Gurtin Municipal Bond Management

Municipal Credit Research Report

The Difference Between True Pension Distress and Groundless Panic

January 2015

Executive Summary

Section 1: Public pensions have become a dominant theme in the municipal market, and we believe paranoia contagion has spread to healthy obligors.

The perceived role of public pensions in recent municipal bankruptcies and concerns over pensions' solvency given asset losses during the recession has stoked fear in the market.

Gurtin Municipal Bond Management anticipates that dire predictions and "pension paranoia" will continue for the foreseeable future.

We continue to believe that high quality obligors are not unduly burdened by their pensions, and that the vast majority of high quality obligors have adequately funded plans.

Section 2: Gurtin Municipal Bond Management's approach to pension analysis and how it protects our clients from future pension-driven distress scenarios.

Gurtin Municipal Bond Management has always relied on a thorough and multi-faceted analysis to determine if an obligor's pensions are contributing to credit stress. Our analysis includes:

- Measuring an obligor's ability to amortize its unfunded liabilities over a reasonable time frame and incorporates expected volatility from future market swings.
- Reviewing the funded ratio, a somewhat misleading metric that is all too often the only measure used to analyze pension plans, in the context of the broader financial landscape of the obligor.
- Evaluating an obligor's annual required contribution which is crucial to detecting budgetary strain.
- Recognizing that a holistic and granular credit analysis of an obligor's complete credit profile is critical to understanding pension affordability for each obligor.

Section 3: Many market pundits are allowing a few high-profile outliers to create a grossly overgeneralized narrative. Most public pension plans are in solid shape.

Do not let the outliers drive the narrative: we believe most public pension plans are in adequate shape to cover their liabilities for decades while enacting gradual adjustments that will improve their financial health over the long-term.

- Most pension plans have assets on hand to pay out benefits for at least the next 20 years.
- States have enacted benefit and actuarial changes to reduce liabilities.
- Poorly funded pension plans are likely to remain stressed; our analysis will continue to focus on uncovering outliers where weak funding levels are likely to generate escalating payments resulting in significant budgetary stress on obligors.

Gurtin Municipal Bond Management's independent research looks to identify early warning signs of deteriorating pension plans or obligors that are exhibiting symptoms of distress due to pension obligations. Anxiety over pensions and the municipal market's frequent broad-brush approach to decisionmaking may present opportunities in the future.

Section 1: Public pensions have become a dominant theme in the municipal market, and we believe paranoia contagion has spread to healthy obligors.

In recent years, public pensions have gone from a topic typically confined to discussion amongst credit analysts and policy wonks to a subject debated and editorialized in the national media. In this section, we seek to explain the growing angst over pensions, why we anticipate that it will continue for the foreseeable future, and why we believe much of the fear and blame surrounding pensions' roles in recent bankruptcies is misplaced.

The perceived role of public pensions in recent municipal bankruptcies and concerns over pensions' solvency given asset losses during the recession has stoked fears in the market.

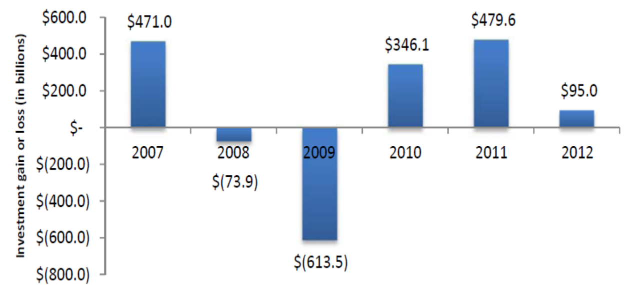
Public pensions made headlines following recent judicial approval of Stockton, California's bankruptcy plan, which significantly reduced payouts to certain bondholders in favor of protecting pensioners. Pensions were the convenient scapegoat, identified as the catalyst for Stockton's bankruptcy,[1] as well as other recent bankruptcies, including Detroit and the cities of Vallejo and San Bernardino in California.[2]

[1] Aneiro, Michael. "Bondholders and Pension Risk." Barron's. November 8, 2014. Retrieved from http://online.barrons.com on November 10, 2014.

