May 17, 2013

WELLS FARGO SECURITIES

Municipal Securities Research

Municipal Commentary

Natalie Cohen, Senior Analyst
natalie.cohen@wellsfargo.com
(212) 214-8014
Roy Eappen, Associate
roy.eappen@wellsfargo.com
(212) 214-8045

Public Pension Update

It is time for an update on public pensions. In the past three months, there has been a flurry of new activity and commentary. The new Government Accounting Standards Board's (GASB) changes for pension plans go into effect in June (changes for governments take effect in one year). Moody's formally issued its approach for adjusting public pension liabilities and put 29 high-grade issuers on watch for downgrade. The Puerto Rican Legislative Assembly passed substantive changes to its deeply troubled pension system. Even the International Monetary Fund (IMF) expressed concern about U.S. public pensions in its recent Global Financial Stability Report (GFSR). We mention a few more items below. For basics and greater detail, we direct readers to two of our earlier pieces: *Pension Tensions: A Primer* published Aug. 22, 2012, and *Public Pension Plans: What We Worry About*, published Dec. 2, 2011. If read together, investors should either get a great night's sleep or gain a deeper understanding of public pension dynamics (or both).

1. The bankruptcies of Stockton and San Bernardino have brought the California Public Employees Retirement System (CalPERS) into the sunlight. Who gets paid first -- the pension plan or bondholders? That question is a big part of the bankruptcy discussion.
2. CalPERS' board recently voted to raise its members' contributions by up to 50%, based on the application of a lower discount rate used to determine liabilities (more on the discount rate issue below).
3. The Pension Funding Task Force, a collaboration of virtually all the large public-sector trade organizations, issued *Pension Funding: A Guide for Elected Officials*.
4. Representative Devin Nunes (R, Ca.) resubmitted his bill, the Public Employee Pension Transparency Act (PEPTA), now HR 1628 to the House Ways and Means Committee.
5. The *Economist* picked up on the discount rate topic in its May 2 "Buttonwood" column titled "Money to Burn."
6. The Laura and John Arnold Foundation released a summary of public-sector pension litigation.

How Should Investors Think About these Issues?
The concern for investors is whether the problem is significant enough to lead to either: a) debt default; b) a downgrade; or c) a depreciation of the value of an investment. We caution investors not to see these issues as "black and white" or "across the board". They are complex and nuanced by specific plans and states—and for these reasons, we also see a good deal of "wiggle" room to finding solutions.

To frame the discussion we see four distinct aspects to the topic that are not fully related to each other, but often confused:

1. ***Measuring the liability:*** The controversy over the appropriate discount rate has to do with measuring the magnitude of liability for pension and other post-employment benefits (OPEB). Public-sector accounting is quirky compared with corporate pension accounting in that the discount rate used to estimate liability comes from the expected (or others would say "appropriate") return on the invested assets. Some argue that the liability should be measured using a "risk-free" discount rate rather than *expected* returns.
2. ***Recognizing the liability:*** How the liability is recognized on the balance sheet, income statements, footnotes, and required supplemental information Required Supplemental Information (RSI) may or may not have much to do with the measurement of liability. Until GASB's changes go into effect, there will continue to be limited recognition of the full liability on balance sheets.

Please see the disclosure appendix of this publication for certification and disclosure information

Reports available on Bloomberg at WFRE and MarkitHub at hub.com

3. ***Funding the liability:*** After GASB changes take effect, there will no longer be an "annually required contribution" (ARC) disclosed in financial statement footnotes. GASB questions the accuracy of the ARC and has replaced it with what it considers more granular supplemental information. But governments, analysts and investors commonly look to this measure to determine what should be paid each year and what is being paid. Investors should be happy to learn that the Pension Funding Task Force strongly recommends that governments retain the ARC for budgeting, policy and planning purposes, and this information will soon be found in the RSI, attached to financial statements.
4. ***Analyzing the liability:*** Unwilling to wait for accounting changes to take effect (or in disagreement about methodology), Moody's recently published an alternative approach that would permit it to make broad comparisons of pension pressures across governments for rating purposes.

