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Are State And Local Government Pensions Underfunded By $5 Trillion?

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If the Actuarial Standards Board enacts recommendations from its Pension Task Force, actuarial valuations for state and local government pensions will report unfunded liabilities of over $5 trillion and funding ratios of just 39 percent. The public pensions industry will hate it, but those figures are the best available measures of the costs of public employee retirement plans.

A Pension Task Force established by the Actuarial Standards Board (ASB) has recommended rules changes that would require all pension actuaries to calculate and disclose the "market value" of retirement plan liabilities, a step that has been fought hard by the public pensions industry. Proponents of market-value liability figures, which include most economists as well as many policy analysts concerned about pension funding, argue that current actuarial methods understate pensions' true benefit liabilities and encourage pensions to take excessive investment risk. While the ultimate decision on actuarial standards lies with the Actuarial Standards Board, it would be difficult for the ASB to reject the recommendations of its own task force on such an important issue. So this could mean a big change in how we view state and local government employee pension funding.

Under current practice, a state or local government employee retirement plan "discounts" its benefit liabilities using the assumed return on the investments held by the plan. At first glance, this makes sense: if we discount liabilities using the assumed return on investments and we make contributions based on that discounted value, then – assuming the plan's future investment returns are equal to the assumptions made today – the plan should be able to pay all the benefits it owes. Most state and local pensions hold about 75 percent of their investments in risky assets such as stocks, private

equity or hedge funds and they assume annual investment returns of about 7.6 percent. Based on this methods, state and local plans today are about 74 percent funded and have unfunded liabilities of about $1.4 trillion.

But here's a fact that should tell you something: almost no other pension plans in the world are allowed to use the kind of accounting that U.S. state and local plans can. Corporate pension plans can't discount their liabilities using the assumed return on investment. Nor can most public employee pensions in other countries.

Here's why: defined benefit pensions promise a benefit that's guaranteed. Legally it's very hard to cut benefits that have already been earned and in the public sector it's tough even to reduce the rate at which employee earn future benefits. Many state constitutions guarantees benefits, as reformers in Illinois, Oregon and elsewhere have discovered.

What this means is that if a pension plan's investments don't meet up to their assumed returns – and there's a very good chance this won't happen – then the taxpayer has to step in to make up the difference. The average "required contribution" for public pensions more than tripled from 2001 to 2013, mostly because investment returns have been sub-par.

So the true liability for taxpayers isn't merely the obligation to make contributions on the assumption that those contributions will earn 7.6 percent returns. It's to make *whatever* contributions are necessary to pay benefits, regardless of how the plan's investments might fare. The way to measure that kind of liability is to discount the plan's future benefit payments using the interest rate from a guaranteed investment like U.S. Treasury bonds. As of mid-2015 – when figures were last produced for state and local pensions – the average yield on Treasuries with durations of between 10 and 20 years was about 2.6 percent. (The logic behind using a risk-adjusted discount rate isn't always intuitive; here's an effort to make it slightly more understandable.) U.S. corporate pensions must discount their liabilities using a corporate bond yield, which conveys that corporate pension payments carry about the same risk of default as corporate bonds.

Overseas pensions usually discount using some variation on a government bond yield.

This "market valuation" approach tells us several interesting and useful things.

First, it shows that state and local pensions aren't nearly as well-funded as you'd think. Let's assume that we valued public pension liabilities using the 2.6 percent average of 10- and 20-year Treasury yields. Instead of state and local plans being 74 percent funded with $1.4 trillion in unfunded liabilities, as they state using a 7.6 percent discount rate, using the Treasury yield these plans are about 39 percent funded with unfunded liabilities of about $5.2 trillion. That $5.2 trillion is the number most economists would think is most relevant to considering the costs of public sector pensions. For context, the total national debt including the Social Security and Medicare trust funds is about $19 trillion, so for state and local governments to face shortfalls one-quarter that size just for their employee pension programs is worrying.