While we agree that annual pension costs contributed to these cities' problematic finances, we contend that they were merely one component of a veritable financial potpourri of budgetary, economic and demographic crises. For example, an analysis claiming that Stockton was ultimately brought to bankruptcy by its pension liabilities doesn't focus on massive losses in real estate valuations, high foreclosure rates, and sustained high unemployment levels, all of which contributed to its dramatic tax revenue loss. Further, in the case of Detroit, singling out pension costs while ignoring the unabated 50 year exodus of population and business as the root of its fiscal problems is, in our view, myopic and shortsighted.

In addition to the fall-out from the high-profile bankruptcies, the media's scrutiny of public pension plans has been driven by significant asset losses in 2008 and 2009 (as shown in Figure 1) and government underfunding which reduced pension funded levels. However, asset declines during a recession are expected because pension funded levels tend to move in sync with market cycles, particularly given that an increasing percentage of state and local government pension fund assets are invested in equities and alternative investments. In 2012, 70% of public pension assets were invested in corporate stocks, foreign securities, and other assets which we believe are consistent with these plans' long-term investment horizons.[3]

Figure 1. State and local pension plans experienced significant investment losses in 2009, contributing to lower funded levels.



Source: U.S. Census Bureau, Survey of Public Pensions: State- and Locally- Administered Defined Benefit Data, 2007 to 2012.

Gurtin Municipal Bond Management anticipates that dire predictions and "pension paranoia" will continue for the foreseeable future.

Despite the historically cyclical nature of pension funded levels, attention-grabbing headlines have presented a view of imminent demise. In 2013, the Austin American-Statesman ran a front-page story headlined "If Not Fixed, Pension Fund Could Run Dry"[4] that exemplifies the media's oft-repeated narrative. The story declared that the employees Retirement System of Texas was in urgent need of solutions or the plan would run out of money. Buried deep within the story was the not insignificant fact that, absent changes, the plan would run out of money – in the year 2052. Hardly the near term crisis the headline seemed to imply. We believe the media continues to fixate on the large dollar amounts tied to pension liabilities while ignoring that these are long-term liabilities that will be paid down over 30 years and that the liabilities themselves ebb and flow considerably with market fluctuations.

[2] Jacoby, Jeff. "Public pensions are eating taxpayers alive." The Boston Globe. March 23, 2014. Retrieved from http://www.bostonglobe.com on November 10, 2014.

[3] U.S. Census Bureau, 2012 Census of Governments: Finance – Survey of Public Pensions: State- and Locally –Administered Defined Benefit Data. Retrieved from http://www.census.gov

[4] "If Not Fixed, Pension Fund Could Run Dry." Austin American-Statesman. December 16, 2013. Pg. 1.

There are a number of reasons why we expect these pessimistic pension prognostications to continue to surface for the foreseeable future. Chief amongst them is that a pension plan's long-term horizon lends itself to slow and incremental changes. Adjustments tend to be implemented incrementally and benefit reductions or plan changes can be slow to move through the political process and have a significant lag before reducing liabilities. Further, changes in governmental accounting standards from the Governmental Accounting Standards Board (GASB) that are set to take effect starting in fiscal 2014 will likely lead to larger swings in reported funded levels as governments will be required to report assets based on their current market valuation, rather than using multi-year asset smoothing, which has been the historic practice.

We continue to believe that high quality obligors are not unduly burdened by their pensions, and that the vast majority of high quality obligors have adequately funded plans.
Our research finds that high quality obligors either participate in pension systems that currently have healthy funding levels or the obligor has material mitigating factors that offset potential future pension risks. These obligors could withstand significant increases in pension contributions, if necessary. Unsurprisingly, many in the market do not take this nuanced view, but rather take outliers, such as the State of Illinois and the City of Chicago, and extrapolate that their pension woes pose a significant and unwieldy burden for all state and local governments.

Section 2: Gurtin Municipal Bond Management's approach to pension analysis and how it protects our clients from future pension-driven distress scenarios.

