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Email subject: ASB COMMENT: Assessment and Disclosure of Risk

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COMMENT on Proposed ASOP: Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions – Second Exposure Draft

[\(http://www.actuarialstandardsboard.org/asops/assessment-disclosure-risk-associated-measuring-pension-obligations-determining-pension-plan-contributions-2/\)](http://www.actuarialstandardsboard.org/asops/assessment-disclosure-risk-associated-measuring-pension-obligations-determining-pension-plan-contributions-2/)

Assessment and Disclosure of Risk
Actuarial Standards Board
1850 M Street, Suite 300
Washington, DC 20036

Dear Actuarial Standards Board,

Thank you for the opportunity to offer comments with respect to the proposed Actuarial Standard of Practice on Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions – Second Exposure Draft.

My comments are my own, and do not necessarily reflect the views of my employer.

First, let me summarize my background and perspective. I am the director of fiscal studies at the Rockefeller Institute of Government, the public policy research arm of the State University of New York. The Institute's broad mission is to enhance the capacities of state and local governments and the federal system to deal effectively with the nation's domestic challenges. I focus on the finances of state and local governments around the nation. I am trained as an economist. In past lives, I worked in the executive branch of the New York State government as head of the economic and revenue analysis staff, and before that I was head of a small tax policy analysis staff in New York's legislature. I head a project at the Institute in which we are examining investment risks of public pension plans and the potential consequences for plan stakeholders and for stakeholders in state and local governments.

I have practical experience working with executive and legislative branch policymakers, and appreciate their struggles to balance budgets. Pensions are promised compensation for services previously delivered, giving them special moral status and legal protections, but that doesn't make the trade-offs any less painful for elected officials trying to pay higher pension contributions and still meet responsibilities to care for the needy, provide economically valuable infrastructure, and keep taxes from becoming economically damaging. If contributions become too high, policymakers may feel compelled to break pension promises so that they can meet other responsibilities. When that happens, pension beneficiaries share in pension-fund-related risks they never knew they were bearing.

