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SOA HOSTS SYMPOSIUM ON PUBLIC PENSION PLAN FINANCING

By Thomas Lowman

I never thought I would go to an actuarial meeting and hear people talk about the Heisenberg Principle and Black Holes. Once again the topic of Financial Economics has surprised me as both came up at the SOA symposium on Public Pension Plan Financing.

Both the actuarial and accounting professions are looking at the way pension plans for employees of state and local governments are accounted for and/or funded. Issues related to the applicability of financial economics principles to the measurement of public pension plan liabilities have been widely and passionately discussed by public pension plan professionals in recent years. This issue has been discussed at a number of actuarial venues including a joint American Academy of Actuaries (AAA)/Society of Actuaries (SOA) roundtable in February 2008, an AAA Public Interest Committee hearing in September 2008, and at numerous continuing education sessions. More recently, the Government Accounting Standards Board (GASB) issued an Invitation To Comment document on public pension accounting issues inviting comments by July 31, 2009, and this topic is a current issue before the Actuarial Standards Board.

To advance the discussion and stimulate further thought, the Society of Actuaries Pension Section Council issued a call for papers in the summer of 2008 seeking a wide variety of perspectives on the issue of public pension plan finance. The call for papers while sponsored by the Pension Section Council was coordinated by volunteers from the Joint SOA/AAA Pension Finance Taskforce and the Pension Section's Research Committee. As a result of the call for papers, about 20 papers were submitted, and in May 2009, most of these papers were presented at an event in Chicago sponsored by the SOA called the "Public Pension Finance Symposium." As expected, there were some lively discussions that occurred given the topic, but all were handled with professionalism.

POLL

Which of the following best describes the effect that the financial crisis has had on your personal work situation?

- None, I'm as busy as ever
- Changed my level of responsibility in same job
- Substantively changed my job (e.g. my focus shifted to investments)
- I'm considering a career change
- I lost my job

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Initially I expected that there would be two sides for each paper: the financial economics (FE)/market liability side versus the conventional practice side. However, some papers were about measuring and or communicating risk which is something for both camps to consider. After each paper was presented there were two discussants (chosen to provide differing perspectives) who provided their critique or analysis of the papers.

The main purpose of this article is to provide a short summary of each session from the symposium. In addition, papers and presentation from the event can be found at the SOA Web site with handouts available here and initial drafts of papers available here. Note that an online conference monograph is being prepared for release.

The first session was titled Measuring Public Pension Liabilities—The Contrasting Views. The first to present was Paul Angelo, FSA, with The Segal Company. He presented his views in defense of conventional actuarial practice by using a new construct comparing vectors, which he defined as a series or array of values, and scalars, a single value. He posited that the two key cash flow streams from a pension plan, the benefit streams and the contribution streams, are like vectors, while the point in time measurements of liability are scalars. He went on to focus on contribution vectors for funding and discussed other ideas including the role of the pension plan (trust), achieving level and stable contributions, and the key differences between the public and private sector. Following Paul was David Wilcox, deputy director, Division of Research and Statistics, from the Federal Reserve Board. He provided a defense of the market value liability (MVL) view but also clearly made a point of separating the questions of how to discount liabilities from how to invest assets. He said that there is no question about the issue of how to discount: the principals of finance require something like a risk free bond rate and (if desired) volatility can be solved through investment policy. David noted that public pension promises tend to be very strong legal promises and thus this mandates a risk-free (or nearly so) discounting process. In addition, he made the point that planning based on expected values amounts to assuming that the price of risk is zero. Following these two presentations, Ethan Kra, FSA, with Mercer and Kim Nicholl, FSA, with Pricewaterhousecoopers provided discussant commentary for this session.

