

A Re-evaluation of ASOP 27, Post-Enron:  
Is It An Adequate Standard of Professionalism?

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ABSTRACT

This paper calls for a reconsideration of 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 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.

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## 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 and is, of course, the topic of this conference. 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. 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 its 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 No. 27, “Selection of Economic Assumptions for Measuring Pension Obligations” (ASOP 27),<sup>1</sup> and its counterpart for demographic assumptions, ASOP 35.<sup>2</sup> This paper offers the opinion that these standards should be strengthened; at the very least, the author hopes 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 of 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

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<sup>1</sup> ASOP 27 (1996).

<sup>2</sup> ASOP 35 (1999)

“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.”<sup>3</sup>

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.”<sup>4</sup>

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.

### *Actuaries under siege*

Actuaries have been taken to task probably most famously by financier Warren Buffet. He was quoted in *Fortune* magazine in December 2001, speaking about the expected return on asset assumption required under 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.”<sup>5</sup>

And later:

“I think that anyone choosing not to lower assumptions—CEOs, auditors, and actuaries all—is risking litigation for misleading investors.”<sup>6</sup>

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

*P&I Europe* reported earlier this year that

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<sup>3</sup> ED-1 of ASOP 27, Transmittal Memorandum.

<sup>4</sup> ED-2 of ASOP 27, Appendix 2, Introduction.

<sup>5</sup> Loomis (2001), p. 10.

<sup>6</sup> *Ibid.*, p. 11.

“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.”<sup>7</sup>

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.”

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.”<sup>8</sup> And one session planned for the 2003 Annual Meeting of the Conference of Consulting Actuaries in November is “Am I My Client’s Keeper? – Precept 8 Explored.”<sup>9</sup>

Meanwhile, P&I reported in March 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.”<sup>10</sup>

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.<sup>11</sup>

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

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,<sup>12</sup> and accountants and lawyers by the Sarbanes-Oxley law. The latter’s restrictions on lawyers have been attributed in part to “the American Bar

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<sup>7</sup> Brooksbank (2003).

<sup>8</sup> “2002 EA Meeting,” *Actuarial Update*, May 2002.

<sup>9</sup> Code of Professional Conduct, Precept 8, “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.”

<sup>10</sup> Anand (2003).

<sup>11</sup> Walsh (2003).

<sup>12</sup> Labaton (2003).

Association's failure to adopt proposed changes to its own model ethical rules."<sup>13</sup> Will the actuarial profession be next, if we don't raise our own standards first?

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<sup>13</sup> Glater (8/04/2002).

## 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<sup>14</sup> are chosen by the employer, 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."<sup>15</sup>

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,"<sup>16</sup>

and so 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."<sup>17</sup> [emphasis mine]

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<sup>14</sup> 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.

<sup>15</sup> Code of Professional Conduct, Precept 8.

<sup>16</sup> Ibid., Precept 3.

<sup>17</sup> ASOP 2, Section 5.

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.”

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.”<sup>18</sup>

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<sup>19</sup> (“although it does apply to advice given to the party responsible for selecting the prescribed assumption”<sup>20</sup>). 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.”

ASOP 27 decrees that “When an assumption is prescribed, the actuary is *obligated* to use it.”<sup>21</sup> [emphasis mine]

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”<sup>22</sup> [emphasis mine], and states that such disclosure “is deemed to fully satisfy the disclosure of exceptions requirement of ASOP No. 2.”<sup>23</sup>

(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.)

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<sup>18</sup> ASOP 27, Section 2.6.

<sup>19</sup> Ibid., Section 1.2.

<sup>20</sup> Ibid., Section 3.11.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid., Section 4.2.

<sup>23</sup> Ibid., Section 1.2.



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.”<sup>24</sup>

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.**”<sup>25</sup> [emphasis theirs, representing response to the comments]

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”—i.e., the Actuarial Standards Board (ASB), which votes on whether to approve exposure drafts and standards of practice; normally, responses to comments almost always cite the opinion of “the committee”—i.e., 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.**”<sup>26</sup> [emphasis theirs, indicating committee response]

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

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<sup>24</sup> ED-1 of ASOP 27, Section 6.2.

