



2011 State Pension Funding Review

December 19, 2011



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Executive Summary

Each year, Loop Capital Markets issues an in-depth review of state pension plans and their funded status. This year's report will be our ninth review and represents a significant expansion from previous reports. In our 2011 analysis we examined 245 of the largest state pension plans, and have continued to expand our prior focus on state employee and teacher retirement plans to capture legislative, military, and judicial plans as well. Last year our expansion included a section on actual versus prescribed annual required contributions, and an analysis of each state's other post-employment benefits plans. This year we have a more robust piece on other post-employment benefits, and have included a section on the breakdown of asset allocation for state pension plans. In addition we have conducted a sensitivity analysis on plans funded ratios using various discount rates, and throughout the publication we have included a variety of additional charts and tables.

While prior reports focused strictly on state-level pensions, we further enhanced this year's publication with a section dedicated to the analysis of the twenty largest city's public pension plans. We chose to focus on the twenty largest cities versus counties due to the sheer magnitude of the number of plans in any one county. We have, however, included the major county plans in which the largest cities lie, as well as any special district-administered systems within the cities.

The fiscal health of the majority of state and local government's pension and OPEB plans has continued to deteriorate over the last year. The recent financial crisis has exposed municipalities' severe structural budget issues, further highlighting the growing concern of their significantly unfunded pension and other post employment retirement liabilities. As municipalities continue to be plagued by the effects of the Great Recession, it's clear that funding shortfalls can no longer be solely attributed to the cyclical nature of the economy. It's imperative that both state and local governments re-evaluate their funding approach in conjunction with addressing the structural deficiencies in their retirement systems.

GASB's goal with their new proposed reporting requirements is to increase the transparency, consistency, and comparability of municipal pensions. GASB's proposed changes relate only to how a state or local government reports their pension liabilities, it does not dictate how they should fund them. In general though, if the proposed requirements are passed, the majority of public pension plans will appear far less funded than they currently do. For this reason, many believe that passage of the requirements will cause taxpayers, rating agencies, and investors to put additional pressure on state and local governments to enact further pension reform measures.

While the asset to liability differential rose in both state and local pension and OPEB plans this year, many municipalities did in fact shift their focus to enacting reforms directed towards addressing the inherent structural problems in these systems. For pension plans these reforms included: 1) switching from a defined benefit to a defined contribution plan, 2) postponing or eliminating retirees' cost of living increases, 3) trimming benefits for new and existing employees and retirees, 4) increasing employee payroll contributions, 5) changing investment strategies through asset allocation, and 6) implementing more conservative changes to actuarial assumptions. For other post-employment benefit plans these modifications included: 1) reducing benefits, 2) altering vesting requirements, 3) increasing co-payments, deductibles and healthcare premiums, 4) requiring current employees to contribute to funding, 5) requiring retirees to pay a portion of the insurance premiums, and 6) switching to a defined contribution plan.

While much progress still needs to be made, we believe the public pension problem can be substantially solved if meaningful progress is taken today. We anticipate that in 2012, there will be an increase in the number of state and local governments that enact various pension reforms, and that the reforms will continue to be more aggressive.

Key Highlights

- GASB's major proposed changes include: reporting a net pension liability in the financial statement, changes in the allowed discount rate, one acceptable cost method, and additional note and required supplement information.
- The average asset allocation for state pension plans was as follows: 49.52% equities, 29.13% fixed income, 4.75% real-estate, 3.20% cash and equivalents, 13.40% other.
- Of the 149 state-level plans with funded ratios for 2010, only 56 had funded ratios over 80%. Similarly, of the 31 local-level plans with funded ratios for 2010, only 11 had funded ratios over 80%.
- Out of the 146 state-level and the 29 local-level plans with funded ratios for both 2010 and 2009, 69% of state-level plans and 83% of local-level plans were less funded then they were the previous year.
- Twenty-three states did not meet annual required contribution levels for fiscal year 2008, 26 states did not meet their ARC for fiscal year 2009, and 30 states did not meet their ARC for fiscal year 2010. Alaska, California, Colorado, Delaware, Illinois, Iowa, Kentucky, Maryland, Minnesota, Missouri, Nevada, New Jersey, New Mexico, North Dakota, Ohio, Oklahoma, Pennsylvania, Vermont, Virginia, and Washington did not meet their contribution levels for all plans in 2008, 2009, or 2010.
- Economic Debt, which comprises the state general fund deficits, net bonded debt, and pension obligations, has significantly risen over the last three years.