Much of the pension paranoia in the municipal market is being stoked by pundits who, in our opinion, appear to be ill informed regarding the complexities of pension analysis. Gurtin Municipal Bond Management focuses on a wide variety of pension related metrics as part of our thorough credit analysis of any obligor, metrics that appear to be largely ignored by the national media. In this section, we seek to explain a few of the pension-related measures we utilize to explore pension-related risk, and illustrate why some measures that are frequently cited by the press and other managers are actually poor determinants of possible distress.

Gurtin Municipal Bond Management has always relied on a thorough and multi-faceted analysis to determine if an obligor's pensions are contributing to credit stress.
What is absent in much of the municipal market's pension hysteria, is that pensions are but one part of an obligor's credit profile. At Gurtin Municipal Bond Management, we do not rate an obligor's pension plan, but rather determine the pension plan's potential risk to an obligor's near and future health. As one component of our standard credit analysis, we review the condition of an obligor's pension plans to determine the likely trajectory and budgetary impact of pension contributions. Even in the case of participation in a weaker (though not distressed) plan, an obligor may have other strong mitigating factors that would enable the obligor to easily afford increased annual pension costs. Examples of the array of metrics we use to analyze pension plans include: (1)

comparing the unfunded liability to an obligor's available resources, (2) examining funding trends and the policies surrounding funding annual contributions, and (3) reviewing any changes that have been implemented to reduce the obligor's liability in the future.

Our analysis includes measuring an obligor's ability to amortize its unfunded liabilities over a reasonable time frame and incorporates expected volatility from future market swings.

The unfunded actuarial accrued liability (UAAL) represents the gap between existing assets and accrued liabilities as determined by an actuary. It is typically scheduled to be funded over a thirty-year period with a portion of annual contributions dedicated to paying down the accrued liability and the remainder sized to cover the current year's accrued liabilities. In reviewing the unfunded liability, we look at it relative to an obligor's total budget size and tax base, and also combine it with current debt levels to determine if the obligor has the financial strength to fully fund its plan over time. Though repayment of the liability is long-term in nature, if the unfunded liability dwarfs an obligor's resources, we believe it may be an indicator that the obligor will struggle to honor the liability. Conversely, liabilities that are modest in comparison to resources suggest that the obligor has the tools to fund its contributions to the plan. Additionally, we look at the impact of adding pension liabilities to the obligor's existing debt outstanding to determine the affordability of the obligor's combined fixed costs. Pension liabilities have debt-like characteristics, and in some states debt can be issued to deposit assets into the pension system trust and reduce or eliminate the unfunded pension liability. Therefore, as a part of our analysis, we seek to understand whether an obligor's balance sheet could withstand the issuance of pension bonds to eliminate the unfunded liability.

The funded ratio: a somewhat misleading metric that is all too often the only measure used to analyze pension plans.

An oft-cited measure of pension financial health is the funded ratio,[5] which serves as a point in time snapshot of the ratio of a pension system's accrued liabilities to assets on hand to cover the liability. We believe that many in the marketplace use only an obligor's funded ratio when analyzing pension risk, which we contend poses significant limitations given its questionable utility when used only in a vacuum.

The funded ratio is controversial for a number of reasons. Many in the media present any plan that is not 100% funded as insolvent or in distress; this represents a clear misinterpretation of how defined benefit plans work. True insolvency would involve a defined benefit plan's inability to pay the current, not the future stream, of benefits. In fact, the "proper" funding level for public sector defined benefit plans is highly debatable with actuaries stating that there is no single benchmark that can be used to separate healthy plans from distressed ones. Further, the funded ratio is a calculation that involves a host of actuarial assumptions; changing any one of these assumptions has the potential of having a material impact on the calculation of the funded ratio. One assumption in

[5] The Funded Ratio is calculated as the pension plan's current and expected future assets divided by estimated liabilities. In calculating the present value of estimated future liabilities, the liabilities are discounted by projected investment income, using what is referred to as the "discount rate." Estimated assets and liabilities are calculated through actuarial analysis, which relies on mortality tables, inflation assumptions, salary growth assumptions by age, separation probabilities by age, and cost of living adjustments in order to determine estimated liabilities.