<sup>25</sup> ED-2 of ASOP 27, Appendix 2, Section 6.2.

<sup>26</sup> ED-3 of ASOP 27, Appendix 3, Section 6.

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.<sup>27</sup>

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:

“the 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.”<sup>28</sup>

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.”<sup>29</sup>

The live exposure draft of a proposed revision of ASOP 4 would weaken this requirement, calling for the following:

“if the actuary expects the level of pension costs to change *abruptly* from one measurement period to the next..., a disclosure to that effect.”<sup>30</sup> [emphasis mine]

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 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”

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<sup>27</sup> Membership data is listed at the end of the transmittal memorandum in each of the exposure drafts and the final ASOP.

<sup>28</sup> ASOP 27, Appendix 3, Section 4.2.

<sup>29</sup> ASOP 4, Section 6.3.g..

<sup>30</sup> Proposed ASOP, “Measuring Pension Obligations...,” Section 4.1.b.9.

3. **Strong** – performing the assignment, but stating an opinion in the communication that the offending assumptions are not 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 Buffet. 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."<sup>31</sup> 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, 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.

### *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."<sup>32</sup> 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.<sup>33</sup> 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,"<sup>34</sup> 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

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<sup>31</sup> ABCD (2002).

<sup>32</sup> ASOP 27, Section 2.6.

<sup>33</sup> Ibid., Section 3.11.

<sup>34</sup> Ibid., Appendix 3, Section 1.

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.”<sup>35</sup>

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.”

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.”<sup>36</sup>

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.<sup>37</sup>

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

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<sup>35</sup> Ibid., Section 3.12.

<sup>36</sup> ED-3 of ASOP 27, Appendix 3, Section 5.

<sup>37</sup> ASOP 32, Section 4.1.8.

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.

## 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.”<sup>38</sup>

Section 412(c) requires that

“all 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.<sup>39</sup>

ASOP 27 takes away the Section 412(c) option to use implicit assumptions,<sup>40</sup> 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.”<sup>41</sup> [boldface mine, italics theirs]

The best-estimate range is defined as:

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<sup>38</sup> SFAS 87, Paragraph 43.

<sup>39</sup> IRC, Section 412(c)(3).

<sup>40</sup> ASOP 27, Section 3.9: “Each economic assumption selected by the actuary should individually satisfy this standard.”

<sup>41</sup> *Ibid.*, Section 3.1.

“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.”<sup>42</sup>

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.”<sup>43</sup>

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.”<sup>44</sup> In the case of the investment return assumption, ten 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.

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 non-pension 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.”<sup>45</sup>

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

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<sup>42</sup> Ibid., Section 2.1.

<sup>43</sup> Ibid., Section 3.4.

<sup>44</sup> Ibid., Section 3.6.3.

<sup>45</sup> ED-1 of ASOP 27, Section 5.12.2.

place.<sup>46</sup> In the third exposure draft and final standard, committee responses on the issue of conservative funding assumptions clarify a reversal of course:

“measurement-specific factors enable the actuary to select conservative economic assumptions as appropriate to the plan’s circumstances, including the need to enhance benefit security.”<sup>47</sup>

“The purpose of the measurement—a primary measurement-specific factor—encompasses benefit security.”<sup>48</sup>

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’s 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 among the many factors that might be considered for selection of assumptions within the best-estimate range.**”<sup>49</sup> [committee response in boldface]

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)”<sup>50</sup> [emphasis mine]

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:

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<sup>46</sup> ED-2, of ASOP 27, Section 2.2, for best-estimate range; ED-3 of ASOP 27, Section 3.4, for general process.

<sup>47</sup> ED-3 of ASOP 27, Appendix 3, Section 5.

<sup>48</sup> ASOP 27, Appendix 3, Section 3.6.3.

<sup>49</sup> ED-2 of ASOP 27, Appendix 2, Section 5.3.

<sup>50</sup> ED-3 of ASOP 27, Transmittal Memorandum.



