given in the first exposure draft:

> If the purpose of the measurement is to determine the periodic cash funding requirement under ERISA with a margin for safety, a more conservative funding method should be used rather than conservative economic assumptions. (ASB 1992, sec 5.12.2, p. 12)

By the time of the third exposure draft, the term "best-estimate range" had already been coined, and the general selection process—evaluate data; develop range, reflecting measurement-specific factors; further evaluate measurement-specific factors and select point within range—was in place.[6] In the third exposure draft and final standard, committee responses on the issue of conservative funding assumptions clarify a reversal of course:

> [M]easurement-specific factors enable the actuary to select conservative economic assumptions as appropriate to the plan's circumstances, including the need to enhance benefit security (ASB 1996a, app. 3, sec. 5, p. 28)

and

> The purpose of the measurement—a primary measurement-specific factor—encompasses benefit security. (ASB 1996b, app. 3, sec. 3.6.3, p. 29)

How can conservative assumptions be justified in light of Section 412(c)'s requirement for best estimates? If the best estimate is defined to be a range, there is no longer a violation. In this case the outcome—enhanced benefit security—is probably a good one, but it is achieved by neutralizing the intent of the law, about which the profession has indicated concern. If the law allows very little margin for conservative funding, is this the proper way to attempt to change it?

Unfortunately, what's good for the goose is good for the gander. If the best estimate is a range, it can be used to justify aggressive as well as conservative assumptions. Consider this committee response that appeared in the second exposure draft:

> Another commentator questioned whether an actuary could act on the plan sponsor's desire to maximize deductions or minimize costs by selecting assumptions from an appropriate end of the best-estimate range. *The committee believes that the plan sponsor's objectives are*

[6] Second draft of ASOP 27 (ASB 1994, sec. 2.2, p. 2) for best-estimate range; third draft of ASOP 27 (ASB 1996a, sec. 3.4, p5) for general process.

> *among the many factors that might be considered for selection of assumptions within the best-estimate range*. (ASB 1994, app. 2, sec. 5.3, pp. 28–29, emphasis added)

This is a clear statement that an aggressive assumption may be chosen, limited only by the upper end of the range, for no other reason than that the plan sponsor wishes to minimize costs.

Consider, too, this statement from the transmittal memorandum to the third exposure draft:

> Like the first exposure draft, the second exposure draft recommended that each assumption should be individually reasonable (*i.e.*, should be within the actuary's best-estimate range). (ASB 1996a, p. vii, emphasis added)

The statement equates reasonability with the entire breadth of the best-estimate range.

In 2001 the Academy's Pension Practice Council published a Practice Note to assist actuaries in complying with ASOP 27. While the document is not binding and was not promulgated by the ASB, it does provide more evidence of how actuaries have been thinking about ASOP 27. Here is commentary on a case study that was presented:

> Note that by selecting a point within the best estimate range other than the mid-point, the actuary did not deviate from the requirement to select the best estimate assumption. Rather, the actuary acknowledged that the selection of the range itself is by no means an exact process and that the actual average return on plan assets over the measurement period might reasonably fall *anywhere* within the selected range. (AAA 2001, p. 15, emphasis added)

The fact that assumption setting is not an exact, predictive science does not mean that an entire range constitutes a best estimate.

Even if we accept the concept of a best-estimate range, another problem is that its width is arbitrary. As already noted, the best-estimate range is defined as "the narrowest range within which the actuary reasonably anticipates that the actual results…are more likely than not to fall." Simplistically, such a range would be a 50% confidence interval covering the 25th through 75th percentiles. The definition was not so stated both for technical reasons and because of the committee's desire "to craft a definition that is meaningful to both actuaries and nonactuaries and which also reflects the fact that the selection of assumptions is not a precise mathematical process" (ASB 1996b, app. 3, sec. 2.1, p. 26).

Somehow, a 50% confidence interval is equated to "best estimate"—but why not 75%, or 25%? There is no basis for the conclusion, effectively, that a 50% confidence interval is "the best an actuary can do," to use ASOP 27's phrase. For investment return assumptions where the assets include a significant equity component, a 50% confidence interval can be quite wide.

For demographic assumptions, ASOP 35's counterpart to the best-estimate range is the "assumption universe," defined as "the possible options that the actuary might *reasonably* use for the specific assumption" (ASB 1999, sec. 2.2, p. 3, emphasis added). Section 3.3.4 of ASOP 35 continues that "The actuary should select each demographic assumption from the appropriate assumption universe" (p. 6). The definition of "reasonable" is given as

> A reasonable assumption is one that is…not anticipated to produce significant cumulative actuarial gains or losses over the measurement period. For any given measurement, the actuary may be able to identify two or more reasonable assumptions for the same contingency. In some instances, the actuary may present several results to illustrate the effect of alternative reasonable assumptions. (ASB 1999, sec. 3.1, p. 3)

An "assumption universe" that satisfied this definition of "reasonable" would have to be very tight, for every assumption in this universe would be anticipated not to produce significant cumulative actuarial gains or losses. While "the actuary may present several results to illustrate the effect of alternative reasonable assumptions," such a range of results might not be worth the cost of production.

If this test of reasonableness is applied to ASOP 27, the best-estimate range fails. For both the top end and bottom end of an investment return best-estimate range to be reasonable, neither rate could be expected to produce significant cumulative gains or losses. A fixed, 50% confidence interval cannot guarantee this outcome. For typical confidence intervals for equity returns, it's not even close.

4. Solutions

On Issue 2, is the solution just to jettison the best-estimate range? On the funding side we have seen that IRC Section 412(c) calls for a best estimate, and ASOP 27 says that the best estimate is a range. Well, maybe it is; sometimes the law can be interpreted by how it is enforced. Many an individual practitioner signs the Schedule B for several plans using a variety of funding interest rates that could not be explained by plan-specific characteristics. The IRS has not, to my knowledge, made a practice of asking such practitioners to explain how each of those rates could simultaneously be their best estimates. Through years of enforcement policy, the IRS has effectively interpreted 412(c) to mean that a best estimate is indeed a range; and by cracking down on extreme assumptions once in a while, it indicates that the width of the range has to be "reasonable" in some sense.

In fact, in the 1980s the IRS introduced internal guidelines for audits of funding assumptions that tolerated a wide range—an effective spread of over 8%![7] By comparison, for a portfolio invested 70% in equities in the present economic environment, a not atypical 25th–75th percentile range over a 20-year time horizon would have a width of about 4%. In this sense one could view the ASOP 27 best-estimate range as an evolutionary advance in practice standards: arbitrary like the IRS standard, but tighter. If so, it's time for the next evolutionary advance.

Should that advance eliminate the notion that a best estimate *is* a range? Stripping ASOP 27 of the best-estimate range could put consulting actuaries in untenable positions—squeezed between client desires and impractical standards that the IRS itself has effectively deemed unnecessary. This is a valid argument. Nonetheless, the proposal here is to raise the bar. ASOP 27 is too much of an accommodation to loose practice; better to promulgate no definition at all of "best estimate." If anything, ASOP 35 is a better model, essentially limiting the "best estimate" moniker to a group or range of assumptions tight enough so that any one choice wouldn't generate significant gains or losses relative to any other.

On the accounting side, suppose the profession were to both discard the best-estimate range and require the actuary to state an opinion on employer-selected SFAS 87 assumptions. Not every practitioner or client will have the same best estimate. If the best estimate meant a point, the

[7] The comparison of SOP 2 is imperfect. The audit guidelnes looked at the aggregate effect of all assumptions and tested the assumption not against the best estimates but against actual experience over the prior three to five years, with or without inclusion of the current year's experience. The tolerance was plus or minus 4% of accrued liability, for an 8% spread. With six choices of period (three, four or five years, with or without the current year), the tolerance range expands beyond 8%. This tolerance could all be applied to justifying the interest rate assumption; the midpoint of the effective range might be odd, but the width of the range would be 8% plus. See IRS (1984, sec. 430 adn 450) and IRS (1983, worksheet III): for technical criticism of the guidelines, see Anderson (1985).

client's best estimate would match the actuary's only by coincidence, rounding, or consensus. A sensible disclosure might be not whether the actuary had the same best estimate, but whether the actuary agreed that the client's best estimate was a *reasonable* best estimate. How far should the actuary go in recognizing the reasonability of the range of *others'* best-estimate points? Perhaps it should be beyond the tight range implied by the ASOP 35 "no significant gain/loss" criterion. While this is a very difficult question to answer, the present answer—the ASOP 27 "more likely than not" range—is a poor choice for the profession and should be replaced.

My proposal is as follows:

- Reinstate the ASOP 2 disclosure of exceptions requirement and require the actuary to opine on employer-selected SFAS assumptions.

- Repeal the ASOP 27 best-estimate range, either without replacement or replaced by a much tighter range based on the ASOP 35 "no significant gain/loss" criterion.

This proposal would not be without difficulty, and I welcome vigorous debate and better suggestions.

5. Epilogue

5.1 Intersection with Financial Economics

If lawmakers, regulators, and actuaries were all to adopt the proposals for change put forward by advocates of financial economics (see Bader and Gold 2003), the scale of the problems discussed in this paper would be reduced. If the funding interest rate and SFAS 87 return on asset assumption were not to anticipate earning a risk premium, two of the most debated assumptions would be much less malleable. Conservatism for benefit security would be automatic. Other assumptions would still, of course, be "in play."

Arguably, the economic model underlying current pension actuarial practice has generated temptations, some of which a corrected model would remove. In the meantime, however, actuarial standards of practice must promote high ethical standards within the current economic model.

5.2 Post-Enron Regulation and Standard Setting

If we are to contemplate raising our standards in the post-Enron environment, it is worthwhile to consider what other professions and groups are doing and experiencing. Here are a few tidbits from the news and elsewhere:

- PricewaterhouseCoopers announced that it would take a tougher stance on its audits, even saying that it would resign from an account if it couldn't resolve its concerns (Glater 2003a). Should more pressure be put on actuaries, through Precept 8 as interpreted by standards of practice, to do the same?

- The SEC adopted rules requiring lawyers to take concerns about securities law violations to top executives at the companies they advise and, if necessary, to corporate boards (Glater 2003b). The SEC had also proposed, but in the face of fierce opposition did not adopt, a "noisy withdrawal" rule that would have required lawyers to take their concerns directly to the SEC if the company failed to respond appropriately. Could a scandal still to come lead to a "noisy withdrawal" regulation for actuaries?

- Standard & Poor's has called for "placing tighter limits on the leeway companies have to set assumptions regarding the discount rate, future compensation increases, and expected investment returns" (2003, p. 7). Similarly, during the development of SFAS 87, the FASB (1985, par. 192, p. 58) had debates about mandating assumptions. Will too many loose assumptions lead to a constriction of the actuary's role?

- In the United Kingdom the accounting standard itself makes the actuary at least partly responsible for employer-selected assumptions. FRS 17 states that "The expected rate of return should be set by the directors (or equivalent) having taken advice from an actuary" (U.K. Accounting Standards Board 2000, par. 54, p. 26).

What should we expect from our own standards of practice? Lawrence Bader and Jeremy Gold have been prominent critics of the profession's standard-setting process. Some of their recent statements include the following (in the last comment they are joined by six other named actuaries and three actuaries who chose anonymity):

- The current process for setting actuarial standards of practice (ASOPs) is dominated by practitioners and protects existing mainstream practice. (Bader and Gold 2003, p. 10)

- This standard-setting process is unlikely to produce changes adequate to the challenges we face. The profession should organize a separate effort to reconstruct an actuarial pension model that is informed by the teachings of financial economics. (ibid.)