particular, the expected rate of return on invested assets (the discount rate), is a frequent topic of debate. Most pension plans use a discount rate between 7% and 8%; however, there has been a movement to demand that pension systems use a "risk-free" discount rate. If we assume that the risk free rate is defined, for example, as the 10-year Treasury yield, the discount rate would fall to 2%. This would have a significantly negative impact on the funded ratio because it would assume a much slower rate of investment return growth than long term historical trends, resulting in a projected smaller pool of assets.

It is unlikely that pension plans will move toward using a risk-free rate, unless forced to do so. Pension systems have objected to a risk-free rate because though they may not have met expected returns every year, over longer time horizons many have met or exceeded their discount rate. The California Public Employees' Retirement System (CalPERS), for example, generated a 20-year investment return of 7.6% and 30-year return of 9.5% as of 2013, compared to a 2013 discount rate of 7.5%.[6] Pension plan participants also object to a risk-free rate because it would likely require massive tax increases to fund much larger annual pension payments, which the pension systems believe to be unnecessary. The U.S. Government Accountability Office (GAO) estimated that reducing the discount rate by 1% could increase the required annual contribution by 20% to 25%, a substantial burden for many obligors.[7] Despite the impact on annual contributions, some large plans have incrementally lowered their discount rates in recent years, including CalPERS and the California State Teachers' Retirement System (CalSTRS), the two largest pension funds in the nation.

As a result of the above, Gurtin Municipal Bond Management views the utility of the funded ratio primarily as a way to examine trends over time, as it is a useful longitudinal measure of pension system's health.

Evaluating an obligor's annual required contribution is crucial to detecting budgetary strain.

A key component of our analysis determines whether a pension system is fully funding its annual required contribution[8] (ARC) as well as the impact of the ARC on an obligor's annual operating budget. Our analysis examines the ARC's share of the obligor's resources, and the ability of the obligor to fund its current and possibly larger future ARC contributions. If an obligor has a pension we deem to have below average funded ratios, we analyze if the obligor has the flexibility to assume larger payments in the future given that annual contribution sizes are likely to escalate. Additionally, some obligors do not pay their full ARC, either because contributions are set at lower levels by state statute or by choice. In these cases, we look at the impact paying the full ARC would have on the obligor's budget.

[6] California Public Employees' Retirement System (CalPERS) State Actuarial Valuation Report as of June 30, 2013. Retrieved from http://www.calpers.ca.gov.

[7] United States General Accounting Office (now known as Government Accountability Office). "Public Pensions: State and Local Government Contributions to Underfunded Plans." March 1996. GAO/HEHS-96-56. Retrieved from http://www.gao.gov.

[8] The annual required contribution (ARC) is an actuarially determined contribution sized to amortize the unfunded liability and put the pension on a path to a 100% funded ratio over a set period of time, typically 30 years. The ARC for a pension system is recalculated each time an actuarial analysis is conducted (usually every 1-2 years) to account for changes in the plan's investment portfolio, retirement ages, benefit levels, etc. In some states, a lower contribution rate is set by statute and not equal to the actuary calculation. In these cases, the contribution may be called an ARC by the issuer, but does not represent the actuarially-determined amount necessary to pay down the liability.

Deeper analysis is needed when exploring an obligor's failure to meet its ARC, given that a moderate degree of underfunding the ARC has been a rather common practice for state and local governments. In its 1996 piece on public pensions, the U.S. Government Accountability Office (GAO) noted that 43% of the plans the GAO reviewed had contributed less than the ARC, with plans that contributed less than 100% having an aggregate contribution rate of 69%.[9] These statistics are still fairly comparable today, with half of states contributing less than their ARC in 2013. In most cases, however, employers still contribute the majority of the ARC payment – in 2013, all but 7 states contributed at least 75% of their ARC, and for those that were under 75%, most were not far below, with outliers including New Jersey (only 28% of annual required contribution funded) and Pennsylvania (51% funded). [10] Deferring pension payments is a tool that governments have typically used in times of budgetary stress. In difficult financial times, it is often easier to defer pension payments than to lay off employees or cut essential projects. Shorting the pension system periodically is not necessarily problematic, but chronic underfunding or significant underfunding are likely to lead to distress (and are also more symptomatic of distress). The highlighted box below illustrates the impact of chronic underfunding on Chicago's and New Jersey's pension plans.