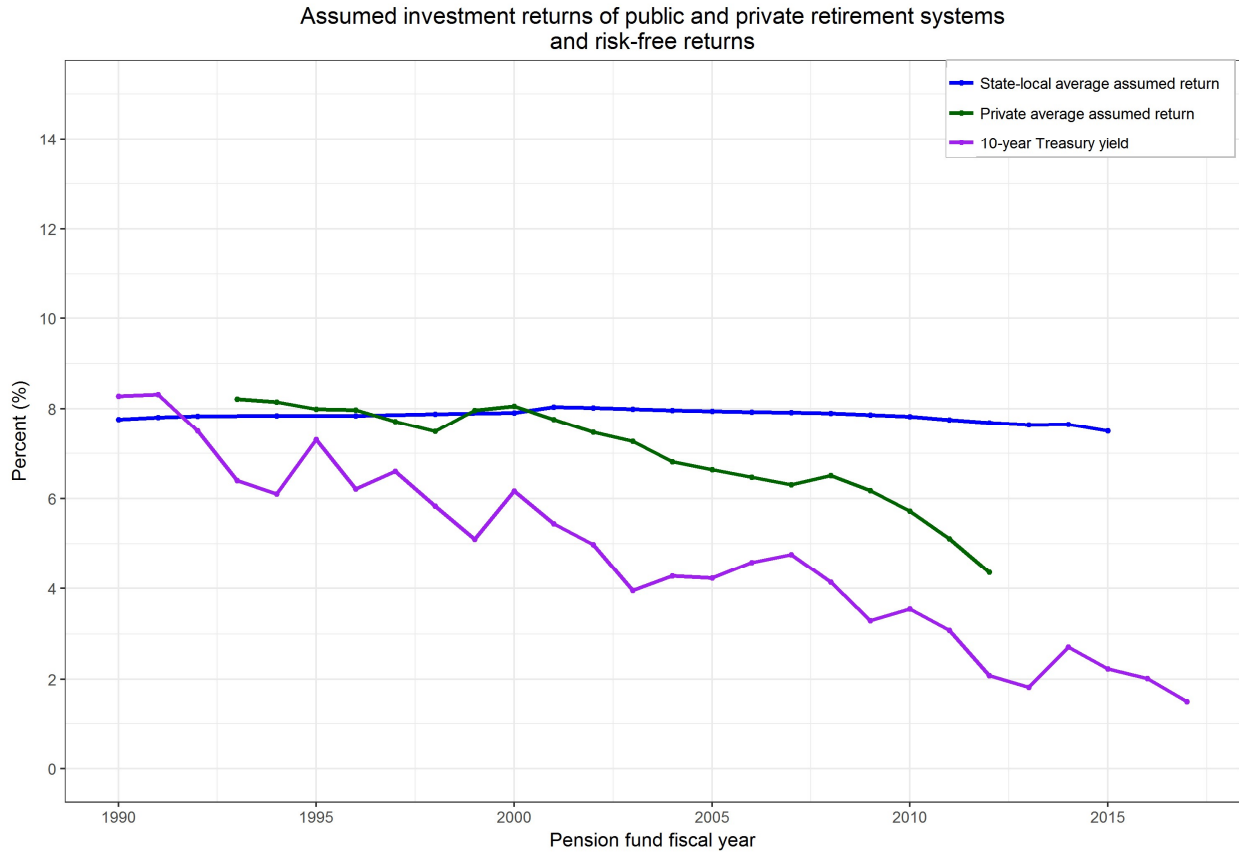
It is important to quantify, understand and disclose risks that actuarially determined contributions may become very high, and to try to avoid situations in which policymakers feel compelled to break promises. The Actuarial Standards Board has an important role in this. I am very happy that you have taken on this issue of great and growing importance. I focus my comments primarily on the implications of the proposed standard for public defined benefit pension plans, in their special operating environment, and I emphasize investment-related risk. I make three broad points below and then address your specific questions:

1. Because the range of investment-related risk that public and private plans may encounter under existing actuarial standards of practice is enormous and because this risk for public plans has grown dramatically, the Actuarial Standards Board has a special role in providing guidance about how to assess and communicate those risks.
2. Because this risk affects not just stakeholders who must finance public plans, but also affects plan beneficiaries, assessing and communicating risk is critical even when intended users are limited to pension plans, plan sponsors, and plan beneficiaries. Furthermore, intended users often should include stakeholders in government sponsors.
3. The proposed Actuarial Standard of Practice is an important start but more needs to be done.

The range of investment-related risk that plans may encounter under existing standards is enormous, creating a special role for the ASB.

As I am sure board members know, as interest rates have fallen over the last two decades, it has become harder for investors to achieve any particular targeted nominal rate of return. As you no doubt also know, public and private pension funds have responded very differently, as Figure 1 shows. Between 1990 and 2015, the 10-year Treasury yield fell from 8.3 percent to 2.2 percent (purple line). The available data show that the average large private plan's liability discount rate followed Treasury rates better than half the way down (green line), while the average large public pension plan's assumed discount rate barely fell at all (blue line).ⁱ