- The current standard-setting process is run by active practitioners whose everyday work enmeshes them in existing practice. (In contrast, the Financial Accounting Standards Board is part of a structure that is independent of other business and professional organizations). The actuarial standards structure is a recipe for incrementalism, focused on narrowing the permitted range of current practice. (Bader and Gold 2003, p. 11)

- It is not uncommon, particularly in the public plan sector with plans subject to GASB, for actuaries to be whipsawed between requests to raise investment return assumptions when interest rates rise (and market value is likely to be below the actuarial asset value) and requests to restart the actuarial asset value at market when market value exceeds the actuarial value (and interest rates are likely to have fallen). *Because ASOPs give both latitude and protection to practicing actuaries, we must recognize that excessive latitude may limit the actuary's ability to resist this kind of double bind.* (Bader et al. 2003, p. 37, emphasis added)

These criticisms are motivated first by the challenge from financial economics, but they are clearly imbued with and linked to ethical concerns as well. The commentators question whether the standard-setting process is adequate to meet the conceptual challenge created by the ascendancy of financial economics; the same question can be asked about the ethical challenges of a post-Enron environment.

Statements by Academy and ASB members lend some support to the idea that the standards of practice merely support existing practice. The live exposure draft of a proposed update of ASOP 21, "The Actuary's Responsibility to the Auditor," states that

> The ASB's intent in revising ASOP No. 21 is to clarify and update the standard without "raising the bar" (*i.e.*, requiring a higher level of practice than is generally accepted as appropriate practice by members of the profession practicing in this area). Does the proposed revised standard appropriately reflect generally accepted actuarial practice? (ASB 2002b, transmittal memo, p. v)

In 2002 the ASB withdrew an exposure draft of a proposed standard of practice on "Projected Benefit Illustrations in Connection with Retirement Plan Amendments." In writing about that case, an ASB member observed that "standards typically codify generally accepted actuarial practice—and if no practice has gained broad acceptance within the profession, then *in most* [but not all] instances it's probably too early to begin drafting a proposed standard" (Rackley 2002, p. 6, emphasis added). In this case "there was no generally accepted actuarial practice that could be codified into a standard. Setting a meaningful standard likely would either put actuaries out of the benefit illustration business or lead to widespread noncompliance" (ibid.).

The Academy expressed a somewhat similar view of the function of actuarial standards of practice in a recent amicus curiae brief:

> Standards of practice typically reflect the efforts of the Actuarial Standards Board to describe "generally accepted" actuarial practice and, therefore, can provide some evidence of what "generally accepted" practice was prior to their development. However, in some situations actuarial practice has not evolved to the point where a particular practice or practices have become "generally accepted" and, therefore, the Actuarial Standards Board is called upon to define what practice(s) will be accepted within the profession. In such situations, standards should not be deemed to reflect generally accepted practice prior to the date of their adoption. (Bloom 2003, pp. 6–7)

Within these statements is the implication that standards of practice must and sometimes do lead and change standard practice, rather than just codify existing practice. This should be one of those moments. The transmittal memo to ASOP 41, "Actuarial Communications," states that "It is very important that any standard of practice not conflict with the Code of Professional Conduct" (ASB 2002a, transmittal memo, p. iv). ASOP 27, if it doesn't directly conflict with Precept 8, at the very least weakly interprets it.

In the post-Enron environment, as outside criticism of, and pressure on, actuaries and other professionals has intensified, the actuarial profession has already started to change its practices. Firms have clarified and tightened their internal standards regarding the acceptability of assumptions. To the extent actuarial standards of practice codify existing or emerging practice, a change in practice is under way that should be observed and ultimately formalized.

But just as changes in practice influence the development of new ASOPs, existing ASOPs influence the course of practice—sometimes leading change, sometimes constraining it. The danger at present is that the protection afforded by ASOP 27 will be a ceiling on the extent to which consulting actuaries strengthen their own practice standards. This is a time for the profession to lead—to both remove that ceiling and raise the floor of pension actuarial practice.

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Discussions on A Reevaluation of ASOP 27, Post-Enron

Comments on Paper by Mr. Frank Todisco

by Robert C. North, Jr., F.S.A.

Introduction

In his paper "A Reevaluation of ASOP 27, Post-Enron: Is It an Adequate Standard of Professionalism?" Mr. Frank Todisco has done the actuarial profession a favor by setting forth concerns about the professional framework under which Actuarial Standards of Practice (ASOPs) are established and the rules under which pension actuaries practice their craft.

In a strong expression of concern, Mr. Todisco states that the actuarial profession is being "questioned not just about its financial models, but also about its ethics." The prime illustration of Mr. Todisco's concerns is Actuarial Standard of Practice Number 27 (ASOP 27), "Selection of Economic Assumptions for Measuring Pension Obligations," which is the governing authority on the subject for pension actuaries.

Mr. Todisco observes that ASOP 27 was

- The culmination of seven years' effort including three exposure drafts;
- Developed before the emerging debate on financial economics; and
- Developed before the recent string of financial scandals, including the Enron case.

In particular, Mr. Todisco expresses concerns with and proposes changes to the way ASOP 27 handles

- Prescribed assumptions (*e.g.*, the actuary's obligation with respect to employer-selected assumptions used to develop information in accordance with Statement of Financial Accounting Standards No. 87 [FAS 87]) and
- The "best-estimate range."

In the following discussion I shall comment on several of the observations made by Mr. Todisco and present some additional ideas for consideration. The comments herein are mine alone. I would, however, like to acknowledge the staff of the New York City Office of the Actuary, who assisted in the preparation of this discussion.

Background

I began writing with the intention of being balanced. When asked to be a discussant on Mr. Todisco's paper, preferably with a somewhat neutral viewpoint, I explained that I was already on record expressing concerns about ASOP 27 and the development of ASOPs in general. Nevertheless, I began drafting this discussion in an attempt to present ideas that would both support and challenge the principles of the current ASOP 27.

However, during the drafting process, it was difficult to remain neutral when discussing the current state of ASOP 27. I agree with Mr. Todisco that some of the principles set forth in ASOP 27 represent a major reason why the "U.S. pension actuarial practice is facing perhaps its most serious challenges in its existence as an identifiable discipline."

Addressing the issues raised by Mr. Todisco and others is essential to maintaining the integrity and credibility of the actuarial profession. I strongly believe that the actuarial profession must be dynamic, governed by the best science, and dedicated to the Society of Actuaries' motto that "the work of science is to substitute facts for appearances, and demonstrations for impressions."

Although the comments herein follow a somewhat different path than that followed by Mr. Todisco, many of our concerns and ideas are the same. All actuaries must be concerned when our financial models are challenged and when our ethics are questioned because we have not revised our models.

Mr. Todisco states that "this is a time for the profession to lead." He then offers some suggestions and "welcome[s] vigorous debate and better suggestions." I concur that the actuarial profession must lead. Here I offer some of my own suggestions that, if not better, should at least help foster that vigorous debate.

Positives of the Current ASOP 27

Earlier in my professional career, I often favored either no ASOPs or else ASOPs that would permit a wide range of practice. After all, conscientious actuaries undertake only assignments for which they are qualified and perform those assignments with professional skill in accordance with the Code of Professional Conduct.

In comments to the Actuarial Standards Board (ASB) in December 1992 regarding the first exposure draft to what eventually became ASOP 27, I wrote that "our profession is headed in the direction of too many detailed standards, with too much emphasis on technical precision." I further wrote that the proposed standard "emphasized technical science at the expense of individual, professional judgment and 'actuarial art'" (North 1992).

However, over the years I have come to appreciate how most of the ASOPs set forth, in articulate fashion, what seem to constitute reasonable ranges of actuarial practice. In general, ASOPs do appear to elevate the quality of generally accepted actuarial practice across the profession. For example, the existence of ASOP 27 has generally eliminated the use of rate of return assumptions that are inconceivable relative to their related salary scales. In addition, ASOP 27 fulfills, under the concepts of traditional pension actuarial practice, my historical desire for flexibility.

Negatives of the Current ASOP 27

Notwithstanding the positives of ASOP 27 and my historical inclination for flexibility and actuarial art, the financial world has changed greatly over the last 12 years since my expression of concerns about "too much emphasis on technical precision" and using "technical science at the expense of individual, professional judgment." The financial world in which actuaries operate has become increasingly based on scientific underpinnings. Thus, it may well be time for the actuarial profession to undertake a serious review of ASOP 27 and determine if the generally accepted actuarial practices it sets forth remain appropriate.

Like Mr. Todisco, I have multiple concerns about ASOP 27. Some of those concerns are that ASOP 27 may be seen as

- Weak, to the point of allowing such a wide range of practice that the quality of the resulting work product could conflict with the basic Code of Professional Conduct, or

- Flexible, to the point of permitting a standard of actuarial practice that is less rigorous than many actuaries would consider appropriate. For example, Mr. Todisco notes that the American Academy of Actuaries, in a Pension Practice Council Practice Note dated May 2001, appears to endorse the use of a 50% confidence interval for determining a best-estimate range. For a typical 70% equities/30% fixed income asset allocation policy, ASOP 27 could support a best-estimate range for the rate of return on investment assumption that varies by as much as 4% (*i.e.*, plus or minus 2% from the expected return) over a 20-year planning horizon.

This wide range can provide a great deal of cover for actuaries whose clients prefer to value their future benefit obligations using interest rates at the higher end of the range. This wide range can also permit so much latitude in existing practice that actuaries can readily weaken their true, best-estimate recommendations and still fit within their best-estimate ranges developed in accordance with ASOP 27.

Ultimately implementation of best-estimate ranges provides the potential for actuarial practice to follow a form of Gresham's Law (*i.e.*, bad practice drives out good practice), resulting in its acquiring the following bad practices:

- Allowing itself to become antiquated, setting forth what is purported to be "actuarial science" that is not really science and is unable to recognize economic and financial realities, resulting in
  - Other professionals (*e.g.*, investment bankers) taking advantage of clients whose actuarially determined financial status is inconsistent with the realities of the economic world and
  - Actuaries being at a disadvantage versus other financial experts who are not constrained by our standards but who operate with better science.
- Permitting, however inadvertently, actuaries to fail to protect (*e.g.*, through inadequate funding) the interests of plan participants, taxpayers and, possibly, clients.
- Acquiescing to the desires of bill-paying clients to the possible detriment of other important constituencies.
- Arming, with unintended ammunition, critics of the actuarial profession who argue that, rather than speaking as a profession, neutral in its politics, the profession often appears to be speaking on behalf of the managements of large employers who sponsor defined benefit pension plans.
- Ossifying, to the point of inhibiting necessary evolution, current actuarial practice where science suggests improvements should be made. For example, ASOP 27 may not give sufficient latitude to allow for the introduction of new ideas, such as those of financial economics.

Consequences of a Flawed ASOP 27

If it is determined that ASOP 27 does not represent the best science or appropriate practice for selecting economic assumptions for measuring pension obligations, then some of the consequences of recent and potential future events may be understood.