Session two was titled The Rationale for Traditional Actuarial Models. Both papers argued for maintaining the current practice in measuring public pension liabilities. Brian Murphy, FSA, from Gabriel Roeder Smith made the first presentation based on the paper, *Actuarial Methods and Public Pension Funding Objectives: An Empirical*

Examination, co–authored by Brian, Norman Jones and Paul Zorn. His presentation focused on a sample plan and how the two models (traditional vs. market liability) would have produced different patterns of cost and funding ratios between 1978 and 2008. The results showed the higher volatility under the market value method. Next Krzysztof Ostaszewski, ASA, from Illinois State University presented a paper on a rational for the traditional method. The paper, *Revisiting Pension Actuarial Science: A Five–Part Series*, was co–authored by Krzysztof, James Rizzo and Piotr Krekora. Like Paul Angelo, Krzysztof focused on some of the differences between the private and public sector. He talked about flaws in the "ABO" measurement. He also talked about eight different measurement purposes and how what is measured might depend on the purpose. Phil Kapler, Executive Director with the St. Paul Teachers' Retirement Fund Association and Sean McShea with Ryan Labs provided commentary and reactions.

On day one we had a lunch speaker: Karl Johnson from GASB's staff. Karl directs pension projects for GASB. He talked about the recently released "Invitation to Comment" (ITC) which GASB issued as they consider changes in pension accounting rules; this is an extremely important project with significant implications for public pension plan accounting. Karl went over the objectives and all seven chapters from the ITC. The ITC is both a request and an impressive detailed framework. Comments were due by July 31, 2009 and subsequently there were two days of public hearings and testimony for the Board. (The American Academy of Actuaries submitted a comprehensive comment letter providing arguments from both viewpoints. The letter is available on the Academy Web site.

The Financial Economics View for Measuring Public Pension Liabilities was the topic of session three where two papers from the MVL point of view were presented. M. Barton Waring, a retired economist from Barclays Global Investors presented his paper, *A Pension Rosetta Stone: Reconciling Actuarial Science and Pension Accounting with Economic Values*. The paper illustrated problems and distortions of using expected rates of return vs. risk free rates. He commented on a recurring theme that "risk" is not factored into the cost when expect rates of return are used. He said this needs to change to rebuild the credibility of the actuarial profession. The second paper, *The Case for Marking Public Plan Liabilities to Market*, by Jeremy Gold and Gordon Latter was presented by Gordon. His message was that no sector can escape capital market rules. He described how they modeled four large plans in different areas of the country and found the MVL was on average 26 percent higher than traditional liabilities. He asked actuaries to do these calculations as part of their routine work. Discussant comments for this session were provided by two actuaries working in the public sector: Alan Milligan, FSA, who works for CalPERS and Bob North, FSA, who works for the City of New York.

The fourth session contained presentations of three papers and was titled: New Ideas For the Future. David J. Kehler, Retirement Administrator for the Tulare County Employees' Retirement Association presented, *Public Pension Plan Financing: The Devil's in the Actuarial Details*. In this paper, David talked about the environment in which public plans operate, including situations like benefit increases during the "go–go" years and new benefit tiers in bad times. He talked about the problem with using "excess earnings" and challenges associated with pension obligation bonds. The second paper was my paper, *The Debate Over Applying FE Principles to the Funding of Public Pension Plans: A Transition Proposal and Other Ideas*, which was about understanding the increased annual cost of going to an MVL measure (three to four times current cost) and suggests a transition approach if this must happen. I provided data on three plans including duration of liabilities and normal cost plus a discussion of details which need to be addressed in the definition of MVL. Finally, Dimitry Mindlin, ASA, with CDI Advisors, presented his views about measuring liabilities in a paper titled, *The Case for Stochastic Present Values*. It focused on the concept that the cost of running a pension plan is uncertain and the present value is a random variable. A lively discussion occurred over a quote attributed to Fisher Black: "...a plan sponsor may want to choose an investment strategy to minimize the present value of future contributions to the plan." The significance of this quote is very interesting, but beyond the scope of this article. Eric Friedman, FSA, from Mercer and Graham Schmidt, ASA, at EFI Actuaries provided discussant commentary.