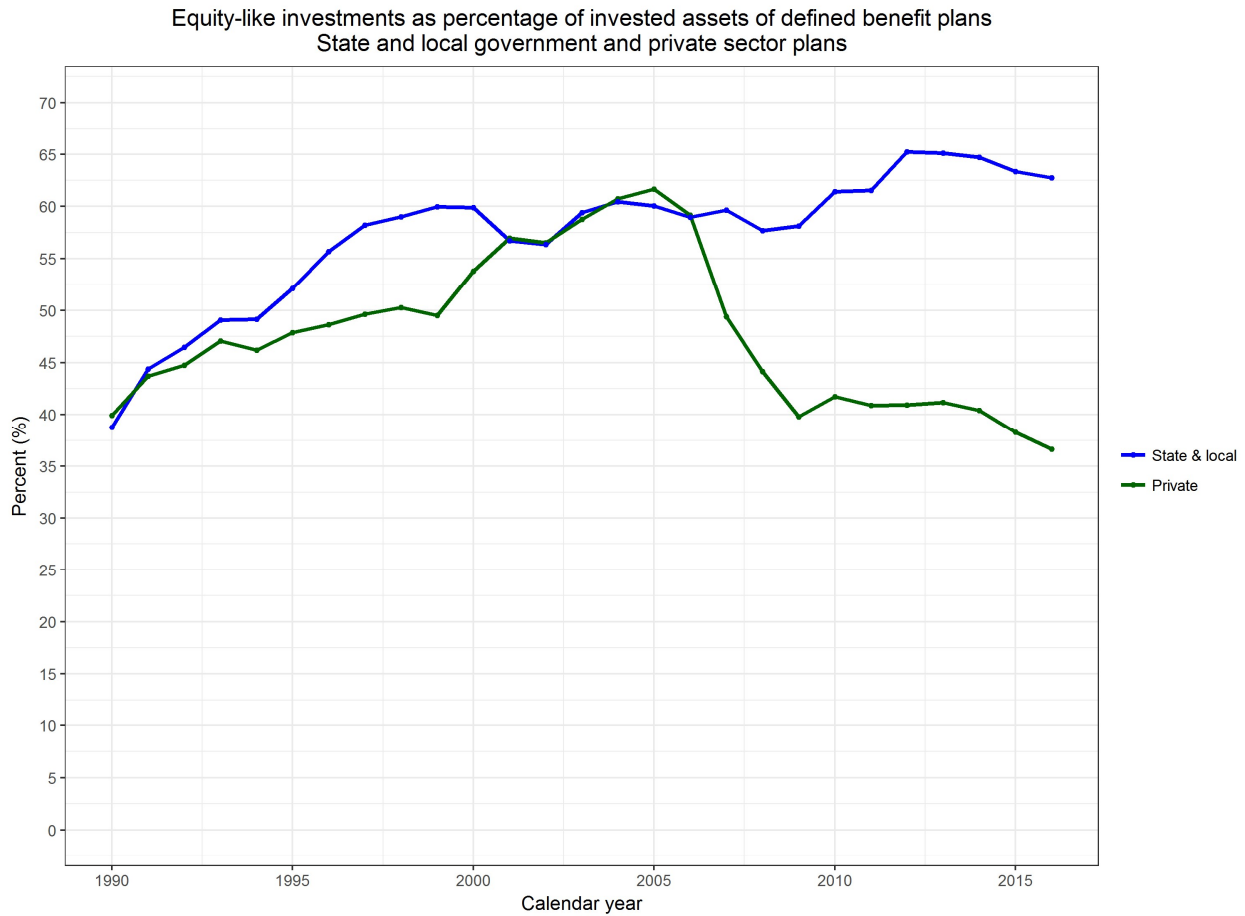
Figure 1 As yields on risk-free Treasuries fell, public pension plans maintained their assumed investment returns, while private plans did not



Sources:
 State-local assumed return from Public Plans Database
 Private assumed returns provided by Andonov, Bauer, and Cremers
 10-Year Treasury yield from Federal Reserve Bank of St. Louis (FRED)

The important point for the proposed actuarial standard of practice is that the very different public plan and private plan responses to changing economic conditions were done under the umbrella of existing actuarial standards of practice. Furthermore, the different discount rate and earnings assumption responses have led to very different risk-taking by public and private plans. Figure 2 shows that public plans have moved increasingly into equity-like assets (extending a longer term trend), while private plans have reduced their exposure to equity assets. In an excellent recent econometric analysis of this behavior, researchers concluded that “gradually, U.S. public funds have become the biggest risk-takers among pension funds internationally.”ⁱⁱ