As Mr. Todisco notes in his paper, financial disclosures based on higher interest rates have led to criticisms of pension actuaries. For example, Warren Buffett, in a December 2001 article in *Fortune* magazine, is quoted as saying "Heroic assumptions do wonders . . . for the bottom line. …The actuaries…know nothing special about future investment returns. What they do know, however, is that their clients desire rates that are high. And a happy client is a continuing client" (Loomis 2001).

Many actuaries believe that Mr. Buffett should have directed his criticism at the plan sponsors who prescribe those "heroic assumptions." However, as Mr. Todisco notes in his paper, these comments challenge our ethics and are likely to lead to more scrutiny. As Mr. Todisco writes, "Will more people ask, 'Where were the actuaries?'" In the same vein, with respect to the restrictions placed on lawyers and accountants by the Sarbanes-Oxley Act of 2002, Mr. Todisco asks, "Will the actuarial profession be next, if we don't raise our own standards first?"

Along the same lines, over the years the Internal Revenue Service has developed more and more "bright line" tests as actuaries have stretched and pushed the limits of gray areas. With respect to their clients, such pushing may be an indication of actuaries' providing the best possible service and value for those clients. However, the substitution of bright line tests for "good faith" compliance may well represent the fallout from overly vigorous advocacy and provide evidence that regulators may feel that some actuaries are willing to call black-and-white issues gray unless the regulators define the allowed colors.

Going forward in time, if the PBGC requires a taxpayer bailout because several major companies decide to terminate their underfunded pension plans, will the public also ask, Where were the actuaries? What did the actuaries do to push the plan sponsors to properly fund their plans? Why didn't the actuaries use more conservative assumptions or funding methods?

Will it be of any help when actuaries state that funding is the responsibility of the plan sponsor or that government rules and regulations prohibited strong funding?

Will the actuarial profession be able to defend itself by pointing to ASOP 27 with its prescribed assumptions and best-estimate ranges?

Will actuaries be given any slack because of their nonfiduciary advisor role as consultants or because of the flawed structure of the PBGC?

When legislators, regulators, plan participants, and the public ask, Where were the actuaries? they are not likely to care about the intricacies of ASOP 27 or to give actuaries a pass because the profession created an ASOP that represents generally accepted actuarial practice. Consequently, I join Mr. Todisco in asking the actuarial profession to consider the ethical implications of an ASOP 27 that may be flawed.

In a speech entitled "Ethics, Investments and Market Valuation" presented at the CFA Institute Annual General Session on May 11, 2004, Mr. Robert D. Arnott, chairman of Research Affiliates, LLP, and editor of the *Financial Analysts Journal*, challenged the investment community "to play a proactive role in rewarding the ethical conduct of business" (Arnott 2004). Many of Mr. Arnott's observations, including those related to meeting promises to fund pension plans, are useful for the actuarial profession if we want to avoid reading more articles challenging our ethics like the one quoting Warren Buffett.

For example, Mr. Arnott notes that best practice (*i.e.,* what is right) is better than legal practice (*i.e.,* what is legal) and that the "more the business community embraces a legal definition of ethics, the more society tries to cure the resulting violations of moral ethics with new legal restrictions on business activities." Mr. Arnott also answers the question "Is aggressive accounting an ethics issues?" In a short answer he says, "It is." As an illustration, he notes that the use of an "implausibly high pension return assumption…results in … deferring expenses—*legally*!"

ASOP 27 provides no impediment to the use of an "implausibly high pension return assumption." When a plan sponsor selects a prescribed assumption, the actuary need not comment on its reasonability, even if it is outside that actuary's best-estimate range, no matter how unlikely any prescribed assumption could be outside most best-estimate ranges given the width of those ranges.

Some Arguments of Financial Economics

Financial economics makes the case that actuarial liabilities usually should be discounted using interest rates that are consistent with assets whose durations and probabilities of payment are comparable to the duration and probabilities of payment of the benefits. For example, for most Public Employee Retirement Systems (PERSs) in the United States, a combination of existing funded status, taxpayer resources, and contractual rights or constitutional protection means that the benefits of these PERSs are almost certain to be paid. In such an environment, rates of return consistent with the yields on U.S. Treasury securities of comparable duration are the appropriate interest rates with which to discount expected benefit payments.

For most pension plans with asset allocation policies that include at least 50% equity securities, the best-estimate range of ASOP 27 may be wide, but may not be sufficiently wide to allow an actuary to establish economic assumptions based on a financial economics approach. To illustrate, if actuarial liabilities are discounted without reference to the risk premia of the supporting assets (such as by using the yields on U.S. Treasury securities that average, say, 4.5% per annum, to discount the value of benefit payments of like duration), then the actuary most likely would fail to meet the existing actuarial standards of practice set forth in ASOP 27 if the asset allocation were 70% equities with an expected long-term rate of return of, say, 7.5% per annum.

An actuary might attempt to rely on ASOP 27, Section 4.3 (Deviation from Standard) to justify a financial economics approach, but Section 4.3 appears to establish a fairly challenging burden for alternative methodologies. Of course, if the assets of a plan are invested entirely in fixed-income securities, then the best-estimate range under ASOP 27 for the expected rate of return on assets might well include a rate of return acceptable under the methodologies of financial economics.

ASOP 27 is looked upon as flawed by actuaries who support financial economics primarily because ASOP 27 establishes that the discount rate for determining the value of benefit payments should incorporate the risk premium for the asset portfolio supporting those benefits. Clearly the issues raised with respect to financial economics present troubling concerns, not just with respect to ASOP 27, but with respect to the modification of any other ASOP where new ideas suggest change is needed. If the ideas of financial economics are correct and the actuarial profession really believes that it should develop its ASOPs as the work of science (as its motto suggests), then there is a need to revise ASOP 27 to accommodate these new ideas.

Saying the earth is round when an ASOP says it is flat may not result in being burned alive at the stake. However, if the world is actually round, then the actuarial profession needs to find a way to transition from saying that the world is flat to saying that the world is round.

Alternative Ideas for ASOP 27

Mr. Todisco suggests that ASOP 27 be reformed to

- Reinstate the concept within ASOP 2 that there should be disclosure where an actuary disagrees with a prescribed assumption and
- Replace the best-estimate range approach of ASOP 27 with the "no significant gain/loss" approach of ASOP 35.

I agree with Mr. Todisco that the actuarial profession should begin dealing with and improving ASOP 27. However, I am not in full agreement with Mr. Todisco's proposals. I offer some additional ideas, beginning with consideration of a full range of possibilities such as the following:

1. Retain ASOP 27 as is.
2. Retain ASOP 27, tighten the best-estimate range, or, as suggested by Mr. Todisco, replace it with the ASOP 35 concept of no expected actuarial gains or losses, and reinstate the ASOP 2 provision of additional disclosure requirements with respect to prescribed assumptions.

3. Rescind ASOP 27 since the current status of generally accepted actuarial practice is in flux with the debate over financial economics.
4. Make ASOP 27 more flexible so that it could permit establishing economic assumptions based on the principles of financial economics. This could also be accompanied by tightening the best-estimate range and by expanding the requirements for disclosure.
5. Rewrite ASOP 27 to require following the concepts of financial economics.

Choice #1 leaves in place all of the issues, problems, and criticisms of ASOP 27 raised by Mr. Todisco and others. Choice #2 appears to be consistent with Mr. Todisco's proposal and might help tighten existing practice. However, this proposal would continue to ignore the issues and concerns raised by financial economics. Choice #3 would leave no ASOP in place to deal with the establishment of economic assumptions by pension actuaries.

At some point in the near future, assuming the ideas of financial economics continue to gain converts, a point may come where existing actuarial practice clearly does not represent generally accepted actuarial practice (or at least preferred actuarial practice if not restricted by ASOP 27). If that situation does come to pass, as Mr. Todisco highlights in his paper, the Actuarial Standards Board (ASB) appears to support the idea that if an ASOP does not represent generally accepted actuarial practice, then there should be no ASOP.

As this "lack of consensus on what constitutes generally accepted actuarial practice" was the justification for withdrawing the proposed ASOP on benefit illustrations in 2002 (Rackley 2002), then ASOP 27, as currently written, someday might need to be withdrawn from use. However, such a move could appear to other professionals, legislators, regulators, plan participants, actuaries, and the public at large as an indication of an actuarial profession in disarray. Being in the midst of a vigorous debate is an often ongoing situation within most professions. Having the world interpret this debate as a profession in disarray, however, could be a major problem.

Choice #4 may offer an excellent bridge to the future. Many actuaries have not yet fully explored the arguments of financial economics. Others have, but are not yet convinced that these arguments should lead to revisions in pension actuarial practice. Those who are convinced are presented with the dilemma of not being able to utilize the methodologies of financial economics without violating the requirements of ASOP 27. ASOP 27 could be amended to permit actuarial practice to be conducted using either traditional actuarial practice or the concepts of financial economics.

At the same time, however, if there is concern about ASOP 27 becoming a "do anything at all" standard, then other changes to ASOP 27 could be considered, such as

- A tighter application of the best-estimate range;
- More disclosure of the concepts employed and the basis for choosing the economic assumptions; and
- A reinstatement of the requirement that an actuary disclose if a prescribed assumption is outside the actuary's best-estimate range (or, at least, not acceptable within the methodologies permitted under the provisions of a revised ASOP 27).

Choice #5 may be the ultimate direction of the actuarial profession. Currently the profession does not yet appear to be ready to substitute financial economics for traditional actuarial practice. However, if financial economics is ultimately embraced by pension actuaries, then it would be better if the actuarial profession arrived at that point on its own rather than by having the implications of financial economics forced upon it by economic realities and the probable upcoming changes in accounting standards.

Suggested Revision to ASOP 27

I believe that choice #4 offers the actuarial profession an opportunity to address several concerns expressed about ASOP 27. In particular, choice #4 would allow the actuarial profession to recognize the issues raised by financial economics without forcing the entire profession to adopt those ideas immediately.

Although choice #4 would leave the debate about financial economics unresolved and create an ASOP with more than one acceptable approach to the development of economic assumptions for measuring pension obligations, having these alternatives within ASOP 27 would also mean that the debate about what economic model should be used by actuaries would be ongoing. Ideally this would also make the ASB the venue for conducting that debate and overseeing the process of establishing a final, revised standard.

In the end, I believe the ideas of financial economics are likely to win out and that choice #5 will come to pass. Until then, it may not be reasonable to continue having in place the existing ASOP 27 that is at odds with what many actuaries who support the ideas of financial economics argue is "best practice."

Change happens, and, with respect to ASOP 27, the actuarial profession needs to address the issues of financial economics as they would impact this standard of practice. The changes can come from within, instituted by actuaries pursuing their motto of science. Alternatively, the changes can be a response to outside forces accusing our profession of being backward, irrelevant, and, worst of all, unethical.

In his comments in the *Fortune* article, Buffett was more painfully accurate than most actuaries would like to admit. It would behoove us all to listen and address the issues raised by Mr. Todisco, the supporters of financial economics, and others like Warren Buffett.

Conclusion

Mr. Todisco has given the actuarial profession an excellent treatise addressing the basic issues of standard setting and what would make a more-appropriate ASOP 27. In this discussion of Mr. Todisco's paper I have reviewed some of the positives and negatives of ASOP 27, discussed the consequences of a flawed ASOP 27, reviewed some of the arguments of financial economics, offered a range of alternatives for dealing with ASOP 27, and, finally, suggested a revision to ASOP 27.