“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.”<sup>51</sup> [emphasis mine]

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 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.”<sup>52</sup> 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,”<sup>53</sup> 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.”<sup>54</sup> [emphasis mine]

“The actuary should select each demographic assumption from the appropriate assumption universe.”<sup>55</sup>

The definition given of “reasonable” is as follows:

“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.”<sup>56</sup>

An “assumption universe” that satisfied this definition of reasonable would have to be very tight, for every assumption in this universe would be anticipated to not produce significant cumulative actuarial gains or losses. While “the actuary may present several results to illustrate

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<sup>51</sup> Pension Practice Council (2001), p. 15.

<sup>52</sup> ASOP 27, Appendix 3, Section 2.1.

<sup>53</sup> *Ibid.*, Section 3.1.

<sup>54</sup> ASOP 35, Section 2.2.

<sup>55</sup> *Ibid.*, Section 3.3.4.

<sup>56</sup> *Ibid.*, Section 3.1.

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 the top end and bottom end of an investment return best-estimate range to both 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.

## SOLUTIONS

On Issue 2, is the solution to just jettison the best-estimate range? On the funding side, we have seen that 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 1980’s the IRS introduced internal guidelines for audits of funding assumptions that tolerated a wide range—an effective spread of over 8%!<sup>57</sup> 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 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 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.

The proposal here is as follows:

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<sup>57</sup> The comparison to ASOP 27 is imperfect: the audit guidelines looked at the aggregate effect of all assumptions, and tested the assumptions not against 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 Handbook (1984), Sections 430 and 450, and IRS Worksheet (1983), Worksheet III; for technical criticism of the guidelines, see Anderson (1985).

- Reinstating the ASOP 2 disclosure of exceptions requirement and requiring the actuary to opine on employer-selected SFAS assumptions.
- Repealing 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 the author welcomes vigorous debate and better suggestions.

## EPILOGUE

### *Intersection with financial economics*

If lawmakers, regulators, and actuaries were all to adopt the proposals for change put forward by advocates of financial economics,<sup>58</sup> 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.

### *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. Herein a few tidbits from the news and elsewhere:

- PwC 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.<sup>59</sup> 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. 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?<sup>60</sup>
- 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.”<sup>61</sup> Similarly, during the development of SFAS 87, the FASB had debates about mandating assumptions.<sup>62</sup> Will too many loose assumptions lead to a constriction of the actuary's role?

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<sup>58</sup> Bader and Gold (2003).

<sup>59</sup> Glater (01/01/2003).

<sup>60</sup> Glater (01/24/2003).

<sup>61</sup> Standard & Poor's (2003).

<sup>62</sup> SFAS 87, Paragraph 192.

- In the U.K., 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.”<sup>63</sup>

What should we expect from our own standards of practice? Bader and Gold have been prominent critics of the profession’s standard-setting process. Here are some of their recent statements; 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.”<sup>64</sup>

“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.”<sup>65</sup>

“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.”<sup>66</sup>

“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.*”<sup>67</sup> [emphasis mine]

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

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<sup>63</sup> FRS 17, Paragraph 54.

<sup>64</sup> Bader and Gold, p. 10.

<sup>65</sup> Ibid.

<sup>66</sup> Ibid., p. 11.

<sup>67</sup> Bader, et. al. (2003), p. 37.

appropriate practice by members of the profession practicing in this area). Does the proposed revised standard appropriately reflect generally accepted actuarial practice?”<sup>68</sup>

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—emphasis mine] instances it’s probably too early to begin drafting a proposed standard.”

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.”<sup>69</sup>

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.”<sup>70</sup>

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.”<sup>71</sup>

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 underway that should be observed and ultimately formalized.

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<sup>68</sup> Proposed ASOP, “The Actuary’s Responsibility to Auditors...,” Transmittal Memorandum.

<sup>69</sup> Rackley (2002), p. 6.

<sup>70</sup> Bloom (2003), pp. 6-7.

<sup>71</sup> ASOP 41, Transmittal Memorandum.

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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