Measuring and Recognizing the Liability

As the GASB news release (June 25, 2012) stated: "Statement 68 requires governments providing defined benefit pensions to recognize their long-term obligation for pension benefits as a liability ***for the first time***, (emphasis is ours) and to more comprehensively and comparably measure the annual costs of pension benefits". (Application of the new rules for employers will not go into effect until fiscal years beginning after June 15, 2014, although plan changes go into effect June 15, 2013.)

GASB significantly changed how the liability is discounted. The new rate blends two rates together: first is the long-term expected rate of return on investments that are actually available to pay benefits and, second, a rate on tax-exempt 20-year high-grade municipal securities is applied to the amount that is not funded. This approach should greatly magnify the liability for the most poorly funded plans.

The new liability is to be called the "net pension liability" (compared with the old "net pension obligation") and is the difference between a total pension liability calculation and fair market value of plan assets. Changes in benefits, member contributions, interest and administrative expenses would be recognized immediately. Differences between expected and actual earnings are to be expensed "in a systematic and rational manner over a closed period of five years" (GASB's Statement 68 summary). Assets are to be recognized at fair value so gains and losses that were smoothed over multiple years would no longer be in effect.

A further significant change is the distribution of liability to participants in a "cost-sharing" plan. This would be the first time that those liabilities will be visible on the local governments' financial statements. (For example, the California State Teachers Retirement System, CalSTRS, is a cost-sharing plan with the state paying a portion of the liability, the school district or university and employees paying a portion as well.) The Moody's approach distributes the liability for cost-sharing plans to the member governments as well.

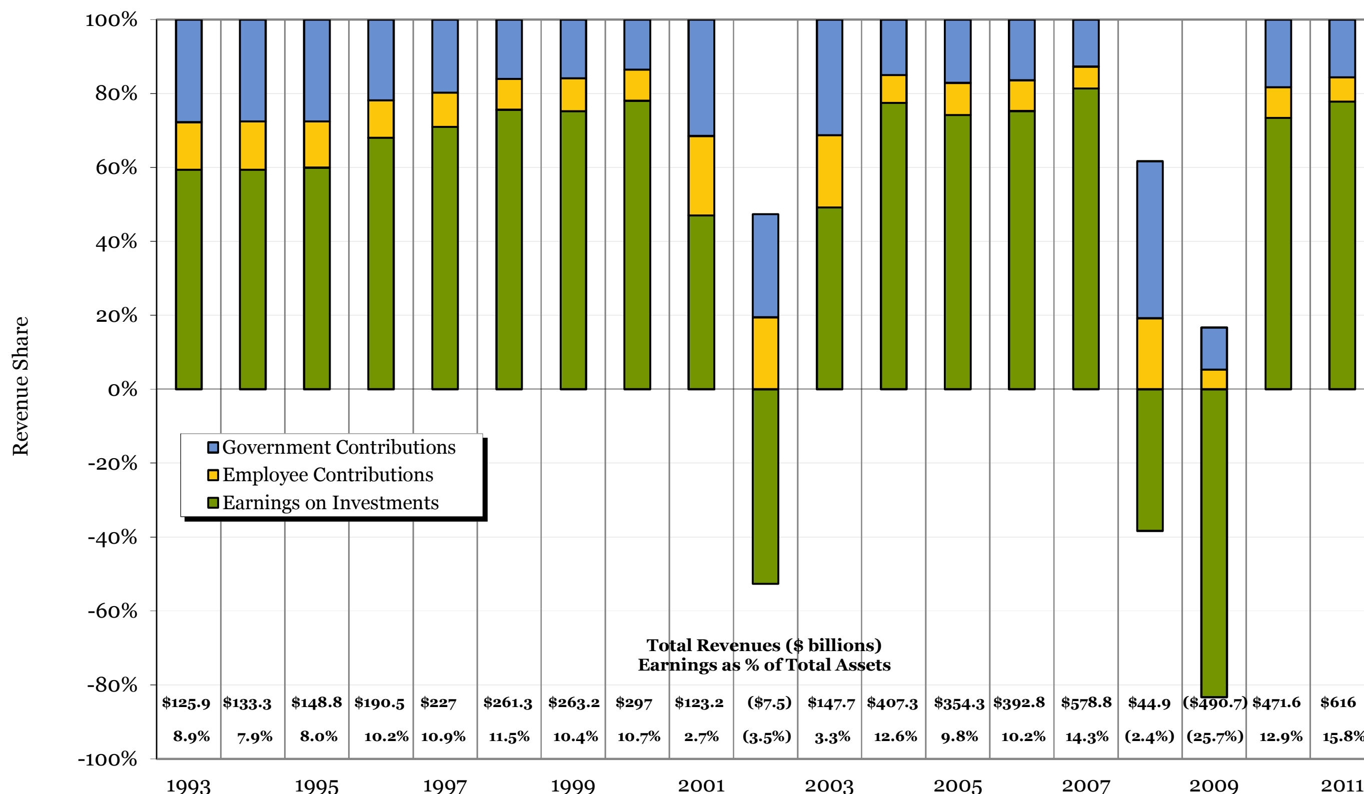
The choice of discount rate used to measure the liability is controversial, and there is a group that strongly challenges the current (and GASB's new) approach. The argument goes like this: the liability should be discounted at a "risk-free" Treasury rate since the obligation is irrevocable. Stated in terms of commonly accepted investment advice, a sensible person approaching retirement would move his or her asset allocation away from risky investments and into more conservative fixed income for preservation of principal and a steady return. The choice of a discount rate, in our view, is more about asset allocation than liability. Those who advocate a low rate wish to imply the hypothetical amount of assets that might be needed if the plan were fully funded with the most conservative, prudent investments.