I hope that the importance being given to Mr. Todisco's paper by the Society of Actuaries will encourage all pension actuaries to engage in the debate over what ASOPs should represent and how they should be developed. I also hope that this debate will result in the creation of a new ASOP 27 that will be viewed by actuaries and others as the best science for the measurement of pension obligations, result in better actuarial practice, and, hopefully, eliminate challenges to our ethics.

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Commentary on Frank Todisco's Paper

by James Turpin, F.C.A., M.A.A.A., E.A.

Frank Todisco's paper, "A Reevaluation of ASOP 27, Post-Enron: Is It an Adequate Standard of Professionalism?" seems to address two primary concerns and a number of minor ones regarding Actuarial Standard of Practice (ASOP) 27, "Selection of Economic Assumptions for Measuring Pension Obligations," and to a lesser extent ASOP 35, "Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations."

I was asked to review and comment on Mr. Todisco's paper based on my involvement in the development of a number of the citations in his paper. I joined the ASB Pension Committee just as the comment period for the first exposure draft for ASOP 27 ended. My participation on the committee spanned the better part of a decade, which included the period when ASOPs 27, 34, and 35 were completed and adopted, as well as the effort to amend ASOP 4 to require individually reasonable assumptions and the initial exposure draft on the projected benefit standard.

I was also indirectly involved in the work on standards and other materials cited by Mr. Todisco through the American Academy of Actuaries as a member of its Pension Committee and Pension Practice Council. Notably, I was active in the small plan actuarial audit cases, reviewed the comments on each of the exposure drafts before they were submitted by the Academy, drafted the request on behalf of the Pension Practice Council to have the Actuarial Standards Board (ASB) consider the projected benefit standard, and was the Academy Vice President for Pensions when the ASOP 27 Practice Note was issued and oversaw the initial drafting of a practice note on applying FAS 87 to cash balance plans.

I also served on the Academy Board of Directors during the public denouncement of the profession over the involvement of actuaries in the conversion of traditional defined benefit pension plans to cash balance plans. So the issue of professionalism was certainly at the forefront of my efforts on behalf of the profession for a number of years. In this response it is not my goal to discuss the merits of the current actuarial model versus financial economics, but rather to address the process by which standards are developed and adopted, any influences that can affect the process, the validity of the current standards, and the need, if any, to revisit those standards.

The development of an actuarial standard of practice can be an unusually arduous process. At one point I estimated that the value of the time and effort devoted to the development of ASOP 27 by the members of the ASB Pension Committee, the ASB, and those who submitted comments easily exceeded $1 million. Mr. Todisco noted that it took over seven years to complete ASOP 27, which seems like a rather long period of time. Unfortunately the project got off to a slow start, and as a result the profession pushed for some changes in the ASB Pension Committee to move the project forward. These changes probably added two years to the time from the start of the process to the issuance of the first exposure draft.

One of the criticisms of the standards-setting process in this paper was the change in membership of the committee and the ASB itself during these seven years. I would note that in most instances the changes were gradual and were generally consistent with the Academy's policy on committee membership. No more than two members changed on the ASB in any one year, and usually it was only one member. So over the course of this lengthy project general continuity existed in the oversight for the development of this standard. The size of the ASB Pension Committee did vary from year to year, and thus there appears to be more change in the committee membership over time than in the ASB. To a certain extent, some of those changes in membership were, to be sure, so that the committee adequately reflected all aspects of the profession. Admittedly, as the committee membership changed, so did some of its collective philosophical outlook. Based on Mr. Todisco's statistics, it appears that the changes in committee membership were significant. However, during my tenure the committee was relatively cohesive on an intellectual basis, and rarely was there a wholesale reversal of a previously adopted position.

While it is true that the financial world has experienced a number of scandals in recent history, I disagree with the author's premise that actuaries, individually or as a profession, have actively participated in the formulation of the underlying cause of those scandals. Certainly the financial effect of pension plans on corporate balance sheets has been well documented, but at the same time I believe that problem was primarily created by accounting standards, not actuarial standards.

Integrity is at the essence of this debate. It is not what is or is not stated in an actuarial standard of practice that will ultimately determine whether an actuary has fulfilled his or her professional responsibility to a client, the profession, or the public interest. Rather, that professional responsibility is fulfilled when the actuary's work product reflects the reasoned application of professional judgment consistent with accepted actuarial principles and practices.

One of the author's core themes is ASOP 27 invites abuse in the setting of actuarial assumptions, notably when actuaries advise plan sponsors on the selection of the assumptions for FAS 87 purposes. This potential exists regardless of how ASOP 27 is written, and as I noted above, it is professional integrity that will determine whether an actuary can be adversely influenced in the selection of assumptions. This problem is not limited to FAS 87, but can also exist in determining minimum funding for a plan.

Long before the Enron debacle, the actuarial profession was focused on promoting professionalism. If one examines both the curriculum of the Society of Actuaries examinations and the topics at actuarial meetings, one will find this fundamental issue extensively addressed for more than a decade before Enron became front-page news. Fallout from Enron, WorldCom, and their contemporaries has certainly galvanized the issue, but I find it inappropriate to equate the obvious fraud that was ingrained in a corporate culture with the manner in which actuaries provide services to their clients and employers.

The implication in this paper that an actuary has to be required to disclose disagreement with the plan sponsor's selection of assumptions for FAS 87 purposes before such disclosure will be forthcoming is a little disingenuous. If the accounting profession wanted actuaries to be responsible for the selection of assumptions as they are in determining minimum funding, that could have been included in FAS 87. However, since that is not the case, the actuary prepares information pursuant to FAS 87 using assumptions selected by the plan sponsor. If the actuary disagrees with those assumptions, I believe ASOP 41 has the mandate that Mr. Todisco opines is necessary. Under ASOP 41 the actuary must state that the information presented complies with FAS 87. If the actuary does not believe the assumptions selected by the plan sponsor satisfy the requirements of FAS 87, then the actuary must include that disclosure as a part of the report. While maybe not stated as explicitly as was the case with ASOP 2, the requirement is still there.

An actuarial standard of practice is not going to preclude an actuary from using inappropriate actuarial assumptions any more than the law or accounting standards kept certain employees or advisors to Enron or WorldCom from cooking the books. It does not appear that even the threat of jail would have kept that from happening. I hope that the selection of appropriate assumptions and the consequences of erring in that process never need to rise beyond the scope of the Actuarial Board for Counseling and Discipline.

The comment from Warren Buffett quoted by Mr. Todisco about the actuary's acquiescence to inappropriate FAS 87 assumptions is certainly true about any professional who ignores his or her professional responsibility and accedes to the demands of a client. However, it should be noted that in this case the actuary is assisting the client in complying with an accounting standard, rather than exercising independent judgment to produce the final result. If the actuary disagrees with the assumptions selected by the plan sponsor, the actuary has an obligation to state that disagreement under ASOP 41, but can still provide the calculations using those assumptions. I have long maintained that FAS 87 results are inappropriate, even for their stated purpose, and have consistently used a disclaimer similar to the sample in ASOP 2, but modified to include a statement that the calculations for FAS 87 purposes do not reflect generally accepted actuarial principles and practices.

Based on my experience overseeing the debate (although frequently it was more like refereeing a wrestling match) during the initial development of a practice note on complying with FAS 87 for cash balance plans, it is clear to me that we do not have a universal understanding among actuaries on how to comply with the requirements of FAS 87. Thus, anytime an actuary professes that a set of calculations absolutely complies with FAS 87, I am skeptical. After the adoption of ASOP 41, I modified my FAS 87 report to indicate that the report may deviate from the requirements of ASOP 41, as I cannot affirmatively state that the results comply with FAS 87, but rather, the results reflect my understanding of FAS 87.

Actuarial standards of practice are a usually codification of current practice. When there is inadequate information on existing or proposed practice, it is more difficult to formulate a standard. Certainly it is beneficial for standards to be dynamic treatises that will encompass the evolution of practice and new techniques. However, one must remember that, to a certain extent, standards are developed within a specific time frame and are more likely than not to reflect the profession as it exists at that time. For example, the development of ASOP 27 began at a time when the selection of actuarial assumptions were being attacked by the Internal Revenue Service, notably the assumptions used to determine funding requirements for small pension plans. The IRS contended that overly conservative actuarial assumptions were inflating deductible contributions to small pension plans. Today, some 15 years later, this effort might be focused at the other end of the spectrum, amid expressed concern over the use of too liberal assumptions in larger plans, which results in potential underfunding. Again, only the integrity of the actuary ensures that plans are properly funded.

As long as professional judgment is a fundamental part of actuarial work, the selection of assumptions or any other component of the actuarial model will be subject to challenge. In limiting the testimony on historical and theoretical investment models in the small plan actuarial audit cases, Judge Clapp noted that the selection of actuarial assumptions requires more than just the evaluation of historical rates of return on various classes of assets: an understanding of not only where we have been, but also where we may be going in the future. It is within this framework that the concept of best-estimate range was introduced.

The concept of best-estimate range was not arrived at easily, but it was a measured reflection of the breadth of practice that needed to be addressed in this standard of practice. Further, it was a reflection of what many actuaries were already doing, if not formally, at least informally. As in most cases, if the parameters with which one is working are narrow and focused, it is easier to craft a solution. In the case of ASOP 27, the parameters were extraordinarily broad when one considers the range of investment options available to plan trustees, the compensation issues in various industries or employer groups, the time horizon for plans from relatively short periods to 40 or more years, and so on. In addition, there were certain statutory or regulatory considerations that are not uniformly applicable to all plans. Thus, it was necessary to produce a standard that narrowed practice to an acceptable range, without unduly constricting the proper use of professional judgment.

Extensive revisions were made between the exposure drafts due to the input from the profession as well as the committee. It is clear the author does not agree with some of the committee's decisions in responding to the comments. I can say that every comment was considered at length, and only in a limited number of cases where the issue had previously been discussed thoroughly was a comment not reconsidered at least two or three times. Every time a change was made to a section of the draft, the committee was careful to revisit the comments to make sure that the change did not conflict with prior discussion about the comments on that section. One of the problems with the presentation of information in the appendix on various comments is that one cannot determine the degree of debate that resulted from a specific comment or set of comments. In many instances a single sentence in the appendix may cover what amounted to hours and hours of debate by the committee over a period of several months.

The problem was "What is an acceptable range?" If one follows the author's arguments, the range should be a single point. Actually, under ASOP 27 the actuary is required to select a single point. It is the method for deriving that point that seems to be in question. The requirement is that that point must lie within a range that reflects the actuary's best estimate of where the result is more likely than not to lie. Conceptually this seems rather simple, but in practice it can prove difficult.

Consider the following example from the debate over setting the range. A plan has only one asset. There is an equal probability that either the asset will have a 5% investment return or it will produce a 15% return. When each option was weighted equally, the expected return was 10%. However, what would be the narrowest range that would be more likely than not to include the expected result? This debate went on for what seemed like months before it was recognized that each committee member could find an example that would make application of the standard difficult, if not impossible. Further, ASOP 27 does not restrict the actuary to use only one method for deriving a reasonable assumption. It provides several examples that were common practice at the time, and in response to a comment, one will find a statement in the appendix about the use of new or better processes that might be applicable in the future.