Our research team seeks to analyze an obligor's plan to resume full funding and determine whether or not this plan is achievable.

[9] GAO, March 1996. GAO statistics derived from the Public Pension Coordinating Council's survey of 451 state and local pension plans that covered 76% of active state and local government pension participants.

[10] Loop Capital Markets. "Twelfth Annual Public Pension Funding Review." September 2014. Percentages reported are based on weighted averages of all of the state-administered plans in each state.

How Do Distressed Pension Plans Become Distressed?

Chicago and New Jersey's looming pension crises are a cautionary tale of the effects of chronic underfunding of annual contributions – a relatively rare practice amongst high quality obligors

While poor investment performance has certainly contributed to declines in funded levels over the last decade, market losses alone have not generally been the sole drivers of pension plan distress. In fact, our analysis suggests that for the most severely distressed plans, the main culprit has been identified as significantly underfunding annual contributions for a sustained period of time. In some cases, obligors have not just underfunded contributions but given themselves "pension holidays" and made no contributions to the plan for a given year – a practice that both the City of Chicago and State of New Jersey undertook.

Chicago: Chronic underfunding over the last decade reduced pension plan funding to cover just 34% of accrued liabilities

The City of Chicago has achieved infamy for its poorly-funded pension plans (its police pension plan had a 30% funded ratio in 2013 and the fire pension at 24%). The city's consistent underfunding of its ARC has been the catalyst of plummeting funding ratios. In 2013, the city only contributed 26% of the ARC, more than $1.2 billion less than the actuarially-determined amount.[11] In Chicago's case, the underfunding was driven by state statutes. The formula for funding the

[11] City of Chicago Comprehensive Annual Financial Report for the Year Ended December 31, 2013. Published June 30, 2014. Retrieved from http://www.cityofchicago.org.

City's pension contributions is calculated as a multiplier of employee contributions rather than determined by actuaries and the real needs of the system. Over the last 15 years, this formula has not been adjusted to take into account growth in unfunded liabilities from investment losses, benefit increases, and a reduction in the number of active employees to retirees. The city continued to follow the statutory requirements and ignored the growing gap between the statutory contributions and actuarially-determined contributions. As a result, funded ratios of the city's four plans fell from a satisfactory weighted average of 79% in 2000 – with two of the plans at or near 100% funding – down to an abysmally low 34% funded in 2013.[12]

In both 2010 and 2014, the state passed laws requiring higher contribution levels to the City's plans beginning in fiscal 2016.[13] Given the persistent underfunding, the pension plans woes are so dramatic that the higher contributions will more than double the city's current payments, likely resulting in a significant strain on the city's already stressed finances. The city's pension issues were a key driver in our decision to exit Chicago's general obligation and lease-backed debt in July 2011 when rating agencies still maintained strong AA level ratings on the city. Those ratings have now fallen, in Moody's case to a Baa1 with a negative outlook, following repeated downgrades.

New Jersey: Years of pension holidays drop New Jersey's pension plans to 54% funded levels for fiscal 2013 – and funded levels are expected to plummet in coming years

New Jersey has been in the headlines recently due to a lawsuit filed against Governor Christie by the state's three biggest pension funds asking the courts to mandate that the State make its full annual required contributions based on 2011 pension legislation. The 2011 pension legislation required the state to "make the annual required contribution on a timely basis" with phased increases to the ARC starting in fiscal 2012.[14] While the State met the increases in the first two years, the State significantly underfunded the contributions required by the 2011 legislation in 2014 and 2015, which the Governor argued was necessary to balance the budget. These problems are compounded by the fact that the State's pension plans have already suffered from nearly two decades of substantial underfunding of contributions. The State issued pension obligation bonds in 1997 which led to funded levels over 100%. For nearly the entire ensuing decade, the State took "pension holidays" and made no contributions of substance to the plans. Since then, some annual contributions have been made, though significantly below actuarial requirements, with only 23% of the ARC funded in fiscal 2014, leaving a gap of about $2.3 billion (about 7% of the State's budget).