But we are not living in sensible times (the new abnormal). More than a decade of managed low interest rates has been brutal on long-term savers of all kinds, whether pension funds, university endowments, life insurance companies or mom-and-pop retirees with fewer options to earn. This has pushed long-term investors into riskier assets to find yield. CalPERS' CIO told *Bloomberg* that its average return over the past 10-year period was more than 8%; others have looked further back over time and found average returns of 6%–7%. However, following the financial crisis, CalPERS lost nearly 25% of its portfolio value.

Also pushing for a risk-free discount rate is Rep. Devin Nunes, (R, Ca.) who resubmitted his PEPTA bill to the House Ways and Means Committee. Co-sponsors include Rep. Paul Ryan (R-WI) and Rep. Darryl Issa (R-CA). A companion bill is being proposed in the Senate by Sen. Richard Burr (R-N.C.). Rep. Nunes has proposed similar bills for the past three years and has garnered the support of eight (conservative leaning) national organizations. The gist of the bill is to have state and local governments calculate their pension liability at a Treasury rate and submit their calculations to a repository at Treasury. Submitting the information is not compulsory. But ***those governments that fail to comply would lose their ability to issue tax-exempt bonds.***

The *Economist* article "Money to Burn" picked up on the oddity of using an expected earnings rate to calculate liability. Simply put, in its view, if a company borrows $10 billion to build a manufacturing plant and the plant's

Revenues of Total Government Employee Retirement Systems, 1993-2011



Source: US Census and Wells Fargo Securities, LLC

returns are lower than expected, this does not reduce the liability. However, pension obligations are not considered or treated the same as debt obligations or borrowings, and a minor change in the interest rate assumption can dramatically change the liability. Alicia Munnell of the Center for Retirement Research suggests that it may be appropriate for the measurement and reporting of liability to use a low or risk-free discount rate, but funding does not necessarily have to follow suit. A rate that is lower than actual earnings could lead to over-funding, encouraging employers to enrich benefits.

In her book, *State and Local Pensions: What Now?* Munnell wrote: "...it is impossible to identify a link between the poorly funded plans and the two factors others have highlighted as the source of the problem: (1) discounting obligations by the long-run expected return instead of the riskless rate; or (2) the collective bargaining activities of unions....Pension funding is simply a story of fiscal discipline." (Page 19)

Asset Allocation — How Risky?

The pool of assets supporting a pension obligation is a significant part of the net liability—and provides a corpus from which to earn and supplement employer and employee contributions. As can be seen from the chart above, earnings represented between 60%–80% of total revenue over the past 18 years—except for the down years of 2002, 2008 and 2009. You can see the growing importance of earnings in the late 1990s ("dot com" boom) and again in the 2004–2007 period (home equity boom). (To show the losses in 2002 and 2008–2009 we dropped the bar below "0" although the total is still 100%.) In 2008, employee and employer contributions overcame investment losses and there were $45 billion total revenue. The bottom rows show total revenue and earnings as a percent of total assets.