While the issue of FAS 87 assumptions was certainly a consideration from the start of the ASOP 27 project, the issue of mandated or prescribed assumptions became more of a focus following the passage of RPA'94, which added the deficit reduction contribution with more restrictive assumptions than previously used for current liability. The problem for the committee was the IRS position on current liability in which any rate within the current liability range was acceptable. An actuary's best-estimate range might overlap the current liability range, or it might not. If it does, is the actuary required to choose a current liability rate within the overlap? But if it does not overlap, could the actuary then use any rate within the current liability range?

The concept of prescribed assumptions was a frequently debated topic between the issuance of exposure drafts, including whether or not to require the actuary to opine on the reasonableness of prescribed assumptions. In part, one consideration was, if the standard individually addressed the current universe of prescribed assumptions such as FAS 87 and currently liability, but did not consider what might come in the future, would the standard be deficient? Thus, a more expansive, perhaps less precise, approach was chosen to allow the standard to cover other potential prescribed assumptions in the future. A requirement that the actuary state whether a prescribed assumption was reasonable was carefully considered by the committee, but not adopted for a number of reasons, including that it was likely to require the actuary to denounce an assumption as being unreasonable, when neither the actuary nor the plan sponsor has any control over the assumption.

Another of the author's concerns is that standards of practice are developed by members actively practicing within the profession rather than being developed in a more academic setting. The academic approach has some appeal, as it might avoid placing too much emphasis on current practice and focus more on elevating the level of practice. However, one also runs the risk of creating requirements within standards that are totally impractical for some plans. For example, the standards apply to all actuaries, but do not make a direct distinction between work on pension plans with many participants versus those with only one or two participants, or plans that use sophisticated models for investing plan assets as opposed to those with limited assets and simple investment strategies. By considering the impact on actual practice, these issues are included in a standard developed by active members of the profession, but they might not be if developed using a different, more academic, approach.

If there is a fundamental flaw in the author's analysis, it is the assumption that external disagreement with actuarial procedures and practices automatically indicates a need to reevaluate those practices and procedures. Actuaries have been building models of one form or another for a long time, and it does not appear that any flaws in those models have resulted in widespread financial ruin for the businesses that have historically relied on those models. As far as I can tell, the major financial disasters have been created by greed and fraud or by theoretical approaches that dismissed the worst-case scenario as too remote a probability to be given serious consideration. In most instances actuaries build models that reflect what is most likely to happen and then hedge their bets by recognizing the severe impact if the worst case does in fact occur.

The fact that people disagree with or attack a professional approach does not in and of itself create the need to reexamine that professional standard. If the standard was well conceived to begin with, it will withstand scrutiny on its own. In my experience one cannot effectively address every question that is raised by the media or other source of criticism. There is a legitimate need to examine our professional standards as our practices evolve. Unfortunately, for pension actuaries professional standards are not the most restrictive aspect of our work, but rather the statutory and regulatory environment as well as other constraints, such as accounting standards. As the author noted, it may be time to reconsider the current actuarial model and embrace a new one, but that would place the profession at odds with regulatory or statutory requirements.

ASOP 27 and its counterpart ASOP 35 are still viable as guides to current practice. They contain sufficient flexibility to adapt to new actuarial models. So I believe the call for their revision is premature until it can be clearly demonstrated the standards unduly restrict the use of these new techniques.

Author's Response to Comments of Robert North and James Turpin

by Frank Todisco, F.S.A., M.A.A.A., E.A.

I thank the Pension Section of the Society of Actuaries for republishing my paper, which was first presented in June 2003 at the Society's Vancouver symposium on financial economics and published online as part of the proceedings of that conference. To reiterate a theme from the paper's introduction, some of the same outcomes that motivate financial economists to criticize actuarial models motivate others to criticize actuarial ethics or professionalism. While the (very important) debate about financial economics continues, we also need to consider whether, in response to the ethical critiques and within the context of the current pension actuarial model, our standards of practice or code of professional conduct need to evolve further for the actuarial profession to thrive and to best serve the public interest in a post-Enron environment.

I have argued that we should raise the bar in our standards of practice in two ways: by reinstating the old "disclosure of exceptions" rule from ASOP 2, requiring the actuary to disclose when employer-selected assumptions for financial reporting are unreasonable (Issue 1); and by either repealing, or substantially tightening, the ASOP 27 best-estimate range (Issue 2). I thank Messrs. North and Turpin for their significant and sincere contributions to this debate. Since Mr. North and I are largely in agreement, and Mr. Turpin and I in disagreement, I will devote more space to Mr. Turpin's remarks.

Response to Mr. Robert North

Mr. North begins by presenting his views of the positives and negatives of the current ASOP 27, the consequences of a flawed ASOP 27, and some relevant arguments of financial economics; I concur with his observations. He then offers a range of five possibilities for what, if anything, to do about ASOP 27, a useful framework. My two proposals make up his choice #2. Mr. North advocates choice #4, which would allow the option of selecting economic assumptions based on the principles of financial economics. He adds that choice #4 "*could* also be accompanied by tightening the best-estimate range and by expanding the requirements for disclosure" (my emphasis), that is, marrying a financial economics option to my two proposals.

Since my paper, by design, critiqued ASOP 27 within the context of the current pension actuarial model, choice #4 was actually outside its scope. Mr. North's expansion of that scope is a welcome advance, as he has simultaneously engaged both the modeling and ethical critiques.

For clarification, I will define two versions of Mr. North's choice #4: the narrow form would allow the financial economics option but without any accompanying changes to the best-estimate range or the disclosure requirements for prescribed assumptions; the broad form would allow the financial economics option accompanied by the two proposals I have advocated. Adoption of the narrow form, in my view, would be inadequate, but I wholeheartedly endorse Mr. North's proposal in its broad form.

Mr. North also would like to consider requiring "[m]ore disclosure of the concepts employed and the basis for choosing the economic assumptions." I endorse that suggestion as well.

Two points of clarification are in order. First, Mr. North refers to "disclosure requirements with respect to prescribed assumptions." My original proposal to require disclosure when prescribed assumptions are unreasonable was limited to one class of prescribed assumptions: employer-selected assumptions under Statements of Financial Reporting Standards, the class of assumptions that had been covered in this manner under ASOP 2. However, I do favor examining the appropriateness of a disclosure of exceptions requirement for certain other types of prescribed assumptions as well.

Second, my Issue 1 proposal extends to ASOP 35 as well: demographic assumptions can be just as unreasonable as economic assumptions, and disclosure in such instances is just as necessary. For this reason alone, the Issue 1 critique is beyond the scope of financial economics to solve. And an actuary adhering to the principles of financial economics could still face an employer prescribing unreasonable economic assumptions as well.

In fact, a disclosure of exceptions requirement is especially necessary for the material "under-the-radar" assumptions that are not disclosed in financial reports: for example, the 30-year Treasury rate assumption for annuity/lump-sum conversions, the form of payment assumption when there is a lump-sum option, assumed retirement ages, and mortality. The absence of financial reporting disclosure, combined with employer selection, can present even greater opportunity for mischief with these assumptions than with the three disclosed assumptions under FAS 87.

Response to Mr. James Turpin

In organizing my response to Mr. Turpin, I have grouped his remarks into six categories:

- The process of creating ASOP 27
- The role of ASOPs
- Misinterpretations of my positions
- Issue 1: Prescribed assumptions
- Issue 2: The best-estimate range
- External criticism of the profession

The Process of Creating ASOP 27

Mr. Turpin states that "[o]ne of the criticisms in this paper of the standards-setting process was the change in membership of the [pension] committee and the ASB itself during these seven years [over which the standard was created]." Actually I did not claim that there was anything improper about these changes in membership or about the committee's and board's changes in position, but I can see how a reader might have drawn such an inference. So let me clarify for the record my certainty that there was nothing improper about the process of creating ASOP 27. I have no reason to doubt Mr. Turpin's testimony that "in most instances the changes [in Pension Committee membership] were gradual and were generally consistent with the Academy's policy on committee membership," and that "over the course of this lengthy project general continuity existed in the oversight for the development of this standard."

Several months after the initial publication of my paper, I was asked to join the Pension Committee, which I did in January 2004. While I am but one voice on the committee, and the committee's decisions are subject to ratification by the board, it is to the credit of the profession that a critic of one of its primary standards of practice was invited to the table. I can attest to the integrity and good faith of committee members and, as Mr. Turpin aptly describes, the arduous care with which the issues are hashed and rehashed.

My motivation in chronicling the developmental history of ASOP 27 was to demonstrate the divisions within the profession on the underlying issues, the extreme difficulty of adopting a standard, and paths taken and not taken. If ASOP 27 represented such a difficult consensus in a pre-Enron environment, perhaps the balance might now tip in a different direction in a post-Enron environment. The profession needs to revisit these issues.

The Role of ASOPs

Mr. Turpin states, "It is not what is or is not stated in an actuarial standard of practice that will ultimately determine whether an actuary has fulfilled his professional responsibility to a client, the profession, or the public interest." And further, "An actuarial standard of practice is not going to preclude an actuary from using inappropriate actuarial assumptions any more than the law or accounting standards kept certain employees or advisors to Enron or WorldCom from cooking the books." I disagree. One of the main purposes of ASOPs is to deter bad practice and, together with the Code, deter unprofessional, negligent, and even unethical or fraudulent practice. I believe the existence of ASOPs does make actuaries more cognizant of their professional responsibilities. The ASOPs reflect the profession's concrete interpretations of its responsibilities toward the public interest.

Specifically with regard to ASOP 27, Mr. Turpin writes, "One of the author's core themes is ASOP 27 invites abuse in the setting of actuarial assumptions. . . . This potential exists regardless of how ASOP 27 is written." I profoundly disagree. My position is that the potential for abuse in the setting of assumptions can be significantly lessened by the two proposed changes to ASOP 27 (with conforming change to ASOP 35). With regard to both demographic and economic assumptions, if the actuary had to disclose when employer-selected assumptions were unreasonable and, with regard to economic assumptions, if the best-estimate range were repealed or substantially tightened, then there would be significantly *less* abuse in the setting of assumptions.

I also explain in the paper that the unreasonable assumptions that draw criticism to the profession are often the outcome of *proper compliance* with our standards—that our stance toward prescribed assumptions and the best-estimate range are each sufficient, by themselves, to allow some of the unwholesome outcomes.

Misinterpretations of My Positions

Mr. Turpin makes several erroneous characterizations of my positions that I wish to correct.

> *Mr. Turpin:* "While it is true that the financial world has experienced a number of scandals in recent history, I disagree with the author's premise that actuaries, individually or as a profession, have actively participated in the formulation of the underlying cause of those scandals."
>
> *Response:* I have never put forth such a premise. The statement suggests an unsavory intent on the part of actuaries, which I do not believe. Nor am I claiming an actuarial link to "those scandals." I do believe that the profession can *prevent* some improper financial behavior by strengthening our standards of practice, and that it would be a mistake not to do so.
>
> * * *
>
> *Mr. Turpin:* "Fallout from Enron, WorldCom, and their contemporaries has certainly galvanized the issue, but I find it inappropriate to equate the obvious fraud that was ingrained in a corporate culture with the manner in which actuaries provide services to their clients and employers."

Response: I did not "equate" Enron and WorldCom with the manner in which actuaries provide services. I did say that Enron has changed the environment in which we practice; that actuaries and other professionals are under greater ethical scrutiny (more on that in the final section); that ASOP 27, when faithfully complied with, produces practices that can be challenged on ethical grounds; and that we had better pay attention.

