ADVISOR PERSPECTIVES

The Next Black Swan? Underfunded Public Pensions

By Robert Huebscher
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The financial crisis is now showing its teeth in the public pension system, high-lighting existing systemic problems which some observers fear could further strain our national debt loads; others are more sanguine about the potential re-versal of current trends.

In Tom Stoppard's screenplay, *Shakespeare in Love*, Geoffrey Rush's character is asked repeatedly how the seemingly impossible gets done, only to answer, "I don't know, it's a mystery." These days, one could say the same about meeting local and state governments' growing pension liabilities.

Opinions range from measured optimism, exemplified by Keith Brainard, research director for the National Association of State Retirement Administrators (NASRA), to the outright pessimism expressed by bond fund guru Bill Gross of PIMCO.

The key metric of the health of a pension system is its funding ratio – the ratio of the plan's assets to the present value of the plan's projected liabilities. A funding ratio of 100% indicates a perfect match between assets and liabilities, and a value less than 100%, as is characteristic of almost all plans, indicates underfunding.

Brainard oversees a comprehensive database of 85% of state and local government retirement systems. The funding ratio of the \$2.6 trillion of plans in his database was 85% in FY 2008, he says, representing a deficit of approximately \$390 billion.

NASRA's operations are funded in part by small fees paid by governments and by money managers who attend its conferences.

Other independent firms, such as the prominent global consulting firm Wilshire Associates, say the funding ratio is lower and that a number of factors will combine to drive it down over the next several years Plans generally calculate their funding ratio annually, and Wilshire reports that the 59 state plans that reported FY 2008 data had a funding ratio of 77%, down from 88% for those plans in FY 2007.

Determining the underlying health of the public pension system requires two things: an assessment of whether the assumptions used to calculate the funding ratio are reasonable for the long term, and whether the long-term path of the economy and the markets will invalidate those assumptions.

In a worst-case scenario, public pensions have the potential to be a disaster.

Dissecting the funding ratio

The numerator in the funding ratio – the plan's assets – can be calculated straightforwardly. It is the market value of the portfolio, subject to actuarial smoothing. Investment losses (and gains) in any particular year are not immediately recognized because government valuation convention smoothes away volatility by spreading annual performance over five years. This allows governments to sidestep the need to raise taxes to meet temporary shortfalls. It also inhibits knee-jerk reactions by pension managers to abrupt changes in valuations.

As a result, the hit that public pensions took from the 2008 market crash was only minimally captured by NASRA's FY 2008 annual report.

Calculating the denominator – the present value of the plan's liabilities – is much more problematic. The actuarial assumptions used to project and discount plan liabilities are critical to determining the funding ratio, and no standard exists across all plans, increasing the uncertainty surrounding plan stability.

Two of the assumptions used to calculate the denominator – the discount rate and the inflation rate – dominate the calculation and are far more important than other assumptions, such as retirement age or life expectancy. Plans are free to choose their own assumptions and must publish them in the footnotes to their financial statements. There is no national repository of this information; it is all plan-by-plan.

According to Girard Miller, who is a senior strategist for retirement plans and investments at the PFM Group and a columnist for the publication Governing, the national average discount rate for large plans (e.g., state plans with assets over $1 billion) is 8%, and it is 7.5% for smaller and midsized plans. Girard says the most common inflation assumption is 3%. Both of these assumptions are roughly in line with historical averages over the last 75 years.

Mark Ruloff, director of asset allocation at Watson Wyatt Investment Consulting, which advises on $2 trillion of private and public pensions worldwide, believes that the 8% assumption is unrealistic when it is used to discount liabilities. He says "instead of offering pensions based on a rate of return that's unpredictable, future obligations should be based on a risk-free rate of return, such as 10-year Treasury yields, which are currently under 4%."

Discounting pension liabilities using a projected market rate of return, rather than a risk-free one, is a systemic problem in the way public plans are managed, according to Ruloff. "It leads to more aggressively positioned portfolios that introduce more risk than should be in a retirement system," he says.

Brainard says that government officials have a decent long-term record of effectively responding to budgetary stresses and cites historical returns of 8% for the pension plans he follows. More importantly, he says, "there is no reason to believe that an 8% assumption on asset growth is unreasonable over the long run."

If we are entering a period of a so-called *New Normal*, as PIMCO's Gross advocates, average returns will be half the assumed 8%.

Therein lies the biggest threat to plan funding.

Assume, for example, that pension liabilities are evenly distributed over a 40-year period. Reducing the discount rate for those liabilities from 8% to 5% increases their present value by 44%. That would decrease NASRA's funding ratio from 85% to 59%.

Leo Kolivakis, who was a senior investment analyst at two of Canada's largest pension funds and who currently maintains his own website, says that given an allocation of 50% equities, 35% fixed income, and 15% alternative investments, plan administrators should be projecting a long-term nominal annual rate of return of 5%.

The next ten years, he says, will be in a period of low growth and low inflation, with deflationary worries being a major concern.

Looking back and looking forward

Even if this year's market gains hold, however, Brainard's 85% ratio will likely worsen. This would continue a negative trend that started after 2001 when government pension plans were actually running a slight surplus, with a funding ratio of 102%. The current deficit suggests that pension funding sources are not keeping up with liabilities, and that investment returns across a full market cycle have not been sufficient to make up the difference.

While the current gap is significant, it was worse in 1990, when the funding ratio was 79%. We could indeed be heading back to these levels as losses from 2008 are amortized over the next four years. A weak economy, unable to provide tax revenue growth in the coming years, would accelerate the decline.

At the same time, state and local governments are being confronted with rising unemployment. After the huge $787 billion federal stimulus package is exhausted, future federal transfers to aid state and local governments may be limited. And if the market tumbles in the wake of slow economic growth, the public pension deficit will come under greater strain.