Second, market valuation gives a better view of the benefits the plan can truly guarantee to pay and those it may or may not be able to pay. Let's say you have a plan that is 39 percent funded if valued using a Treasury yield and 74 percent funded if valued using a 7.6 percent return on a risky portfolio. The 39 percent part is what the plan could truly guarantee to pay: it could use its money today to purchase annuities, that without any further contributions from the taxpayer, would pay 39 percent of promised benefits. The difference between the 39 and 74 percent funding figures – that is, 35 percent of liabilities – *could* be funded if the plan receives the 7.6 percent return it assumes it will get on its investments. But that higher return is a premium for taking risk, meaning that it may or may not happen. In other words, nearly half the plan's "funding" is premised on investment returns that may or may not materialize. So the two numbers together help us break down how much of a pension's liabilities are *truly* funded and how much funding depends upon receiving an investment return that's by definition uncertain.

Third, market valuation shows that taking more investment risk doesn't make a pension plan better funded. It simply means that the pension plan is taking more investment risk. Under current actuarial practices, in which a public plan discounts its liabilities using the assumed return on risky investments, taking more investment risk will increase the expected annual return, because returns are a reward for risk. The higher expected return can be used to discount the plan's liabilities, resulting in a lower present value of liabilities. And the lower present value of liabilities would then result in the plan making lower contributions to fund those liabilities, before a penny of higher returns have actually been received. Only U.S. state and local pensions can do this, and it shouldn't be surprising – as economist Rob Bauer and his co-authors have shown – that U.S. public pensions take the most investment risk in the world.

So a market valuation approach gives both a more accurate picture of the pension funding problem and of what steps will and won't help address it. The simple reality is that public pension underfunding is a significant problem that can only really be addressed by increasing contributions or by lower pension benefits, choices that pretty much everyone involved in the pension world would prefer to avoid.

Back in 2013-2014 I served as the co-vice chair of the Society of Actuaries Blue Ribbon Panel on public pension funding. We recommended that state and local pensions calculate the value of pension liabilities using a Treasury yield. To us, that showed how much of a pension's funding depended upon uncertain investment returns rather than money already in the bank. These figures would serve as a supplement to ordinary liability valuations.

Following on from the Blue Ribbon Panel, the Actuarial Standards Board appointed a Pension Task Force to look at updating the Actuarial Standards of Practice (ASOPs) for pensions. ASOPs aren't laws that bind pensions so much as rules that actuaries who work for pensions must follow. The ASOPs can help prevent a "race to the bottom" of a pension sponsor looking for actuaries who will provide more favorable assumptions or methods, by setting principles that the actuary must work by. The Task Force's job wasn't to set rules but to make recommendations to the ASB's Pension Committee. The fact that one

Task Force member, Mita Drazilov, is the chair of the ASB's Pensions Committee means the Task Force's recommendations are likely to be taken seriously.

The Pension Task Force's report contains a number of recommendations that range from the technical to the almost philosophical, in the sense of thinking how pension actuaries should work in a world in which there are many parties concerned with the numbers they produce and in which outside regulation of state and local government pensions is light.

But of the issues considered by the Task Force, the liability measurement issue is probably the most controversial. The Pension Task Force recommends that

"a market-based alternative liability measurement should be calculated and disclosed for all valuations of pension plans for funding purposes."

The Task Force recommends that such a "solvency value" be calculated using U.S. Treasury yields.

What is interesting are the reasons the Task Force set out. The traditional method of valuing guaranteed benefits using the assumed return on risky assets can be "misleading" and "incomplete" because it doesn't provide full information on the costs and risks of "financing of a retirement system using assets that are mismatched with the underlying liability." The Task Force expressed concern that current liability accounting methods encourage risk taking: "Relying solely on a measure that can be changed by changing the plan's asset allocation, absent any additional information, may lead to inappropriate risk taking on the part of the plan sponsor." The market-valued liability is neutral with regard to how much investment risk the pension chooses to take and thus "this additional information may help plan sponsors make better decisions."

Finally, the Task Force argued that the market valuation approach would advance the actuarial profession by showing that it can incorporate insights from other fields, in this case financial economics. "Actuarial science needs to advance where appropriate, which includes

incorporating widely accepted and intellectually compelling arguments from other professions."

The ASB Task Force did not argue for eliminating current expected-return based liability measures, but instead to supplement those measures with new market-based figures. That's the same position the SOA Blue Ribbon Panel took and I believe it would be a big step forward. Public employee pensions – and the lawmakers who oversee them, the taxpayers who fund them and the employees and retirees who depend upon them – need to know how much the plans have promised and how much investment risk the plans are taking in hopes of meeting those promises.