On its current trajectory, the State is projecting exhaustion points for its funds starting as early as 2024.[15] New Jersey's budgetary strain is exacerbated by the need to address the pension underfunding

[12] Statistics derived from actuarial valuation reports from Chicago's four pension plans (Firemen, Policemen, Municipal Employees, and Laborers). Calculations based on weighted average of each plan's share of accrued liabilities.

[13] Illinois Public Act 96-1495 and Public Act 98-0641.

[14] New Jersey Chapter 78, P.L. 2011.

[15] "Supplemental dated November 25, 2014 to Official Statement dated November 13, 2014 of New Jersey Transportation Trust Fund Authority. $764,055,000 Transportation Program Bonds, 2014 Series AA." Retrieved from http://emma.msrb.org.

in the near term, and practical and palatable solutions are thus far proving elusive. This scenario caused us to cease adding New Jersey debt for the Core Strategy starting in March 2011, when rating agencies still maintained a Aa3/AA- rating on the State's debt, and to exit all but the most defensible positions across all strategies in May 2014. Our downgrade was a result of the fact that not only had mid-year budgetary gaps arisen due to overly optimistic revenue forecasts, but the State also announced it would not make the full required pension payment. The rating agencies continue to maintain A1/A/A ratings on the State.

Holistic and granular credit analysis of an obligor's complete credit profile is critical to understanding pension affordability for each obligor.

As we stated, what is often lost in the pension hysteria is that pensions are but one piece of an obligor's credit profile. Therefore, when trying to understand pension risk, we look at credit factors that are inextricably linked to pension affordability, such as demographic and economic trends as well as the overall fiscal health of an issuer. Demographic and economic trends are most crucial for single employer and agent plans where an obligor is wholly responsible for their own assets and liabilities.[16] Long-term population and economic declines can exacerbate underfunded pension plans because fewer taxpayers and a smaller tax base are ultimately responsible for the growing stream of liabilities sized to a relatively larger beneficiary pool. The overall fiscal health of an obligor is also important as an obligor with a weak financial position is less able to continue paying large pension costs or to absorb increased pension contributions. Conversely, if an obligor participates in a plan that has below average funded levels but has solid reserves, significant financial flexibility, or other strong credit characteristics that afford it the flexibility to meet higher annual contributions, than the health of the pension plan may pose less risk.

Section 3: Many market pundits are allowing a few high-profile outliers to create a grossly overgeneralized narrative. Most public pension plans are in solid shape.

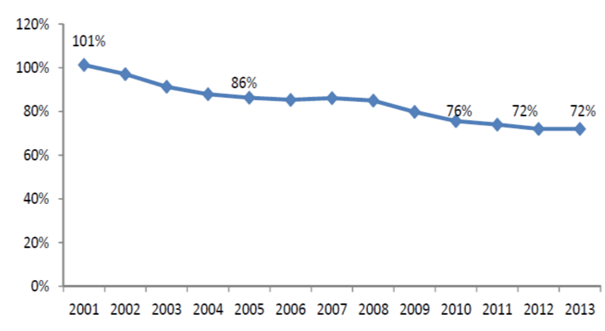
In recent years, as pension paranoia began to spread, we noticed that the same outliers were often cited as evidence that all state and local governments were managing their pension funds irresponsibly and that the resultant woes were poised to ravage the budgets of governmental entities nationwide. In stark contrast to the hyperbole in the popular press, we highlight the sound condition of most public pension plans and cite recent trends that suggest a fairly optimistic future trajectory for these plans. While we acknowledge that pensions are an issue with which obligors must continue to contend, we believe that only the weakest segment of obligors, the true outliers that we strive to avoid through the kind of analysis outlined above, will potentially end up in distress as a result of their pensions.