Session five, Risk Management Ideas for Public Pensions, covered presentations of three papers. Graham Schmidt presented *Communicating Risk in Public Pension Plans*, a paper written by Robert T. McCrory, FSA, (also of EFI Actuaries). One key point made was that simple projections which omit risk are of limited value. He presented a number of different options for analyzing risk including full and partial projections, "error bars" and back–testing. These apply whether we use traditional or FE models. Next, David Kelly, FSA, from Mercer presented a paper he wrote with Bill Hallmark, ASA, also of Mercer, *How Much Investment Risk Can a Government–Sponsored Pension Plan Afford?* He made the point that public plans do not have an infinite risk tolerance. Many do not adjust their investments to recognize growing risks and may be pulled into the "event horizon" (essentially a point of no return used when discussing black holes) well before they run out of money. Finally, Joshua Davis, FSA, of Milliman discussed the paper, *Public Plans: Using Risk Profiles to Manage Funding Goals* which he co–authored with his colleagues Scott Porter, FSA, and Karen Steffen, FSA. Joshua discussed risk profiles and factors other than funded ratios: contribution volatility, investment risks and plan maturity. Their solution focused on funding targets above 100 percent and modified LDI strategies. Commentary for this session was provided by Mark Ruloff, FSA, with Watson Wyatt and David Wescoe, Administrator/CEO for the San Diego City Employees' Retirement System.

Session six contained presentations of two papers by academics covering: The Role & Impact of Equities in Public Plan Investing. The first paper presented was *How Should Public Pension Plans Invest*, by Stephen Zeldes and Deborah Lucas, both of whom are economists at Columbia University and Northwestern University, respectively. Steve made the case that liability determination should not be linked to asset allocation. While they advocated discounting liabilities based on assets with similar risk characteristics, they noted that certain features including pay indexed benefits perhaps argue for equity type discounting. However, in practice the percentage of liabilities for active members has limited correlation with equity investing. Joshua Rauh, an economist from the University of Chicago gave an energetic presentation on the intergeneration transfer of pension promises based on his paper, *Public Pension Promises: How Big Are They and What Are They Worth?*, co authored with Robert Novy Marx (also from University of Chicago). He estimated that the unfunded liability for all U.S. public plans under traditional methods is $0.9 trillion (outstanding municipal securities are $0.94 trillion). Remeasuring these liabilities using FE principles he estimated the unfunded liability to be $3.1 trillion. Douglas Love, senior partner at Ryan Labs and David Kausch with Gabriel Roeder Smith provided discussant commentary and reactions.

The final event was a roundtable with Jeremy Gold, Bob North, Paul Angelo and me. The title was "Where do we go from here?" We discussed topics ranging from "FE in the real world," to "improvements to the traditional model," to "impact of the financial crisis" and finally "GASB's ITC".

Finally, those who did not attend missed a great deal of entertainment value from discussant David Wescoe, San Diego City Employees' Retirement System, Administrator/CEO. His sharp wit provided some appreciated relief in discussing this challenging topic. As part of his discussion, he also provided some words of wisdom:

> Finally, I want to challenge you. This morning I was reading an article about current litigation between a plan sponsor and an actuarial firm. Testifying in the case, the defendant actuary said, "A good actuary responds to what their client is looking for, and in this case, that was number one." May I suggest that this actuary had it

> wrong? In my view, a good actuary responds to what their client *needs*, not just what the client *wants*.
>
> My challenge to you is to bring intellectual honesty to the table. Respect your clients, but understand they need intellectual honesty from you in order to make the very important decisions that they face. If you come into the room thinking that client retention is more important than being intellectually honest, then you are letting your profession, your client and yourself down.
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> So, don't give your client what they want. Give your client what they need, which is your best professional advice and integrity above all else. Sometimes clients need to hear things that they don't want to hear. If you don't do it, who will?

This is good advice that transcends the different views expressed at this event. I encourage actuaries to review the papers and presentations from this event as they provide a comprehensive discussion of the issues related to measuring public pension liabilities.

Thomas B. Lowman, FSA, FCA, MAAA, EA, is chief actuary at Bolton Partners, Inc. in Baltimore, Md. He can be reached at tlowman@boltonpartners.com.
