COMMENT 22: AUGUST 1, 2008

MEMORANDUM

To: Actuarial Standards Board

From: Paul Angelo, FSA

Date: August 1, 2008

Re: ASOP No. 27 Request for Comments

Thank you for the opportunity to submit comments on ASOP No. 27 . Please note that these comments are my own and do not necessarily represent the opinions of my employer or of any organization.

By way of introduction, my comments ask you to consider that the "Selection of Economic Assumptions for Measuring Pension Obligations" should depend critically on the measure in question and how that measure will be used. In general this would lead to, first, maintaining the current distinction between the investment return assumption and the discount rate when the discount rate is meant to measure something other than the expected return on the pension plan's invested assets. This is well described in Section 3.6 (all section references are to ASOP No. 27):

> 3.6 Selecting an Investment Return Assumption and a Discount Rate—The investment return assumption reflects anticipated returns on the plan's current and future assets.
>
> The discount rate is used to determine the present value of expected future plan payments. Generally, the appropriate discount rate is the same as the investment return assumption. But for some purposes, such as SFAS No. 87 or unfunded plan valuations, the discount rate may be selected independently of the plan's investment return assumption, if any. In such cases, the discount rate reflects anticipated returns on a hypothetical asset portfolio, rather than on the plan's expected investments.
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> For brevity, the remainder of section 3.6 refers only to the investment return assumption. The same selection process applies to the discount rate, except where necessary the hypothetical portfolio is substituted for the plan's expected investments.

Second, anticipating the specific question in your Request for Comments regarding financial economics, a discount rate developed as the expected return for a hypothetical asset portfolio (as discussed in Section 3.6) whose cash flows match some expected benefit stream may be useful in determining the theoretical market price of that benefit stream. However the question of whether that theoretical market price is an appropriate measure or provides any "decision useful" information for a particular type of pension plan (corporate, multiemployer or public sector) is and should remain outside the scope of ASOP No. 27.

Please note that the main context for these comments is public sector retirement systems with no externally prescribed assumptions.

1. Under ASOP No. 27, an actuary selects an economic assumption by developing a "best-estimate range" and selecting a specific point within the best-estimate range. How do actuaries comply with the ASOP? What methodologies do they use to select a specific point within a "best-estimate range"? Is the "best-estimate range" approach the appropriate standard of practice? Does the ASOP inhibit the use of a more appropriate approach to selecting assumptions? Are there any specific changes that should be made to the ASOP to describe appropriate practice more accurately?

Section 2.1 defines the "best-estimate range":

> 2.1 Best-Estimate Range—For each economic assumption, 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.

Section 3.1 describes the rationale and function of the best-estimate range:

> 3.1 Overview—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 from within that range. In some instances, the actuary may present alternative results by selecting different points within the best-estimate range.

Section 3.4 includes this important alternative for working with the "best-estimate range" methodology:

> 3.4 General Selection Process— …
>
> … With respect to some (or all) of the components of an economic assumption, the actuary is not required to identify the explicit best-estimate range before selecting the specific point, provided that the actuary is satisfied that the selected point would be within the best-estimate range had such range been explicitly identified.

I strongly recommend maintaining the general structure of this "best-estimate range" methodology. Note in particular that the specific point selected from within the best-estimate range is not characterized as being the actuary's "best-estimate"; this is appropriate for the reasons described in Section 3.1. In practice this also allows for an informed discussion with the client of the process for selecting a point within the best-estimate range. Finally it allows for including a margin for conservatism in the assumptions, as long as the resulting assumption is within the best-estimate range.

I particularly recommend maintaining the alternative allowed in Section 3.4 as cited above. As further discussed below, developing an explicit best-estimate range can have drawbacks. A

common alternative is to develop a point recommendation for each component of an assumption, including perhaps a component for conservatism, always assuring that each component as well as the resulting assumption fall within the actuary's implicit assessment of the best-estimate ranges.

Criticisms of the current "best-estimate range" methodology

In a stochastic context, the text "more likely than not" in Section 2.1 is frequently interpreted as defining the best-estimate range as including all outcomes in the 25th to 75th percentile range. Especially for investment return, this wide a range may not provide sufficient practical guidance.

This can be especially problematic if the "best-estimate range" is interpreted by actuaries or their clients as "the reasonable range", even though this may not be the intent of ASOP No. 27. That can be a reason not to determine and discuss an explicit best-estimate range for investment return, so as to avoid the impression that the system could adopt either the high or low end of that range as a "reasonable" assumption.