Figure 2 Public plans increased their exposure to equity-like assets while private plans moved in the other direction



Source: Authors' analysis of Financial Accounts of the United States, Federal Reserve Board

I am not suggesting that this behavior is in any way caused or incentivized by actuarial standards of practice. There are many important differences in the operating environments of public and private plans, including differences in the FASB and GASB accounting standards (the prime suspect in the research previously mentioned); the fact that legal rules and minimum contribution standards applicable to private plans under ERISA, the Pension Protection Act of 2006, and later enactments do not apply to public plans; the difference between the corporate environment in which private plans operate and the political environment in which public plans operate; and differences in actuarial cultures.

The important point here is not the cause of these differences, but the fact that nothing in actuarial standards of practice prevents these different approaches to risk evaluation and risk taking. The standards have not caused the differences, but they allow them.

The risks are large and have grown. Under what I think are plausible assumptions the standard deviation for a portfolio with an expected return of 8 percent is at least 12 percent now, compared to about 4 percent in 1995. In addition, as public pension plans have matured, their assets have grown much faster than the economy and faster than the taxes that are the primary resource for paying contributions. As a

result, I estimate that a single-year one-standard deviation shortfall (a shortfall of 12%) is now the equivalent of about 27 percent of a year's worth of state and local government taxes for the nation as a whole, compared with 7-plus percent back in 1995 - in other words the risks to state and local budgets are about three to four times as great as they were two decades ago. And such a shortfall is large: about \$427 billion in current dollars; even amortized over 30 years, it is a lot. For example, it is roughly equivalent to a 24 percent cut in all U.S. state-local highway capital spending, for 30 years -- the result of a single year of moderately bad investment returns. If portfolio returns are normally distributed, there is about a one in six chance of a shortfall at least this large in a single year. (I am happy to provide details of calculations upon request.)