The IMF is worried. In its April 2013 *Global Financial Stability Report,* it stated: "Slow-moving risks are also emerging for some types of asset managers amid an extended period of low interest rates. This is apparent for U.S. public defined-benefit pension plans, which have suffered from weak asset returns. Funding of those

programs has deteriorated substantially in the past decade, from being fully funded in 2001 to an estimated shortfall of 28 percent as of end-2012. Risks are slow to build, as the issue for pension plans is solvency rather than liquidity (in contrast to most banking crises)." (Page 24) According to the IMF, the lowest funded plans increased their exposure to alternative investments, growing them to about 25% in 2011 compared with virtually zero in 2000.

The IMF report also states: "The most immediate risk for nonbank financial intermediaries is complacency toward the slow-moving nature of liability loss recognition. Funds need to engage in active liability management operations without delay, which can most likely be achieved by restructuring benefits, extending working years, and gradually increasing contributions to close funding gaps." (Page 32) In the public sector, a shift in risk is born by employees but also local taxpayers. Some have argued that riskier assets should be set at greater than 100% funding—similar to other collateralized obligations.

Funding the Liability

Following adoption of the GASB pension reforms, nine government trade organizations got together over concern that the ARC was being eliminated, removing a key tool for governments to budget for pension payments each year as well as assess how much of the unfunded liability should be reduced each year on an actuarial basis. As spelled out in Statements 26 and 27, adopted in 1994, the ARC consists of the normal cost necessary to set aside funds for active employees as well as a component to reduce unfunded liabilities when plans are below 100%. In March, the Pension Funding Task Force released *Pension funding: a Guide for Elected Officials*. According to the Task Force, estimating, reporting and paying the ARC continue to be paramount. In fact, maintaining good funding discipline would positively affect the other numbers in the GASB financial statements.

The guiding principle, the Task Force emphasizes, is intergenerational equity. That is, the beneficiaries of pension benefits should be the ones paying for their benefits — rather than putting off the cost of benefits for today's retirees and employees to future generations. The municipality should spell out an amortization period, typically no longer than 30 years, and costs should be determined as a level percentage of payroll.

The task force recommends five-year asset smoothing — to limit volatility of market changes from the payment stream. Policies and methodologies should be reviewed periodically (internally and by external experts) to see if they are still valid. While GASB no longer includes the ARC in its footnotes (and does not use asset smoothing either), to the extent governments follow the guidelines and continue to have their actuaries calculate the ARC, this would be reported in the RSI attached to an audit. In fact, those who continue to use ARC to guide budgeting and policy decisions would report 10 years. Assumptions that went into the calculations would also be reported. ***For investors and analysts wanting to gauge a municipality's funding progress and best practices, the RSI will be an important place to look.***

Analyzing the Liability: Moody's Adjustments

Moody's recently released its final adjustments to public pension plans into its ratings methodologies. Moody's methodology is intended for the agency to be able to identify "outliers" that have a significant multiple of their liability/revenue beyond its calculated median for each rating group, enough to nudge an issuer out of the rating level. This is purely for rating purposes and is a different calculation than GASB or the Task Force recommendations. Outliers would be those whose net pension liability exceeds a multiple by rating category:

Aaa	Aa	A	Baa
3X	4X	5X	6X

Moody's has reported that it ran its 8,000-rated credits through this methodology and estimates that only about 2% of the total could be subject to rating adjustment. However, in its published presentation, Moody's identified only 29 names that it put on credit watch where the "Adjusted Net Pension Liability" exceeded the multiple for the rating category. So how did Moody's arrive at these numbers?