I suggest the ASB consider whether the best-estimate range should be reinterpreted to include only results that could actually be adopted as a reasonable assumption. If not, then perhaps this distinction should be made more explicit, and a separate "reasonableness" requirement introduced. Also, while I confess that I do not have an alternative for quantifying the best-estimate range, the "25th to 75th percentile range" interpretation should be addressed.

2. Under ASOP No. 35, an actuary selects a noneconomic assumption by considering the relevant "assumption universe" and selecting a specific assumption from the appropriate assumption universe. Should ASOP No. 27 incorporate the concept of an "assumption universe" with respect to economic assumptions?

Particularly for investment return and discount rates, this may relate to the need to be clear as to the purpose and use of the pension obligation measure when selecting a discount rate. The discount rate for modeling the theoretical market price for a benefit stream could be viewed as coming from a different "assumption universe" than the expected investment return on the plan's current and future assets. Similarly, an expected investment return for setting contributions may come from a different universe than one used to illustrate investment risk.

3. Currently, the selection of an economic assumption that is not within the "best-estimate range" is considered a deviation from the guidance in ASOP No. 27. Should the ASOP permit an actuary to select an economic assumption that lies outside the best-estimate range (for example, to include a margin for conservatism, or to calculate a range of values instead of a single measurement of plan obligations)? If so, what specific guidance should ASOP No. 27 provide with respect to the selection of such economic assumptions?

This question illustrates the importance of the purpose of the measure and the related assumption. For example, if the measure is to be used as the basis for determining contributions then the measure ultimately will have to be a single value, not a range, based on a point assumption in the best-estimate a range. In this context, any reasonable margin for conservatism should still produce a point within the best-estimate range.

However, if, for example, the purpose of the measure is to illustrate the risk of an assumption not being met, then the "best-estimate range", as currently defined, may not be relevant for that purpose.

Here it may be useful to introduce a "reasonable" criterion in addition to the best-estimate range. The best-estimate range for predicting an expected outcome may not include values that are reasonable for illustrating the range of possible outcomes. It might be appropriate for the ASOP to acknowledge the appropriateness of such range measures, as long as the purpose of such measurements are understood and disclosed.

4. Currently, the guidance in ASOP No. 27 does not include the asset valuation method or the difference between the market value and actuarial value of a plan's assets among the considerations in selecting an investment return assumption. Is it appropriate for an actuary to consider either of those factors when selecting an investment return assumption? Should the ASOP advise actuaries to consider those factors?

For both practical and theoretical reasons I would recommend against incorporating the effect of any deferred market gains or losses in the investment return assumption. The investment return assumption is an assumption, developed to anticipate actual market value returns, while the actuarial value is part of the plan's funding policy, developed to address market volatility. Incorporating the actuarial value into the earnings assumption may defeat the purpose of the actuarial value and certainly changes the nature of the earnings assumption.

However please consider that it is appropriate and essential to disclose and discuss the relationship between the two and to quantify that relationship. One way to do this is to state that, if the market value does earn the assumed investment return, the plan will experience future gains and/or losses on the actuarial value in predictable amounts. I do not know whether this would be more appropriately addressed in ASOP No. 27 or ASOP No. 44.

5. Have there been any specific changes in actuarial science or practice since the original adoption of ASOP No. 27 that conflict with the guidance in the ASOP? Should the ASOP accommodate any such practices? If so, what specific guidance should ASOP No. 27 provide with respect to such practices?

ASOP No. 27 is remarkably current. The only area where I suggest current practices might call for review involve the "Cash Flow Matching Method (Section 3.6.2.b.), which I discuss under question 9. Comments regarding financial economics are found under question 6.

6. Comments received by the ASB in response to an exposure draft of ASOP No. 4 supported the idea that pension standards should accommodate actuarial practice that incorporates the concepts of financial economics as well as traditional actuarial practice. Does the application of financial economics to the selection of economic assumptions conflict with the guidance in ASOP No. 27, and if so, in what specific ways does it conflict? Should ASOP No. 27 provide specific guidance with respect to financial economics and, if so, what should that guidance be?

In this context, financial economics (FE) refers to modern corporate finance as it applies to corporate pension plans. Please consider that, even for corporate pension plans, "actuaries do not

need to accept the conclusions that many people reach when they apply financial economic theory to pension plan management" (from "The Pension Actuary's Guide to Financial Economics, SOA/AAA, 2006). Furthermore any extension of FE to plans other than corporate plans should consider the fact that many of FE's concepts and conclusions depend critically on the unique economic nature of corporate plans and their sponsors. For those reasons it would seem premature to incorporate FE concepts into a standard of general applicability to all pension plans.