[16] Public pension plans come in three main varieties: single employer plans, multi-employer agent plans, and multi-employer costsharing plans. In both single employer and multi-employer agent plans, the accrued liability (and any accrued assets) rests solely with the employer funding the plan. The main difference between the two is who administers the plan – for single employer plans, administration, oversight, and investment management rests with a board established by the employer itself. For multi-employer agent plans, these areas are pooled at the state or regional level. Multi-employer cost-sharing plans have pooled assets and liabilities, as well as shared administration, oversight and investment management. Nearly all school districts participate in costsharing plans; whereas, participation is more mixed for states, cities, and counties.

Do not let the outliers drive the narrative: we believe most public pension plans are in adequate shape to cover their liabilities for decades while enacting gradual adjustments that will improve their financial health over the long-term.

As of 2013, the 150 largest state and local pension plans had assets on hand to cover, in aggregate, 72% of accrued liabilities.[17] Additionally, as of fiscal 2013, only eight states had funded less than 60% of the accrued liabilities, and of those, only two outlier states had less than 50% funding - Illinois at 39% and Kentucky at 48%.[18] Two state systems– Wisconsin and South Dakota – were 100% funded. While aggregate funded levels have come down significantly in recent years (see Figure 2) – particularly compared to an aggregate 103% funding in 2001[19] – they are nowhere near insolvency and, in some cases, poised to look much better given strong market returns in recent years and recently enacted pension reforms.

Figure 2. Aggregate Funded Ratio for state and local pension plans has declined over last ten years



Source: Center for Retirement Research at Boston College, Public Plans Database, Fiscal Years 2001 through 2010 based on CRR's sample of 126 largest state and local plans. 2011 through 2013 based on expanded 150 plans sample.

Most pension plans have assets on hand to pay out benefits for at least the next 20 years

The most alarmist articles on pension funding have tended to cite a 2010 study[20] by a Stanford professor that predicted some states would begin exhausting their assets by 2020 or prior, with the State of Illinois predicted to run out of assets by 2018. However, the utility of this particular study has been refuted both by leading academics as well as by the actuaries who perform studies regarding the health of various pension systems.[21] These academics and actuaries suggest that the study's major flaw is that it calculates the exhaustion point of assets based upon the unrealistic assumptions that: (1) all participants stop contributing to their pension plans, and (2) benefits are only paid out of current assets. The Center for Retirement Research (CRR) at Boston College performed its own study, looking at, in our opinion, a more realistic, but still pessimistic scenario where plans continue to receive annual contributions, though only to cover current year costs, a number which is less than most plans currently contribute. In this scenario, the CRR found that the majority of plans have assets that will last at least twenty years, and many that would survive much farther into the future.[22] And, if plan sponsors make their full actuarially required contributions (which cover both current year accumulated liabilities and a portion of prior liabilities), as nearly half the states did in 2013, they should be on track to accrue assets that are

[17] Munnell, Alicia H., Jean-Pierre Aubry, and Mark Cafarelli. "The Funding of State and Local Pensions: 2013-2017." Center for Retirement Research at Boston College. Number 39, June 2014. Retrieved from http://crr.bc.edu.
[18] Loop Capital Markets., 2014. Reported statistics are calculated as weighted average of each state's state-administered plans. Plans with less than 60% funding in fiscal 2013 included Alaska, Hawaii, Illinois, Kansas, Kentucky, Louisiana, Mississippi, New Hampshire, and New Jersey.
[19] Munnell et al, June 2014.
[20] Rauh, Joshua. "Are State Public Pensions Sustainable? Why the Federal Government Should Worry About State Pension Liabilities." National Tax Journal (September 2010), 63 (3), 585-602. Retrieved from http://www.ntanet.org.
[21] American Academy of Actuaries, "Letter to Sen. Hatch On State and Local Government Defined Pension Plans," July 31, 2012. Retrieved from http://www.actuary.org.
[22] Munnell, Alicia H., Jean-Pierre Aubry, Josh Hurwitz, and Laura Quinby. "Can State and Local Pensions Muddle Through?" Center for Retirement Research at Boston College. Number 15, March 2011. Retrieved from http://crr.bc.edu.

available to pay benefits indefinitely.