Gross sees a darker outlook – he thinks many public plans are in deep trouble. "States are typically ostriches with their heads in the sand, hoping their problems go away," he said in a presentation to financial advisors two weeks ago.

The Illinois Teacher Fund offers an extreme example. Bloomberg News recently reported that its assets as of the end of FY 2008 had declined from $38.4 to $28 billion over the past year, while its liabilities had increased to $73 billion. That's a funding ratio under 39%.

Bloomberg also cited a US Census Bureau report that said public retirement accounts lost 21%, or $600 billion, in the year ending June 2009, and that the assets in the 100 largest public pension plans, which account for nearly 90% of all public plans, fell to $2.2 trillion.

Orin Kramer, the chairman of the New Jersey State Investment Council, which formulates policies for the state's $68 billion investment funds, paints an even bleaker picture. He believes that state and local pension underfunding nationwide is currently around $1 trillion. This figure is many times larger than NASRA's estimate and represents a funding ratio of only 59%.

Kramer fears that underfunding will eventually make it very difficult for state and local governments to tap the bond markets and that federal intervention – involving implied or explicit guarantees – may be necessary to fund future debt.

Today's deflationary conditions reduce projected plan liabilities – at least for those plans using a 3% inflation assumption. Inflation is critical since a substantial portion of plan benefits are inflation-indexed. If current monetary and fiscal policies ultimately push inflation beyond 3%, though, funding ratios will decline.

Ruloff isn't overly concerned about the impact of rising borrowing costs and inflation on public pension plans. "They basically net out," he explains, as rising inflation-adjusted liabilities are offset by higher yields on debt. If wage growth tracks higher inflation, it will also increase contributions to pension plans.

Runaway inflation, however, would be another story.

Can plans cope with rising liabilities?

Whether public pension liabilities are going to swamp state and local budgets depends partly on how governments fund pensions.

A survey of reports and interviews with industry observers provides some basic insights.

According to NASRA's Brainard, one third of public pensions are funded by worker contributions and two thirds are funded by governments. When supported by a healthy economy and markets, and when governments are not overladen with deficits and debt, that arrangement may work.

Under today's stressful conditions, however, this arrangement exposes weaknesses. While this funding approach works for a number of plans, Brainard says others are broken and will need to alter their contribution ratio and reduce benefits.

He is confident that troubled plans will make the necessary adjustments.

Brainard believes that Government Accounting Standards Board (GASB, the public equivalent to the Financial Accounting Standards Board, FASB), which guides the pension number crunching and assumptions, provides sound and transparent reporting. He believes the GASB-derived figures making up his annual assessment of public pensions are sound.

His findings have been largely corroborated by Wilshire. While Wilshire's annual study is focused on the $2.3 trillion in state retirement systems – about 88% of the $2.6 trillion tracked by NASRA – it provides a meaningful look at how public pension plans invest.

Wilshire breaks down the collective asset allocation of state pension plans to determine forward returns and risk assumptions. Its study found that between 2003 and 2008 these plans were taking on a bit more risk in exchange for minimally more returns, and those returns were 50 basis points below the 8% assumption most plans use.

Over this five-year period, Wilshire found that investment portfolios were boosting foreign equity exposure in exchange for less domestic exposure, although the latter still dominated overall weighting (38.1% versus 18.8% for international stocks).

This increase in equity allocation exposed pension plans to bigger hits during the recent bear market. One cannot presume this higher-beta portfolio delivered greater upside as the market rallied in 2009 because, like many investors, administrators likely ratcheted back on risk after the market broke. This won't be known until Wilshire completes its next study in the spring.

Are public pensions the next subprime crisis?

So what does all this mean about the state of the country's public pension plans?

Kolivakis thinks the public pension system is not in good shape and requires fundamental changes. These could include raising the retirement age, increasing employee contributions and lowering future benefits for new employees. Though it may not affect the public sector as directly as the private sector, Kolivakis also fears US demographic trends – fewer and fewer workers will be supporting more and more retirees.

"Absent dramatic improvements in investment markets, public pension funding levels will be lower in FY 09 and for the ensuing three to five years, and liabilities for most plans will be higher," says NASRA's Brainard. "Employee contributions will play a role, to some degree, in blunting higher required liabilities, and the delay between the market declines and the implementation of higher costs gives plan sponsors an opportunity to prepare. Strong growth in global equity markets to-date in 2009 will help to offset a portion of the 2008 declines."

Whoever is right, public pensions have the potential to become a subprime-like bombshell. With nearly $3 trillion in public pension funds, a hypothetical decline in the overall funding ratio to 65% would expose $1 trillion in unfunded liabilities – on a par with the amount loans issued in the subprime market. The lack of standardization in valuing plan assets makes it virtually impossible to assess the likelihood of the funding ratio reaching this level. The plight of Illinois' plan, though, may be the canary in the coal mine.

In addition to funding pensions, state and local governments must finance other post-employment benefits (OPEB) – mostly healthcare, but also insurance and other benefits. Presently, these benefits are paid for out of current revenue on a pay-as-you-go basis. PFM's Miller estimates that these unfunded liabilities could be as large as $1.5 trillion nationally.

Unlike collapse of the subprime market, which unfolded over a relatively short period of time, the problems with public pension plans will grow over the next decade or two. In present value terms, though, they appear to be of the same order of magnitude.

A common misconception is that pension underfunding will lead to municipal bond defaults. More likely, according to Miller, will be the elimination of public services other than police, fire and utilities. Libraries will close, park maintenance will suffer and counties will eliminate social services before any bonds default. As a California city finance director reportedly said last month "we will just become special districts for police and fire departments and the payment of their pensions."

Government officials and workers must seriously address this issue before it overwhelms budgets that are already under severe strain.

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