* * *

Mr. Turpin: "Another of the author's concerns is that standards of practice are developed by members actively practicing within the profession rather than being developed in a more academic setting. The academic approach has some appeal, as it might avoid placing too much emphasis on current practice and focus more on elevating the level of practice. However, one also runs the risk of creating requirements within standards that are totally impractical for some [small] plans."

Response: To clarify, I did not state a position on *who* should write the standards. I posed a question, and I quoted the opinion of Bader and Gold. I *have* taken a position on what the standards should represent, as evidenced by my signature on the comment letter, included in this volume, on the Proposed Introduction to the Actuarial Standards of Practice. As for Mr. Turpin's concern about elevating the level of practice beyond the reach of small plans, such concern is proper, but I believe my two particular proposals to be both practicable and necessary for plans of all sizes.

Issue 1: Prescribed Assumptions

Mr. Turpin explains the conceptual difficulties faced by the committee in grappling with the broad "universe of prescribed assumptions," both current (especially following the passage of RPA '94) and future. He relates that one reason for the committee's decision not to include a disclosure of exceptions requirement was that it would be "likely to require an actuary to denounce an assumption as unreasonable, *when neither the actuary nor the plan sponsor has any control over the assumption*" (my emphasis). I share the view that the actuary should not be required to opine on *that type* of prescribed assumption; but I don't extend that conclusion to *all* types of prescribed assumptions. As I discuss in Section 2.1 of my paper, "Unbundling Prescribed Assumptions," while drawing a line separating different types of prescribed assumptions might not be easy, it can be done, and it is incumbent on the profession to do so.

Regardless, Mr. Turpin now declares the disclosure of exceptions issue moot; he argues that ASOP 41 restores the ASOP 2 requirement that ASOP 27 had nullified:

> If the actuary disagrees with those [employer-selected FAS 87] assumptions, I believe ASOP 41 has the mandate that Mr. Todisco opines is necessary. Under ASOP 41 the actuary must state that the information presented complies with FAS 87. If the actuary does not believe the assumptions selected by the plan sponsor satisfy the requirements of FAS 87, then the actuary must include that disclosure as a part of the report. While maybe not stated as explicitly as was the case with ASOP 2, the requirement is still there.

I believe Mr. Turpin's interpretation to be incorrect. ASOP 41, Section 3.1.9, appears to be the basis for his conclusion:

> When methods or assumptions are prescribed by law, regulation, or another profession's requirements, the actuary should disclose that his or her work has been conformed in compliance with such requirements unless this is apparent from the form and content of the communication. (ASB 2002, sec. 3.1.9, p. 4)

With regard to prescribed assumptions, I believe most actuaries interpret this section as merely a requirement to disclose that the assumptions are prescribed, that is, chosen by others who have the authority to do so. ASOP 41, Section 3.2, confirms this view:

> If other ASOPs contain communication requirements that are additional to or inconsistent with this standard, the requirements of such other ASOPs supercede the requirements of this ASOP. (ASB 2002, sec. 3.2, p. 4)

ASOPs 27 and 35 are inconsistent with Mr. Turpin's view of the communication requirements of ASOP 41, and so ASOP 27 and 35 would supercede ASOP 41 in this regard.

The Actuarial Board on Counseling and Discipline (ABCD) agrees. In a recent article in *Contingencies*, a situation is posited in which a client selects an inappropriate discount rate. *It is clear from the ABCD's response that there is no requirement to disclose that the assumption is unreasonable* (Rietz 2004, Question 2, pp. 59, 61).

Since Mr. Turpin believes that ASOP 41 already has the mandate that I seek, and since he seems to concur with it, I would hope he would support revisions to ASOPs 27 and 35 if it is agreed that ASOP 41 does not in fact have such a mandate.

In a recent article in the *Enrolled Actuaries Report*, Mr. Turpin refers accurately to "the *conflict* between following Precept 8 and adhering to the requirements of the standards of practice" (my emphasis). "The quandary for the actuary," he writes, "is the interplay between complying with the standards, which when taken literally could result in providing possibly misleading information on the funded status of a pension plan, and complying with the code, which discourages preparation of misleading information" (Turpin 2004, p. 8). To his credit, Mr. Turpin goes on to advocate the high road of disclosing when assumptions are inappropriate. But the ABCD's response cited above reflects the prevailing view that such disclosure is not required.

Reinstating a disclosure of exceptions requirement would give the actuary vital strength and protection in situations where a client wants to use unreasonable assumptions. Under the present standards, the actuary who chooses to go beyond the minimum requirements of the ASOPs by expressing an opinion about employer-selected assumptions can be replaced by a less demanding actuary: good practice is driven out by ordinary practice, to the detriment of the public interest and the profession. We need to raise the bar.

Issue 2: The Best-Estimate Range

Mr. Turpin relates the torturous deliberations that eventually resulted in the creation of the best-estimate range. "In many instances a single sentence in the appendix may cover what amounted to hours and hours of debate by the committee over a period of several months." I know what he is talking about. The good faith and dedication of the committee is not in question. Mr. Turpin also notes that "it was necessary to produce a standard that narrowed practice to an acceptable range"—indicating one sense in which ASOP 27 represented an improvement over, say, the significantly wider IRS audit guidelines.

But the new "acceptable range" has proven to be too permissive, and it's time for the next step in the evolutionary advance of this standard. I stand by the arguments put forth in my paper, that the best-estimate range remains a hazardous construction for the profession: it is a contradiction in terms; it can be interpreted, and has been by many, as permitting the selection of any point within the range; it is arbitrarily wide; it is too wide; and its permissiveness is a ceiling on further improvements in practice.

External Criticism of the Profession

Mr. Turpin writes, "If there is a fundamental flaw in the author's analysis, it is the assumption that external disagreement with actuarial procedures and practices automatically indicates a need to reevaluate those practices and procedures." And further, "The fact that people disagree with or attack a professional approach does not in and of itself create the need to reexamine that professional standard. If the standard was well conceived to begin with, it will withstand scrutiny on its own. In my experience you cannot effectively address every question that is raised by the media or other source of criticism."

I am not calling for changes to ASOP 27 (and 35) because of the *existence* of external attacks on the profession. I am calling for changes because I *agree* with some of the discontent—not with any impugnments of actuarial integrity, but with the substance of the complaints, the dissatisfaction with outcomes—of which my analysis has traced much to two flawed aspects of a well-intentioned standard.

As a profession, we do need to pay attention to outside criticism—which has not come solely from Warren Buffet, as some have suggested. In the United Kingdom, in the wake of their Equitable Life debacle and pension scheme deteriorations, the *entire actuarial profession* is undergoing a comprehensive governmental review: the Morris Review of the Actuarial Profession (led by Sir Derek Morris), which issued an interim assessment in December 2004 and intends to deliver its final report and recommendations in the spring of 2005. The *Financial Times* has noted the "key role" played by "overly optimistic actuarial assumptions" in sparking the review, and one of the questions being investigated is "Is there an appropriate level of disclosures by actuaries to protect the public interest?" (Cohen 2004b, p. 8; Morris Review 2004a, Q2.26, p. 37). In its interim report the Morris Review identified "inadequate protection of the public interest" as one of the weaknesses of the U.K. profession, and stated that the Review's current thinking is to recommend independent oversight of the profession (*i.e.,* by nonactuaries) (Morris Review 2004b, pp. 4–7, 121–34).

Some of the associated criticisms voiced in the press have been unsparing:

> The UK's actuarial profession has passed a watershed, acknowledging, perhaps for the first time, the wider public responsibility that actuaries bear beyond their duties to those who sign their pay cheques. (Cohen 2004b, p. 8)
>
> [C]ommercial considerations have come to cloud the judgement of some—if not many—of those who claim to practice "actuarial science" (chiding actuaries on both sides of the Atlantic). (Cohen 2004b, p. 8)
>
> [I]t is a wonder that the [actuarial] profession has not come in for the opprobrium given to, say, accountants. (Cohen 2004a, p. 6)
>
> Actuaries, too, know the truism long ago learnt by accountants, lawyers and investment bankers: bend over backwards to give a client advice he wants to hear. (Cohen 2004a, p. 6)
>
> The Investors' Association, which has been highly critical of actuaries, called on the profession to be put on probation for five years in its submission to the Morris Review. Steve Huxham, a spokesman for the group, said: "We are extremely concerned by its culture of secrecy and opaqueness. We don't believe that it can be reformed without a radical shake-up. Actuaries have a deeply ingrained culture which is cynical, self-serving and indifferent to the public interest. (Hunter 2004, p. 6)

I know from my own experience that the ASOPs are developed in a spirit that is anything but "cynical, self-serving and indifferent to the public interest." The standards now need to be elevated to match that spirit.

Here at home, the SEC, concerned that such assumptions could have been used to manipulate earnings, has begun investigating assumptions used for pension and retiree medical programs (*e.g.*, Schulz 2004, p. A3). In reporting on this story, *The Economist* has pointed a finger at "the rosy assumptions of actuaries": "at the stroke of an actuary's pen a company can make heroic assumptions about the returns its pension assets will earn." "If the SEC sets a ball rolling, so much the better. Accounting rules are clearly too lax. But there are other weak spots. The SEC and European regulators should call the actuarial profession to account. It is implicated in pension-accounting fiddles, because it has allowed firms far too much leeway on the assumptions they set" (*The Economist* 2004a, p. 78; 2004b, pp. 12, 17).

Mr. Turpin concludes that "ASOP 27 and its counterpart ASOP 35 are still viable guides to current practice." I believe otherwise: we ignore the weaknesses in these standards at our peril. We must lead or be led. Strengthening these ASOPs in the two areas I have proposed would bring about better assumption setting, better financial reporting, a less scandal-prone defined benefit pension system, and a stronger actuarial profession.

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What's Wrong with ASOP 27? Bad Measures, Bad Decisions

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Editor's Note: The present paper was not written to discuss Todisco's paper but was written independently as a stand-alone paper offered here as a complement to Todisco's. It does not discuss his paper per se, but Todisco has considered this work in his response to discussants in this volume.

1. Introduction

Todisco (2004) discusses the shortcomings of Actuarial Standard of Practice (ASOP) 27 as a standard of practice and disclosure. In this paper we address its shortcomings as a statement of actuarial and economic science.

ASOP 27 guides actuaries in selecting economic assumptions for valuing pension plans (excluding assumptions prescribed by regulation).[1] Its guidance, however, fails to apply the lessons of economics—most egregiously in Section 3.6, which directs us to use expected returns on risky assets to discount benefit cash flows.

The lens of ASOP 27 distorts everything it measures. It prescribes discount rates that systematically undervalue pension liabilities. The projection of future salaries overstates costs for young employees and understates costs for the old. These actuarial distortions lead to bad decisions about investment, plan design, compensation and financing. These same mismeasures have led the FASB and GASB to flawed standards for financial reporting and federal and state legislators to weak funding rules.

In this paper we highlight key portions of ASOP 27, trace the roots of existing practice, and show how ASOP 27 prescribes mismeasurement. We look at the influence that traditional pension actuarial discounting has had on financial reporting rules and funding statutes. We conclude by recommending changes that would rescue ASOP 27 from its own history and the defined benefit world from its distorting lens.