- Like GASB, Moody's is allocating cost-sharing plans to the specific government employers on a proportional basis. (These are plans whose costs are shared between the local employer, say a school district, and the state. The California State Teachers Retirement System, CalSTRS is an example of a cost-sharing, multiple-employer plan. In some cases the contribution levels and amounts may be set by the state legislature, in which case the amounts may or may not match an actuarially determined contribution.)
- The agency is discounting the accrued actuarial liabilities at a high-grade, long-term corporate rate, such as the Citibank Pension Index — similar to that used by private sector defined benefit plans.
- Like GASB, Moody's is not smoothing asset changes over a multi-year period as has been done in the past; rather, it is using a market or fair value as of the actuarial reporting date. (Until the revised GASB rules go into effect, asset smoothing is used in

Legal Basis for Protection of Public Pension Rights under State Laws

Legal basis	Accruals protected: Past and future	Past and maybe future	Past only	None
State constitution	AK, IL, NY	AZ	HI, LA, MI	
Contract	AL, CA, GA, KS, MA, NE, NV, NH, ND, OR, PA, TN, VT, WA, WV	CO, ID, MD, MS, NJ, RI, SC	AR, DE, FL, IA, KY, MO, MT, NC, OK, SD, UT, VA	
Property	ME, WY	CT, NM, OH	WI	
Promissory estoppel[a]	MN			
Gratuity				IN, TX[b]

[a] Promissory estoppel is the protection of a promise even where no contract has been explicitly stated.
[b] This gratuity approach applies only to state-administered plans. Accruals in many locally-administered plans are protected under the Texas constitution.
Sources: Cloud (2011); Monahan (2010); National Conference on Public Employee Retirement Systems (2007); Mumford and Pareja (1997); Reinke (2011); Staman (2011); Simko (1996); and consultations with plan legal counsels when accompanied by a decisive court ruling.
Reprinted with permission from "Legal Constraints on Changes in State and Local Pensions", an Issue Brief of the Center for State and Local Government Excellence, August 2012, authored by Alicia H. Munnell and Laura Quinby of the Center for Retirement Research at Boston College

financial statements.)

- The calculated net pension liability (adjusted liabilities less assets) is then amortized over 20 years to develop a proxy for an annual pension cost burden.
- The Adjusted Net Pension Liability is then assessed as a ratio of revenue. According to one Moody's presentation, the overall median of ANPL was less than 100% of revenue.

The 29 names that Moody's has publicly placed on watch for downgrade are in the Aaa and Aa categories (except for the small cities of Las Vegas, N.M., A1 and Virginia, Minn., A2). The names on the list are local governments as Moody's has indicated that state ratings would not be affected. It is possible that in 2013 there could be additional names on the list, since the discount rate that Moody's used was about 5.67%, whereas the April 2013 rate was 4.07%. The bar for lower rating categories is much more liberal, which is why, it explains, the outliers are mostly in the highest rating categories. However, in our view, this approach would not help identify the next Stockton or San Bernardino.

Many Governments Are Making Changes

It is our view that there is "wiggle" room for savings among pension plans and other retiree benefits (OPEB). According to the NCSL, 44 states enacted changes to reform pensions between 2009 and 2012. Changes have included increases in employee contributions to pension plans, longer vesting periods, reduced benefit levels, higher retirement ages, and lower cost-of-living adjustments (COLA). Some modifications may apply to new workers only, whereas others affect current employees and/or retirees. These will take time to work through budgets, but should at some point produce savings.

As changes are made, many are being litigated. At the core, the issue is ***what is the nature of the contract?*** *When* the contractual obligation begins is a critical factor in determining what can and cannot be changed. We refer the reader to our earlier publication, *Pension Tensions: A Primer*, dated August 22, 2012, for greater detail on these points, but we reproduce a summary table from *Legal Constraints on Changes in State and Local Pensions*, August 2012 Issue Brief of the Center for State and Local Government Excellence by Alicia Munnell and Laura Quinby. Some states protect pension benefits that have been earned to date; some protect future benefits from the date of employment, but others protect only what has been vested. Eight states protect the benefits only when the employee reaches retirement.

How the contract is treated in bankruptcy is another key to fiscal change. Judge Christopher Klein denied a petition from retired Stockton, Calif., employees that the city should restore their health benefits. The judge reasoned that a state may not impair contracts, but Congress may pass laws that impair contracts — leaving the door open for the federal bankruptcy court to do so. He commented: "It long has been understood that bankruptcy law entails impairment of contracts."