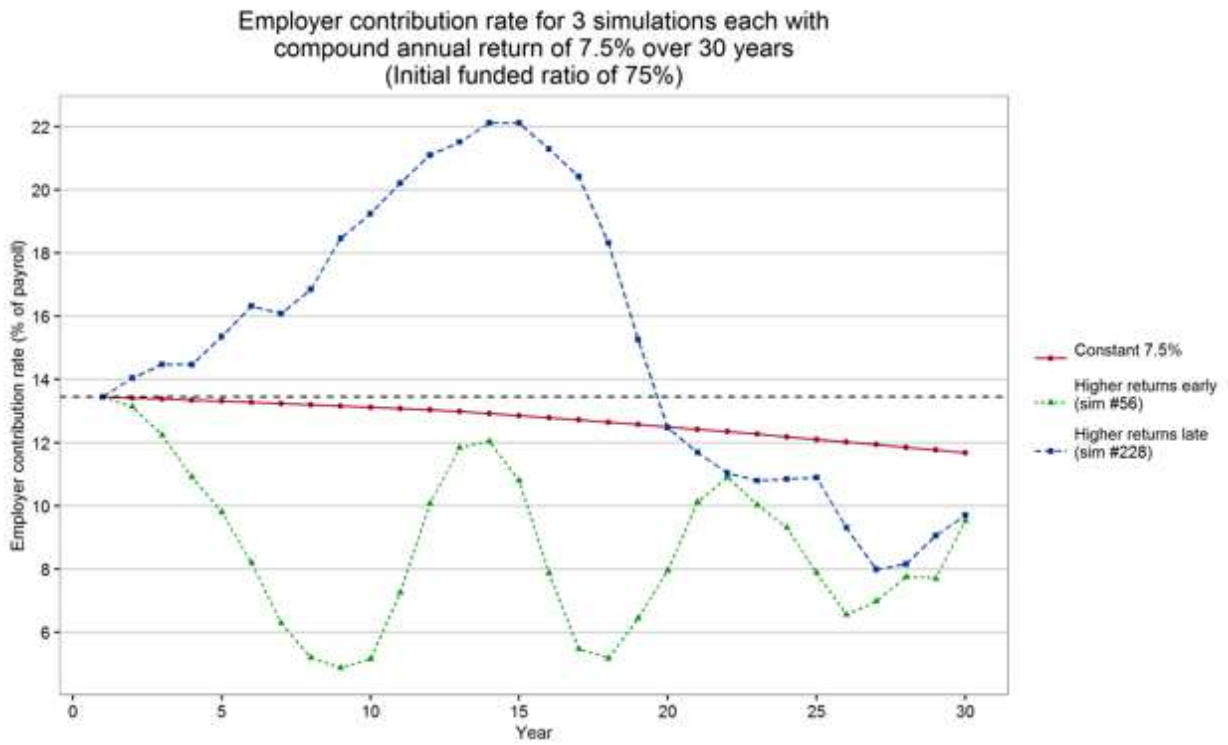
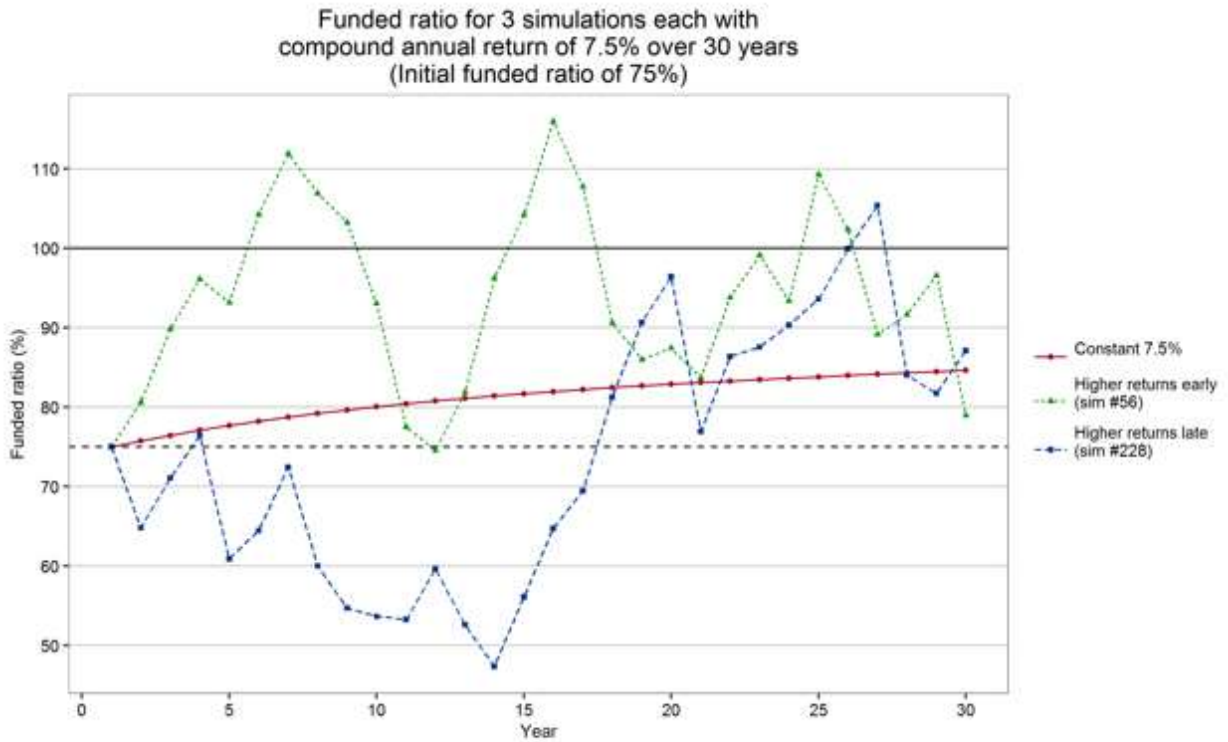
Given how much divergence in risk-taking is allowed under current actuarial standards, how large the risks are, how much they have grown, and what is at stake, the Actual Standards Board is in the perfect position to require greater analysis and disclosure of risks.