2. What ASOP 27 Says

ASOP 27 provides guidance on the selection of economic assumptions for measuring defined benefit pension plan obligations, including discount rates, compensation scales, and investment returns (sec. 1.1). The standard incorporates various precepts:

- Selection of rates expected to prevail over the (long) term of the liabilities (sec. 3.3b)
- Consistency among assumptions (*e.g.*, common role of inflation) (sec. 3.10)
- Reliance on actuarial judgment (sec. 3.1)
- Reasonable range estimation (sec. 3.1)
- Consideration of the purpose for the valuation (*e.g.*, ongoing vs. termination) (sec. 3.3a)
- Recognition of prescriptions imposed on the process (*e.g.*, FAS 87, ERISA) (secs. 1.2, 3.11)
- Discount rates and investment returns being synonymous (sec. 3.6)
- Inclusion of expected risk premiums (sec. 3.62).

3. The Roots of ASOP 27

Actuarial cost methods (also known as funding methods) were developed to solve the employer's "budgeting problem" (Trowbridge and Farr 1976,

[1] As, for example *e.g.*, by FAS 87 and by IRC Section 412(l).

chap. 1), that is, how much (and when) to contribute to achieve and maintain actuarial balance—to wit, funded assets and future contributions plus earnings thereon are expected to meet all benefits earned or to be earned by the current plan members.

With this goal in mind, and without competing objectives such as statutory solvency or financial reporting, best estimates of future rates of return and future pay increases are necessary inputs to an actuarial model. Reflecting these needs, ASOP 27 prescribes a best-estimate range as "the narrowest range within which . . . results . . . are more likely than not to fall" (sec. 2.1). This is a median concept. For symmetric distributions, the median matches the mean, and thus we can say that the central best estimate is the expected investment return and the expected annual salary increase.

Budgeting methods anticipate deviations from the expectation that are unbiased in the sense that year-to-year gains and losses are equally likely and of equal expected magnitude. Such gains and losses are amortized over forward periods in a symmetric and presumably unbiased fashion with the result that, on average, the budget meets the goal.

Once we understand that the goal is to make future values match—on average—we can see that the use of expected asset returns to discount contribution and benefit flows is merely a device to state the future balance in present value terms, that is, "discounted" liabilities less "discounted" contributions equal plan assets. Unlike discounted values used by investors, these discounted values have no economic meaning. They give us no useful information about how the plan affects the earnings or the value of the sponsor and tell us little about whether the plan will be able to pay the promised benefits.

4. Measuring the Economic Value of Future Cash Flows

The anticipation of risky investment returns mismeasures the economic value of future cash flows, as discussed in Bader (2001), Bader and Gold (2003), Day (2004), and Gold (2002).

4.1 Swaps and Futures Show That the Market Value of the Equity Risk Premium Is Zero

Total return swap contracts allow two investors to exchange the total return on one asset (*e.g.*, a zero-coupon bond) for the total return on another (*e.g.*, the S&P 500 Index). Periodically throughout the life of the contract, one party (whom we will call the "long" position) receives the total return on the S&P and pays the "short" party the total return on the bond. Because of arbitrage considerations, the price for such a swap (involving marketed instruments) must be zero.

If we define the payment interval to be the entire length of the swap (shorter periods are used to reduce counterparty default risk, which we ignore), we find the following relationships:

$$V(S_0) = V(E_0\text{-}B_0) = 0$$
$$EV(S_1) = EV(E_1\text{-}B_1) = ERP$$
$$EV(S_t) = EV(E_t\text{-}B_t) = ERP_t$$

where $V()$ and $EV()$ represent market value and expected market value, S , E , and B represent the swap, equity index, and bond, ERP is the equity risk premium, and subscripts denote time.

Thus the long position represents ownership of the total ERP for the life of the contract, and its value today is zero. Similar contracts, such as S&P 500 Index Futures, trade every day at this same zero price.

Why should the future ERP be worth zero today? Think about someone who owns the $100 zero-coupon bond and, preferring an equity return, takes the long swap position. She will now receive the total return on $100 of the S&P Index. The swap cannot be priced above zero because the potential long would then forgo the swap and simply sell the $100 bond and buy $100 of the S&P. Symmetry shows that the swap could no more be priced below zero than above zero.

4.2 How Anticipating Risky Returns Overvalues the Equity Risk Premium, Making $100 in Stocks Worth More than $100 in Bonds

Suppose the length of time and the interest rate applicable to the zero-coupon bond are such that the bond will be worth exactly $200 when it matures and the swap is settled. It is clear that the present value of this future $200 is $100.

Consider the present value of the same $200 future payment (a pension benefit cash flow) when a party obligated to meet it (a defined benefit pension plan) invests in the S&P 500. According to ASOP 27, we discount the future $200 using the expected rate of return on the S&P. We estimate the annual ERP and add it to the bond rate of return and find that the calculated present value is $50.

From this we conclude that $50 worth of stock is equal in ASOP 27 value to $100 in bonds or, equivalently, that $100 worth of stock is twice as valuable as $100 worth of bonds. Of course, actuaries who anticipate risk premiums in pension valuations do not literally value a $100 equity portfolio more highly than a $100 bond portfolio. They achieve the same result indirectly, however, when they value liabilities financed by equity more cheaply than the same liabilities financed by bonds.

5. Financial Reporting

The objective of financial accounting is to report value-relevant information to interested parties—information about assets and liabilities, and changes therein, that would alter the price that a buyer would be willing to pay, or a seller to accept, for a share of the firm.

Transparency, a high priority for modern accounting, describes an ideal condition in which all interested parties have costless access to the best information. Rational agents operating in a transparent environment make efficient decisions. Lack of transparency is costly.

In recent years financial standards setters have moved their central paradigm from historic cost and internal consistency toward transparency and economic value relevance. With these new priorities, the weaknesses of FAS 87 have become evident. Several of these weaknesses may be traced to the traditional actuarial model and to the support that it receives from ASOP 4, ASOP 27, and the proposed ASOP in regard to asset valuation methods:

- Reported income shold not anticipate the ERP. Although FAS 87 does not use the expected return on assets to discount liabilities (and thus the ABO is a value-relevant liability), the expected return on assets goes directly into the profit-and-loss statement with no adjustment for risk. This overstates earnings—and encourages unnecessary investment risk taking (Gold 2000b; Coronado and Sharpe 2003).

- The market value of plan assets is relevant. The actuarial asset value is a distortion that reduces transparency and relevance.

- The inclusion of a salary scale in the projected benefit obligation and in the service cost overstates liabilities and misstates income.

In the common case where there is no commitment to grant total compensation increases in excess of those necessitated by competitive forces, there can be no recognizable liability based on estimated future increases. The inclusion of a salary scale overstates the benefit costs for young employees (and employers with young workforces) and understates the cost for older employees (and their employers).

- The amortization of gains, losses, benefit improvement costs, and the value of assumption changes defies transparency and value relevance. During 2001 and 2002 as the financial position of virtually every U.S. defined benefit plan deteriorated sharply, the sponsors continued to report pension "income."

Neither pension actuaries nor financial standards setters stand behind FAS 87 today. Robert Herz, the chairman of the FASB, has said FAS 87 is "one of the prime examples of bad accounting" (Burkholder 2003). Although we might be able to blame the FASB for adopting our budgeting model, a fair review of the history of FAS 87 shows that actuaries and plan sponsors vociferously resisted efforts of the FASB to make FAS 87 more transparent and value relevant.

6. ERISA Funding

ERISA was enacted to correct numerous perceived defects in the U.S. private pension system in the preceding two decades. A primary concern was the failure of plans that terminated with assets that were insufficient to cover benefits that had been promised. Despite what amounted to a solvency concern that should have pointed to the relationship of plan assets and liabilities (the plan's balance sheet), the minimum funding rules were built on the actuarial budgeting model, focusing on the stream of contributions from the sponsor to the plan.

6.1 Why Is It Public Policy That Pension Plans Be Well Funded?

Society has concluded that promises made by employers to their employees should be kept. Bader (2004) shows that requiring full funding of accrued benefits at all times is economically efficient. The societal motivation for adequate funding is more likely to derive from our collective sense of fairness, the damage done by plan failures, and the recognition that employers and nonrepresented employees do not bring equal strength and knowledge to the contracting process. To mitigate this damage ERISA also established the PBGC. Unless full funding is a concomitant requirement, however, the PBGC is merely the conduit whereby weak firms with poorly funded plans take advantage of strong sponsors of well-funded plans. A side effect of such game playing is that defined benefit plans become less attractive to strong sponsors.

6.2 What Is Wrong with the Budgeting Model and ASOP 27 for Statutory Funding?

The basic ERISA budgeting model is satisfied when the future contribution stream plus existing assets plus expected investment returns thereon are sufficient to meet all promises to current members, provided that the contribution schedule has been maintained to date (non-negative credit balance).

Companies that sponsor defined benefit plans do go bankrupt and are more likely to do so during periods of economic weakness. During these same periods, pension plans invested in equities are likely to be poorly funded, and there is a substantial correlation between bankruptcy and poor funding. Companies approaching insolvency often fund at or below minimum statutory levels.

The inadequacy of the budgeting model, particularly in tough economic environments, prompted the introduction of IRC Section

412(l). This section directly attacks the problem of asset adequacy, focusing on accrued benefits discounted at bond or annuity rates. This concept, which (from the perspective of ASOP 27) is fully prescribed, ignores the budget model and substitutes a "collateral" model. The budget model requires a lower asset value when assets are risky, but a sound collateral model would require greater assets when assets and liabilities are mismatched (Bodie and Merton 1992). Although Section 412(l) does not take mismatches into account, the PBGC has recently pointed out the need for new legislation to strengthen funding levels and to take account of mismatches in the computation of its variable premiums.

6.3 What Modern Actuarial Science Should Tell the World about Funding

A critical element in any plan to strengthen funding levels must be the discount rate used to value the accrued benefits. If, when the sponsor goes bankrupt, the assets are not sufficient to acquire a riskless portfolio of matching bonds, some party other than the promise maker must bear the risk or make up the deficiency. Therefore the public policy that minimizes the gaming possibilities by weak employers must eventually incorporate the use of the riskless yield curve into the determination of liabilities and required assets. In light of the weak state of present plan funding and the persistence of mismatching, we will need a substantial transition period.

Actuarial science, informed by the teachings of modern economics, points to the logic of the collateral model and for rigorous measures of plan solvency in the public policy arena. To the extent that our practice standards should reflect our best science (Bader et al. 2005), ASOP 27 must support a collateral-based funding method with riskless discount rates.

7. Public Plan Funding

Public plans (covering governmental employees) might seem to be the place where all we are interested in is a budget that balances assets, contributions, investment returns, and benefits over "the long term." As long as the long-term budget can be maintained, we might argue that solvency and financial reporting are relatively unimportant. With PAYGO as a possibility, one might ask, why should a governmental plan fund at all? Peskin (1999) answers that intergenerational equity (fairness among taxpayers over time) is the primary reason that public plans are funded. Each taxpayer generation should pay its fair share of multigenerational plan costs.

Gold (2002) looks at the intergenerational effect of using expected returns to discount benefit flows. When the plan invests in risky assets, actuarial methods can lead to equal expected costs across generations or to equal risk-adjusted costs, but not both. Anticipating equity premiums—which equates expected costs across generations—lowers the risk-adjusted costs for current taxpayers, plan participants, and politicians at the expense of future taxpayers.