Colorado (among others) eliminated the cost-of-living adjustment (COLA) on its existing retirees' benefits and was sued. In the initial decision, the Colorado court determined that while retiree benefits are part of the

contract, COLA is not. On appeal, the courts reversed this decision, finding that COLA is, in fact, part of the contract, but *how much* COLA is offered is not. As a result, the state has reduced the COLA from 3.5% to 2% — more in line with inflation, and this is producing savings for the state. COLA suspensions have been upheld thus far in South Dakota, New Jersey, Minnesota and Rhode Island although there are challenges afoot in some of these states.

In the case of San Diego, where voters approved pension changes by ballot measure, there is a legal challenge that collective bargaining due process was not properly followed. In San Jose, too, voters approved pension changes, but hearings on litigation are pending.

More recently, Judge Klein commented on the practice of salary "spiking" for pensions, in the oral decision finding Stockton eligible for bankruptcy: "This does not mean that there's not potentially a serious issue involving CalPERS. But at this point, I do not know what that is. I do not know whether spiked pensions can be reeled back in. There are very complex and difficult questions of law that I could see out there on the horizon, but no plan of adjustment can be confirmed...over the rejection by a particular class unless that plan does not discriminate unfairly and is fair and equitable with respect to each class of claims that is impaired....If a plan is proposed that does not deal with CalPERS and if the Capital Market Creditors reject their treatment under the proposed plan, then I will have to focus on the question of unfair discrimination." (Most defined benefit plans calculate benefits on an employee's "final salary" amounts. Where it is accepted practice, employees work extra overtime hours prior to retirement in order to boost the base against which benefits are calculated.)

What About Puerto Rico?

In many discussions and reports about the condition and funding level of U.S. public pension funds, the Commonwealth of Puerto Rico is left out. Yet, it has a more poorly funded plan than any of the states (about $35 billion unfunded liability) and capital markets debt (about $68 billion) widely held by tax exempt investors — together more than 100% of island GDP. Happily, the legislature recently adopted substantive changes that should slow down the depletion of assets. So, we briefly focus on the Puerto Rican pension situation.

According to an actuarial review of the Puerto Rico Employee Retirement System (ERS) dated June 30, 2011, the actuarial value of assets represented only 6.8% of the actuarial accrued liability. In addition, the OPEB liability was $1.7 billion and is not pre-funded (which is true for many municipal and state governments). In 2000 the government closed the defined benefit (DB) plan and a defined contribution (DC) plan was started — System 2000. However, assets from both are co-mingled, so as assets are being spent down, the system will have to do some explaining to the DC beneficiaries (as well as beneficiaries in the DB).

The plan's interest rate discount was 6.4%. (We note that the interest rate assumption is less than the debt service on some of the Pension Obligation Bonds (POB) sold in 2008. Actuaries estimate this applies to about 30% of the $3 billion POB balance.) Employer contributions were raised to 10.275% and are slated to continue increasing 1% for four years and 1.25% for the following five years. Active members contribute 8.275% of pay into the system — but will be contributing 10% following the legislative assembly's action.

As of 2011, actuaries were expecting the UAAL to continue to grow indefinitely instead of being amortized since the member and employer contributions have been insufficient to fund the benefit payments. Therefore, assets are being liquidated. On a gross basis, the system had $4.7 billion assets as of the 2011 report — which includes $3 billion POB proceeds. More than $1.275 billion of the system's assets are made up of loans to members — approximately 15% of the portfolio — with an approximate return of 9.6%. We have no documentation of the nature of such loans or their cash flow, but assume these assets are illiquid. According to the GDB, this loan pool has come down to $800 million today. There were $1.0 billion contributions and $1.7 billion benefit payments and expenses in 2011. As of 2011, actuaries expected the negative net cash flows to exhaust net assets by 2013-2014 — which excludes POB proceeds; and gross assets by 2019 –2020 which includes spending down the POB proceeds.

On the brighter side, the Puerto Rican Legislative Assembly passed reform measures last month that the Government Development Bank believes will eliminate the system's cash flow deficit. Selected major changes include:

- Grandfathering benefits for active employees accrued to date, but providing future benefits based on a defined contribution plan (called the "New Hybrid Plan").
- Eliminating the summer bonus and reducing the Christmas bonus to $200 from $600. Increasing the employee contribution to 10% from 8.275%.