Investment risk affects not just governments that finance public plans, but also affects beneficiaries.

Plan beneficiaries are at risk when investment risk becomes great. Even if a plan hits its investment return assumptions over the long run – always a big if - when volatility is great, the plan and its sponsor will be on a roller coaster ride. The plan funded ratio and employer contributions will swing wildly over the life of the pension fund.

Figure 3 illustrates this roller coaster ride using our stochastic model of pension funds. We model a plan with average demographic characteristics, a 75 percent initial funded ratio, a 7.5 percent earnings assumption with a 12 percent standard deviation, and a fairly stretched out funding policy (30-year level percent open) over a 30-year simulation period.ⁱⁱⁱ The top panel shows the plan funded ratio, and the bottom panel shows the employer contribution as a percentage of payroll. Each panel shows three individual simulations from the model, where a simulation is a single lifetime of the pension fund. The red line shows what happens if the pension fund earns exactly 7.5 percent each and every year. The green line is one specific simulation that achieves a 7.5 percent compound annual return at the end of 30 years, but in which returns generally are better in the early years and worse in the later years. The blue line shows the opposite: returns tend to be lower in the early years and better in the later years, but the compound return at 30 years is 7.5 percent. The green and blue simulations were chosen out of a thousand simulations precisely because they achieve plan assumptions at the end of 30 years and because they are representative of the volatility we can expect. Many other simulations out of the thousand we ran present greater risks in the sense that they have average compound returns at 30 years that are either higher or lower than 7.5 percent.

Figure 3 Even if a plan hits its assumptions on average, its funded ratio and employer contributions are likely to be on a roller coaster



This wild ride might be fine in a technical system without people: investment returns fall short, the funded ratio falls, contributions rise, and the funded ratio gets back on a path to full funding. All is good. But pensions are funded by people. How comfortable are we that elected officials will be willing to pay contributions in year 15 that are nearly double what they were in year 1, as is required in the blue line (bottom panel)? How comfortable are we that if the funded ratio rises above 110 percent, as it does in the green line (top panel) that politicians won't go on a contribution holiday and cut taxes or raise education spending? And remember, the blue and green simulations were chosen because they hit the actuarial assumption on average. Most simulations will not, so contributions easily may rise higher and fall further than in the illustration, as may the funded ratio.

If politicians do not behave as technical automatons, faithfully paying contributions and not harvesting gains, but behave instead as we might expect when they are accountable to taxpayers and others, what happens? If the government is unwilling to accept the risk that comes with investment return volatility, someone else will bear it. That someone could easily be pension plan beneficiaries, who risk benefit cuts if the government decides not to pay full contributions when they rise dramatically. (And that someone could be bondholders, too.)

Because there really don't appear to be any rules that limit public pension fund risk taking – not in actuarial standards, not in accounting standards, not in federal pension law (ERISA etc.), and not in state law – it is essential that we have strong disclosure of risk and its potential consequences. That is why what the Actuarial Standards Board is doing is so important. Because the Actuarial Standards Board is the only authoritative body likely to weigh in on this issue, I believe it is important for the Board to make as strong a statement as possible about the importance of high-quality risk analysis and disclosure.

Lastly, because beneficiaries are at risk I think risk analysis and disclosure is crucial even when the intended users of an actuarial valuation are defined narrowly by the actuary to be the plan and the board of trustees and pension beneficiaries. Realistically, though, because the initial brunt of risk taken by public pension plans is borne not by these parties but by governments and their many stakeholders, I would hope public plan actuaries would define intended users to include this broader group.

The proposed Actuarial Standard of Practice is an important start but more needs to be done.