Following ASOP 27, which overly discounts benefits earned today, leads to bad decision making:

- Today's elected "management" offers too much in future benefits in exchange for too little in current wage concessions.

- Although taxpayers are ultimately responsible for all the benefits promised, workers often argue that they are entitled to extra benefits when risky assets do well for a while. Elected officials find these demands easier to meet than wage requests and are likely to provide ad hoc increases or more formal "reward-sharing" schemes known as "skim funds."

- Because ASOP 27 credits equity returns without charging for equity risk, public pension plans credit returns in excess of the borrowing rate for most governments. This encourages the issuance of Pension Obligation Bonds, which may be sold as an "arbitrage" or an "actuarial arbitrage" when, in fact, they usually represent an expensive way to borrow in order to invest in equities (Gold 2000a).

8. Conclusion

ASOP 27 reflects the budgeting history of actuarial methods and assumptions. As such it presumes that the expected return on assets is the singularly proper way to discount liabilities—regardless of the purpose of the valuation. The "liabilities" developed by expected-return discounting represent no economic value and are useless for any purpose other than budgeting. For ongoing valuations of pay-related plans, ASOP 27 presents an equally flat-footed prescription: always include an actuarial estimate for future pay increases. ASOP 27 devotes much of its text to telling actuaries how to build expected returns and expected future salaries.

Employer budgeting is an all-but-forgotten piece of pension actuarial science. Our science needs to have answers to two much more important questions today: what amount of assets should be required as a matter of public policy, and what measures of funding and expense should appear in financial reports to investors?

ASOP 27 must be amended to recognize that

- Anticipation of the ERP is not appropriate for liability discounting (except as a calculation convenience in the budgeting process), nor for financial reporting, nor for statutory funding.
- Inclusion of a salary scale is not appropriate in measuring liabilities for financial reporting and solvency purposes.

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Letter to the Actuarial Standards Board

March 31, 2004

ASOP Introduction
Actuarial Standards Board
1100 17th Street NW, 7th Floor
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By e-mail: comments@actuary.org

ASB Board and the Special Task Force on Introduction:

We are writing to comment on the Proposed Introduction to the Actuarial Standards of Practice. Our comments address Section 3.1, particularly Section 3.1.2.

Section 3.1.2

Section 3.1.2 states, in part, that "ASOPs are written to reflect generally accepted practice, i.e., practices that, over time and through common use, have come to be broadly accepted by qualified actuaries as appropriate.…In most cases, the ASB promulgates a standard only when practice … has evolved to the point where it can be codified as an ASOP."

We understand that this accurately describes the ASB's approach throughout its fifteen-year existence. This approach, which amounts to "cataloging" existing practice, invites stagnation. Section 3.1.2 assumes that qualified actuaries will evolve the practice. How might such evolution occur? Section 3.1.2 suggests that developments in actuarial science will inform the practitioners, who will modify their practice accordingly. This "practice-filtering" process will not suffice. The rule-making ASB must connect directly with advances in actuarial science. We are concerned that many such advances will not even enter into the practice, because

- advances in actuarial science may be unattractive to those who consume our services. For example, better appreciation of underlying risks may require recognizing higher liability values. Under these circumstances, competition from less well-informed or more permissive actuaries will prevent such recognition. This may be seen as a form of Gresham's Law—inferior, but popular, practice may bar better practice from entry into the marketplace.
- advances in actuarial science may occasionally call for better practices that lie outside the range of today's generally accepted practice. We recognize that the existing ASOPs incorporate a procedure for using and defending such an outlier. But when the outlier is more rigorous *and* less favorable to clients, it is highly unlikely that practice will embrace the outlier without leadership from the ASB.

The Appendix illustrates these problems under existing ASOPs.

Section 3.1

A broader review of Section 3.1 confirms its consistency with some of the finest actuarial traditions—individual responsibility and judgment applied within a flexible environment. Unfortunately, recent difficulties experienced by actuaries and some sister professions suggest that even our most honored traditions may conflict with our role in the modern world.

Section 3.1.5 rejects narrow prescriptions in favor of actuarial science informed by education, experience and judgment. This misstates the choices faced by the profession today. We operate in an intensely prescriptive environment. We, however, have not been doing the prescribing. Others have prescribed for us—filling public needs that our standards have not met. The ASB need not choose between principles of actuarial science and prescriptive rules. Rather it must choose between traditional principles and new principles that challenge today's practice.

We created the ASB, in part, to make our self-regulation more credible. The public may question the profession's commitment to self-regulation if it perceives that the ASB is reluctant to grapple with modern challenges to historic principles. Although we value broad principles highly and find detailed rules (particularly those imposed on us by others) irksome, the profession's case for self-regulation will be enhanced by an ASB that makes judgments, sorting out good from bad actuarial principles regardless of popular practice.

Session 39 at the 2002 annual meeting of the Conference of Consulting Actuaries was titled "ASOPs—Swords or Shields." An ASB member and co-panelists addressed the increasing malpractice exposure of actuaries. Practicing actuaries who diligently follow the ASOPs may enjoy the shield effects, while those who are less diligent may meet the sword.

Some suggest that stronger standards (which bolster our self-regulation case) might increase the practicing actuary's exposure to the ASOPs as swords. Others suggest that, if the ASOPs get too far ahead of existing practice, many actuaries will not follow. The second of these observations is answered by the first—fear of exposure means that actuaries will follow stronger ASOPs.

As the plaintiff's bar sharpens its swords, we need to strengthen our shields. Section 3.1.6 ("The ASOPs intentionally leave significant room for the actuary…") may appear to shield many actuaries in the short term—because it is loose enough to cover a wide range of practice—but it will not protect us against our collective failure to advance our science and our practice. We must choose between calling actuaries to stricter standards—a smaller but stronger shield for those who comply—and the danger of being discredited en masse—as suggested by the recent experience of U.K. actuaries.

Some are concerned that strengthened actuarial standards may be cited in litigation challenging earlier practice. Every profession faces this issue and must treat it with care. The ASB will want to emphasize that such changes incorporate *recent* actuarial advances and apply only on and after an effective date.

It has been argued that Section 3.1.3 is the mechanism that allows the ASB to recognize and adopt new principles that flow from advances in actuarial science. More accurately, Section 3.1.3 may be used occasionally to prune particularly unacceptable practices (or to fill a new-area vacuum). Nothing in 3.1.3 suggests that the ASB will choose between popular existing practice and more rigorous innovations in the underlying science.

Section 3.1.7 reminds us that much of the discipline that chafes us ("where an actuary is prevented from applying professional judgment") has been imposed by others. Might we conclude that others believe that our laissez-faire approach is insufficient?

Section 3.1.8 identifies various sources for innovation in actuarial science. It is at just this point, however, that the ASB needs to study, judge and choose among alternative claims for actuarial advancement. The profession needs a focal point where innovation meets learned judgment. We cannot be assured that innovations will filter upwards. Like it or not, judgment must be exercised by our leaders, who must rise to the occasion with knowledge, commitment and attentiveness.

Our comments should not be taken as proposals for specific restrictions on practice. Rather, we are asking the ASB to accept the responsibility that must inure to the leaders of our profession.

Conclusions

The Proposed Introduction to Actuarial Standards of Practice formalizes the ASB's approach to standard setting. Section 3.1 codifies a traditional flexibility-preserving approach that relies on the informed judgment of practicing actuaries. Standards are generally promulgated only after practice has evolved. There are exceptions for new areas, for rare pruning of unacceptable practices, and for individual actuaries to defend variant practices.

Section 3.1 (especially Section 3.1.2) articulates a "hands off" philosophy that must be reconsidered in light of the challenges actuaries face today and will face in years to come. The core of our profession is actuarial science. It is subject to analysis, argument, innovation, and evolution. Our practice derives from the science, and, although there is room for the practice to inform the science, judgments must be made by learned leaders embracing the best principles of actuarial science lest inferior principles lead a "race to the bottom."

The signers believe that the ASB and its practice committees are the proper location for the exercise of professional analysis and judgment. Even if our profession lacks the resources to fund a full-time leadership institution à la the FASB, our volunteers must be committed to independent decision making informed by in-depth study of the actuarial science issues at hand. They must advance our science *in front of* our practice. Following, rather than leading, the practice is a prescription for stagnation and an invitation for outsiders to impose their rules upon us. We must lead or we will be led.

We welcome the review of the role of the ASB and the ASOPs that is implicit in the promulgation of the Proposed Introduction at this time. In light of recent challenges to our profession around the world, the time has come to wrestle with the historic implications of Section 3.1 and to establish a more rigorous and vigorous approach to rule-making by actuaries.

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Appendix—Illustrative Problems under Existing ASOPs

1. *Pension—asset valuation.* The Exposure Draft: Selection and Use of Asset Valuation Methods for Pension Valuations states no preference between market value and various techniques designed to smooth out market value. Plan sponsors prefer

asset smoothing, which cushions the effect of changing market values on their cash flow and financial reports.

Many accountants and actuaries now question whether smoothing is ever appropriate for plan financial reporting. Given the plan sponsor preferences, though, only an ASB designation of market value as a preferred practice can prompt a practitioner migration and help practicing actuaries wean clients away from smoothing. In the next several years, the FASB will likely require market value without smoothing. Under the philosophy espoused in the Proposed Introduction, our profession must abandon any hopes of leadership in this area and await FASB action. Will we bemoan yet another intrusion from outside?

2. *Pension—discount rate selection.* To select a discount rate, ASOP 27 looks generally to the expected return on plan assets. Financial economics, on the other hand, calls for a discount rate that will often lie below the range defined by ASOP 27. Because the lower rates are not favored by clients and would constitute a deviation from ASOP 27, practicing actuaries cannot move in the financial economics direction on their own. The practice cannot evolve.

The implications of financial economics are now being debated by pension actuaries. The signers of this letter are <u>not</u>, therefore, suggesting that these implications should be accepted by the ASB today. It is, rather, our view that the ASB must review, analyze, and judge the merits of the arguments of financial economics regarding the discount rate. The existing prescription of ASOP 27 has been challenged. On what basis shall this challenge be adjudicated and resolved? The Proposed Introduction implies that the ASB will not address the question until and unless a critical mass of practice has migrated on its own initiative.

3. *Casualty—loss reserving methods.* ASOP 9 states, "Detailed discussion of the technology and applicability of current loss reserving practices is beyond the scope of this statement. Selection of the most appropriate method of reserve estimation is the responsibility of the actuary. Ordinarily the actuary will examine the indications of more than one method when estimating the loss and loss adjustment expense liability for a specific group of claims."

This is all the guidance that the AAA and/or ASB gives the actuary with regard to evaluating the adequacy of P&C loss reserves. It has been known for decades that standard link-ratio methods are extremely poor tools for projecting ultimate liabilities for a given block of business. Nonetheless, many opining actuaries rely exclusively on them. A rigorous, detailed, sufficient analysis (e.g., stochastic reserving methods) will frequently cost a client much more than they are willing to spend, and furthermore, the opinion is often viewed as a regulatory hurdle to be cleared, not a valuable source of management information. This lack of clearer guidance and more explicit standards makes it very hard for practitioners to migrate toward state-of-the-art practice.

Procedure for Preparing Articles for *The Pension Forum*

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