Other aspects of pension reform were actually increased, such as lowering retirement ages in several categories and lowering the rate of purchasing service credit. We have not seen a full analysis of the cost/benefit of these changes. However, GDB asserts that these modifications, plus an additional appropriation from the legislature, will eliminate the deficit.

Structural Asymmetries Make Good Financial Management Difficult

1. ***Assets whose earnings are subject to market volatility coupled with fixed expenditures for defined benefits can become an "unmatched book"*** in both up and down markets. In strong markets, the glow of earnings can lead to a perception of "overfunding," complacency, increases in benefits and contribution holidays. Weak earnings environments can lead to higher unfunded liabilities, higher costs and fiscal strain as we are seeing today (and some contribution holidays).
2. Pair this with ***the immutable demographic of a retiring baby boom generation,*** living far longer than ever imagined when the retirement plans were designed in the first place. A growing number of retirees are receiving more than what was paid in — in some cases, a multiple.
3. ***The lifespan of the contractual obligation to retirees generally exceeds the term of the elected officials granting benefits.*** Unlike capital markets debt, there is no requirement or convention for elected officials to present a funding source securing the contractual promise. Changes in benefits (both up and down) take some time to show up in the budget, and our ability to see into the distant future is blurry. For example, California is now grappling with the legacy of benefit expansion at the height of the dot-com boom from Gov. Gray Davis. This, in our view, is a structural problem that is baked into our governing process.

What to do? We believe there are many changes that can be made without attacking fundamental retirement benefits. Many benefits go beyond the basic level of providing a dignified retirement. To name a few: salary spiking; COLA benefits that exceed the rate of inflation; a working life that was envisioned 100 years ago versus today; the right to purchase extra retirement credits (dubbed "air time") — at a price that is well below true costs. Perhaps "double dipping," too, could be creatively approached. (This refers to individuals who are privileged to retire at an age considered young today, such as 50 or 55, while taking on a second career and salary. Retirement benefits for the non-retired "retiree" could be collected at 65 or 67, leaving assets in the pool to earn.) We would also favor setting permanent caps (or "circuit breakers") on benefit increases so that a return to higher earnings would not also result in a return to newly generous benefits.

Finally, we believe that impairing capital markets debt used for essential public goods such as schools, courts, roads, electricity, water, and wastewater systems intended to be enjoyed by all, in favor of maintaining the pension status quo is economically counterproductive in the long run.

Additional information is available on request.

This report was prepared by Wells Fargo Securities, LLC.

About Wells Fargo Securities, LLC
Wells Fargo Securities, LLC is a U.S. broker-dealer registered with the U.S. Securities and Exchange Commission and a member of the New York Stock Exchange, the Financial Industry Regulatory Authority and the Securities Investor Protection Corp. Wells Fargo Bank, N.A. and Wells Fargo Securities, LLC are each registered with the U.S. Securities and Exchange Commission and the Municipal Securities Rulemaking Board as municipal securities dealers.

Important Information for Non-U.S. Recipients

EEA
The securities and related financial instruments described herein may not be eligible for sale in all jurisdictions or to certain categories of investors. For certain non-U.S. institutional reader (including readers in the EEA), this report is distributed by Wells Fargo Securities International Limited ("WFSIL"). For the purposes of Section 21 of the UK Financial Services and Markets Act 2000 ("the Act"), the content of this report has been approved by WFSIL a regulated person under the Act. WFSIL does not deal with retail clients as defined in the Markets in Financial Instruments Directive 2007. This research is not intended for, and should not be relied upon, by retail clients. The FSA rules made under the Financial Services and Markets Act 2000 for the protection of retail clients will therefore not apply, nor will the Financial Services Compensation Scheme be available.

Australia
Wells Fargo Securities, LLC is exempt from the requirements to hold an Australian financial services license in respect of the financial services it provides to wholesale clients in Australia. Wells Fargo Securities, LLC is regulated under U.S. laws which differ from Australian laws. Any offer or documentation provided to Australian recipients by Wells Fargo Securities, LLC in the course of providing the financial services will be prepared in accordance with the laws of the United States and not Australian laws.