States have enacted benefit and actuarial changes to reduce liabilities.

Between 2009 and 2011, forty-three states enacted major changes to their pension systems in order to reduce accrued liabilities and nearly a dozen more made changes in 2012 and 2013.[23] The types of changes have ranged from eliminating or reducing cost of living adjustments, changing benefit formulas and age requirements, and, in a few cases, switching to defined contribution plans for new employees. The impact of the benefit changes enacted in recent years has yet to be fully recognized in most pension systems' reporting given a lag between adoption and actuarial analysis, but once fully accounted for, should certainly aid in reducing expected liabilities. Additionally, pension plans have changed actuarial assumptions, such as lowering discount rates and tightening amortization schedules, which have contributed to lower funded ratios in the short-term, but will put the systems on sounder footing over the long term.

Poorly funded pension plans are likely to remain stressed; our analysis will continue to focus on uncovering outliers where weak funding levels are likely to generate escalating payments resulting in significant budgetary stress on obligors.

We believe most high quality obligors have adequately funded pension plans with affordable annual contribution levels; however, there are outliers where deteriorating pension funding levels are now generating budgetary stress that may escalate in coming years. We anticipate that these outliers are likely to move further away from healthy pension systems, as in many cases their sponsoring obligors are continuing to underfund the annual contribution which only aggravates an already perilous situation. For the most distressed systems, it will be politically daunting to find the appetite to either increase taxes or reduce spending on popular programs (such as education or public safety) in order to absorb the necessary increases to improve funded ratios. In some cases, such as the States of Connecticut and Kentucky, we are taking what we believe to be a prudent and cautious approach of not adding further exposure to their debt for our Core Strategy while waiting to see how they approach their pension contributions in coming budget cycles. We currently believe these states have sufficient mitigating factors that provide them with the time and resources necessary to resolve their pension problems. Should they continue to underfund their pensions or fail to make adjustments that reduce their liabilities, we may consider further downgrades and ultimately may fully exit positions in their debt.

Gurtin Municipal Bond Management will continue to promptly exit our positions in any obligor whose pension health is exhibiting early symptoms of distress, absent strong mitigating factors. However, we do believe that anxiety over pensions and the municipal market's frequent broad-brush approach to decision-making may present opportunities in the future. Overall, we find the dire predictions that pension costs are driving obligors towards distress to be overblown. Though pension liabilities are one of many budgetary issues that state and local governments

[23] Johnson, Richard, Matthew Chingos, and Grover Whitehurst. "Are Public Pensions Keeping Up with the Times?" The Brookings Institution. June 2013. Retrieved from http://www.brookings.edu.

must address, they remain long-term in nature and are correctable for most obligors through incremental adjustments. Gurtin Municipal Bond Management believes that the key antidote to pension paranoia is having strong and independent research to spot those obligors that have unmanageable pension obligations at an early stage. This is why we employ the variety of tools we discussed earlier when analyzing pension systems, and why we maintain a strict Sell discipline that has led us to quickly exit our positions in obligors that had weak pension profiles without strong mitigating factors, such as the State of Illinois and the City of Chicago, well before rating agencies or other market participants had penalized them.

The municipal market has a long history of over-reacting to headlines and painting all obligors with a broad brush. We would expect that continued negative headlines surrounding public pensions and the potential further weakening of some of the most distressed plans may drive many to penalize high quality obligors that have well-positioned pension profiles. Interestingly, changes in governmental accounting standards that will be applied over the next few years are likely to amplify existing confusion and uncertainty over pensions. We believe our pro-act credit analysis will protect our clients from this uncertainty, and will position us well to capitalize on any potential opportunities to find high quality obligors that are being unduly punished.

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