That said, here are some comments on how FE concepts would impact ASOP No. 27 if so incorporated. Obviously, the FE result most relevant here is the use of a "risk free rate" (or, more properly in some contexts, "risk adjusted rate"). The following comments are framed by noting that FE obtains this result in two different ways, which correspond to the distinction between the investment return and discount rate assumptions highlighted in the introduction to these comments.

The Risk Free Rate as a Discount Rate

One FE path to the risk free rate is as the internal rate of return on a "reference portfolio" that matches the cash flow and risk characteristics of the pension plan's benefit stream. This type of discount rate is already incorporated in two sections of ASOP No. 27.

If we accept that the internal rate of return is a reasonable proxy for the expected investment return on the reference portfolio, then this risk free return is the basic definition of the discount rate found in Section 3.6, using the reference portfolio as the "hypothetical asset portfolio" in Section 3.6.

Even more specifically, the "Cash Flow Matching Method" in Section 3.6.2.b provides an excellent description of an FE risk free rate developed as the internal rate of return on a reference portfolio. The only modification required would be eliminate the "risk adjustment range" which includes adjustments after determining the internal rate of return on the reference portfolio.

Even though ASOP No. 27 already includes these provisions, given the increasing level of actuarial practice involving FE and its reference portfolio rates of return, it may be appropriate to make the connection more explicit. If that is done it would also be appropriate to reemphasize that these are reference portfolio discount rates and not expected investment returns.

The Risk Free Rate as a Risk Adjusted Investment Return Assumption

The other FE path to the risk free rate is as an expected return on the plan assets, but one that does not include any returns that are only available by increasing the investment risk of the portfolio above that of a cash flow matching portfolio. This is sometimes encapsulated as "the expected return is not to be expected". There are various arguments for this involving avoidance of arbitrage opportunities (the "Bader Swap") as well as intergenerational equity (today's shareholders/taxpayers taking credit for risk that will actually be incurred by tomorrow's shareholders/taxpayers).

This argument should be evaluated based on the purpose of the measurement and of the related assumption. If the purpose of the investment return assumption is, as stated in Section 3.6, to "reflect anticipated returns on the plan's current and future assets" then this version of the risk free rate on its face does not do so. If the purpose of the risk free rate is to illustrate or quantify the downside risk of the anticipated return not being realized then it should be identified as a separate assumption developed for that purpose.

7. Is there a need for guidance concerning the selection of economic assumptions for purposes other than measuring pension obligations (for example, for measuring pension risk)? If so, in which specific areas is guidance needed? Should any such guidance be provided in ASOP No. 27 or in a separate ASOP? What specific guidance, if any, should ASOP No. 27 provide with respect to such practices?

It may be clearer to limit ASOP No. 27 to assumptions used to measure pension obligations and develop elsewhere guidance – or even mandates – on assessing the risks inherent in those measures. However, because it is essential to communicate the effect of variations around our point estimates, please consider that ASOP No. 27 should at least enumerate methods for doing so, including sensitivity analyses and stochastic valuations.

8. Are the disclosure requirements of ASOP No. 27 appropriate? Are there any specific disclosures that should be added to or removed from the ASOP? Is there additional information concerning economic assumptions that would be useful to another actuary who takes over or reviews a plan or to other users of an actuarial report?

The current disclosures are appropriate and sufficient. A "take over" actuary might benefit from a detailed description of how the assumptions were obtained, including any client specific considerations incorporated in their development.

9. Are there any other areas of concern with respect to ASOP No. 27?

Given the expansion of asset categories and more sophisticated asset allocation techniques, please consider a review of the "Cash Flow Matching Method (Section 3.6.2.b.) as a method for determining the best-estimate investment return range for plans that are not actually substantially invested in cash flow matching assets. The description treats "current and expected future plan investments in equities or other asset classes besides high-quality bonds" as merely one component of a "risk adjustment range", without further elaboration.. This would seem to give short shrift to a primary return component for a diversified portfolio.

Please consider including an appropriately disclosed "margin for conservatism" as a "Measurement Specific Factor", particularly for investment return under Section 3.6.3.

10. How might any of your comments apply to ASOP No. 35? Are there similar issues that apply to both ASOPs? Should the ASB review ASOP No. 35 at the same time it reviews ASOP No. 27?

ASOP No. 27 could include a "reasonableness" criterion as found in Section 3.3.5. of ASOP 35. This could be part of addressing the "reasonable range" vs. "best-estimate range" issue discussed above.