Hong Kong
This report is issued and distributed in Hong Kong by Wells Fargo Securities Asia Limited ("WFSAL"), a Hong Kong incorporated investment firm licensed and regulated by the Securities and Futures Commission to carry on types 1, 4, 6 and 9 regulated activities (as defined in the Securities and Futures Ordinance, "the SFO"). This report is not intended for, and should not be relied on by, any person other than professional investors (as defined in the SFO). Any securities and related financial instruments described herein are not intended for sale, nor will be sold, to any person other than professional investors (as defined in the SFO).

Japan
This report is distributed in Japan by Wells Fargo Securities (Japan) Co., Ltd, registered with the Kanto Local Finance Bureau to conduct broking and dealing of type 1 and type 2 financial instruments and agency or intermediary service for entry into investment advisory or discretionary investment contracts. This report is intended for distribution only to professional investors (Tokutei Toushika) and is not intended for, and should not be relied upon by, ordinary customers (Ippan Toushika).

The ratings stated on the document are not provided by rating agencies registered with the Financial Services Agency of Japan (JFSA) but by group companies of JFSA-registered rating agencies. These group companies may include Moody's Investors Services Inc, Standard & Poor's Rating Services and/or Fitch Ratings. Any decisions to invest in securities or transactions should be made after reviewing policies and methodologies used for assigning credit ratings and assumptions, significance and limitations of the credit ratings stated on the respective rating agencies' websites.

Important Disclosures Relating to Conflicts of Interest and Potential Conflicts of Interest

Wells Fargo Bank, N.A., Wells Fargo Securities, LLC and certain of their affiliates are registered municipal securities dealers and may trade the securities named herein on a principal or agency basis, may act as underwriter for one or more of the issuers or securities named herein and may receive compensation for such services or other investment banking services provided to one or more of the issuers named herein.

Wells Fargo Securities, LLC does not compensate its research analysts based on specific investment banking transactions. Wells Fargo Securities, LLC research analysts receive compensation that is based on and affected by the overall profitability of their respective department and the firm, which includes, but is not limited to, investment banking revenue.

Analyst's Certification
The research analyst(s) principally responsible for the report certifies to the following: all views expressed in this research report accurately reflect the analysts' personal views about any and all of the subject securities or issuers discussed; and no part of the research analysts' compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by the research analyst(s) in this research report.

This report, IDs, and passwords are available at www.wellsfargoresearch.com

Securities discussed herein may be rated below investment grade and should therefore only be considered for inclusion in accounts qualified for speculative investment.

This report is for your information only and is not an offer to sell, or a solicitation of an offer to buy, the securities or instruments named or described in this report. Interested parties are advised to contact the entity with which they deal, or the entity that provided this report to them, if they desire further information. The information in this report has been obtained or derived from sources believed by Wells Fargo Securities, LLC, to be reliable, but Wells Fargo Securities, LLC does not represent that this information is accurate or complete. Any opinions or estimates contained in this report represent the judgment of Wells Fargo Securities, LLC, at this time, and are subject to change without notice. For the purposes of the U.K. Financial Services Authority's rules, this report constitutes impartial investment research. Each of Wells Fargo Securities, LLC, and Wells Fargo Securities International Limited is a separate legal entity and distinct from affiliated banks. Copyright © 2013Wells Fargo Securities, LLC.

SECURITIES: NOT FDIC-INSURED * NOT BANK-GUARANTEED * MAY LOSE VALUE

Global Head of Research, Economics & Strategy

Diane Schumaker-Krieg, Managing Director, Global Head of Research, Economics & Strategy		diane.schumaker@wellsfargo.com	(704) 410-1801 (212) 214-5070

Municipal Securities Research

Natalie Cohen, Managing Director	**Head of Municipal Research**	natalie.cohen@wellsfargo.com	(212) 214-8014
George Huang, Director	**Healthcare**	george.huang@wellsfargo.com	(212) 214-5061
Randall Gerardes, Vice President	**Infrastructure**	randall.gerardes@wellsfargo.com	(212) 214-5026
Roy Eappen, Associate	**General Municipal Analyst**	roy.eappen@wellsfargo.com	(212) 214-8045

Available on Bloomberg at WFRE and MarkitHub
Available at www.wellsfargoresearch.com. You can request a Web site ID and password directly on this site.
To have future reports emailed to you directly or to request access to WFRE via Bloomberg, send a request to wellsfargo.research@wellsfargo.com

WELLS FARGO SECURITIES