By and large I believe your proposed standard allows and perhaps even encourages actuaries to analyze and disclose risks of the kind I describe above. However, I cannot believe it is enough to ensure that these analyses occur and are communicated to the correct audiences.

First, the analysis and communication is not required, and second, there are no examples of what would be useful. I realize that you have already made decisions on the first point, and that the second point may not fall under the intended purpose of actuarial standards of practice. However, I believe it is important for the Actuarial Standards Board to encourage the practice strongly, and to point out good examples. CalPERS provides outstanding risk analysis in its separate risk reports (outside of actuarial valuations) and the Washington State actuary also provides excellent analysis.

It would be extremely valuable if the Actuarial Standards Board could develop, point to, and, ideally recommend examples of useful risk analysis and disclosure.

Comments on questions specifically identified by the ASB

Do you believe that the addition of contribution risk in section 3.3 is consistent with the risk definition in section 2.3? If not, how would you modify the definition in section 2.3?

Yes, I do, although I would prefer to see section 3.3 broadened and perhaps section 2.3 can be improved.

First, I believe that contribution risk as defined in section 3.3 can be read to include the kind of risk I describe above - the risk that actuarially determined contributions will rise so high that government sponsors may balk and underpay. This is consistent with the risk in section 3.3 that "actual contributions are not made in accordance with the plan's funding policy." However, because those who bear the risk in the first instance – governments and stakeholders – may face substantial pain long before they balk, I would prefer to see the section 3.3 definition be broader, and include the risk of "contribution increases that may be large and difficult for the plan sponsor." I realize you can't expect the actuary to quantify this broader concept, but I think having it in there would be a big improvement and I encourage you to add it.

With regard to section 2.3, I would suggest changing "future measurements" to "future measurements and behavior" in both places, to include the idea that contribution behavior may be different from expectations.

Do you agree with the proposed guidance in section 3.6 that if, in the actuary's professional judgment, a more detailed assessment would be beneficial for the intended user to understand the risks identified by the actuary, the actuary should recommend to the intended user that such an assessment be performed?

Absolutely. The actuary cannot possibly do all important assessments but I think the actuary usually will know when additional assessments would be beneficial.

Do you believe that the guidance in section 3.8 regarding the disclosure of historical actuarial measurements or potential disclosure of other historical information to assist in understanding the risks associated with the plan is appropriate? If not, what changes would you suggest?

Yes.

Again, thank you for this opportunity to offer comments.

Sincerely,



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The Nelson A. Rockefeller Institute of Government
www.rockinst.org/about_us/staff/researchers/boydd.aspx

ⁱ In the figure, the Treasury yield is the 10-year constant maturity yield, averaged over the typical public pension plan fiscal year (ending in June) from the daily rate available as variable DGS10 from the Federal Reserve Economic Data (FRED) website of the Federal Reserve Bank of St. Louis (<https://research.stlouisfed.org/fred2/>). The assumed investment returns are from several sources: (1) 2001-2014 values are the unweighted mean of assumed returns, computed by the authors from *Public Plans Data*, 2001-2014. Center for Retirement Research at Boston College, Center for State and Local Government Excellence, and National Association of State Retirement Administrators (<http://crr.bc.edu/data/public-plans-database/>); and (2) 1990-1992, 1994, 1996, 1998, and 2000 are from Surveys of State and Local Government Employee Retirement Systems, generally authored by Paul Zorn and generally available through <https://www.questia.com/magazine/1G1-14379961/surveys-of-state-and-local-government-employee-retirement>.

ⁱⁱ Aleksandar Andonov, Rob Bauer, and Martijn Cremers, "Pension Fund Asset Allocation and Liability Discount Rates," Available at SSRN 2070054, March 2016, http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=2070054.

ⁱⁱⁱ While many plans use funding policies that pay down shortfalls more quickly, our analysis of the Public Plans Database from the Center for Retirement Research shows that this is a fairly typical policy for plans with large unfunded liabilities.