Editors Note

All data presented in this report is directly gathered from each state and local governments' comprehensive annual financial reports. We have had a recommendation in the past that the report would be more useful if we made adjustments to reconcile the different accounting treatments that occur in various states. While we do agree this technique would be ideal, as a practical matter we do not have the time or ability to do so, and leave this exercise to our readers. We strive for 100% accuracy in the data presented throughout the report but acknowledge the possibility of human error. We welcome commentary and feedback to continue improving our annual report.



LOOP CAPITAL MARKETS
2011 STATE PENSION FUNDING REVIEW
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GASB Developments in Reporting Standards for Municipal Pension Plans

GASB, in an effort to increase transparency, consistency, and comparability of municipal pension plans, is deliberating on the feedback they've received on their proposed regulations that will change the way state and local governments account for their pension liabilities. The exposure draft of pending legislation was issued in July, and the comment period concluded at the end of September. GASB's new reporting requirements are tentatively set to be released in June 2012.

The regulations relate only to how municipalities report their pension plans from an accounting perspective. The proposals do not dictate any changes in how a government chooses to fund them. The stance GASB is taking on pensions is that they should be viewed as a long-term liability, much like bonded debt. Therefore, the new proposed rules take an "accounting-based" approach to evaluate a plan's ability to ensure the overall costs of providing current and future benefits are accounted for. This is in contrast to the old "funded-based" approach, which focused on annual contributions and relied heavily on various, often vague, actuarial assumptions.

GASB defines a liability as a present obligation to sacrifice resources that a government has little or no discretion to avoid.⁽⁶⁾ As most states have either state specific constitutions, or at a minimum, state statutes prohibiting the impairment of public employee benefits, many feel pensions need to be treated as other long-term liabilities. For this reason GASB has proposed the net pension liability, (overall obligation minus the accumulated assets in the plan), be reported in the financial statements rather than relegated to the footnotes.

Calculating the Total Pension Liability

Measuring a government's total pension liability involves three steps: 1) projecting the benefit payments, 2) discounting the projected benefit payments to their actuarial present value, and 3) attributing the present value of projected benefit payments to past and future years during which employees have worked or are expected to work. In terms of projecting the benefit payments, GASB is proposing that all assumptions used to project these benefits be consistent with the American Academy of Actuaries' Actuarial Standards of Practice unless otherwise specified. The only new proposal in

projecting benefit payments is that ad hoc COLAs and other post employment benefit changes would be included in the benefit projections if an employer's past practice and future expectations of granting them indicate that they've effectively become automatic.

One of the most substantial proposed changes is the discount rate municipalities use to calculate their total pension liability. Currently, municipal pension plans use the long-term investment rate of return assumption as the discount rate to determine their pension liability, which is typically about 8%. Under the new rules, if a state or local government has not set aside enough money to cover future benefits, they would have to use a combination of the historical rate of return and a lower rate pegged to a high-quality municipal index. The net effect is that plans' long-term liabilities will appear considerably larger than they currently do, but not as large as if the entire liability was discounted using a lower rate, like the risk free rate.

Another significant change GASB has proposed is that every public pension plan will have to use the entry age normal cost accounting methodology. Under this method, projected benefits are discounted to their present value as a level percentage of projected payroll. Currently each plan is not only allowed to choose which one of the six different acceptable accounting methodologies they use, but have the ability to change methodologies in any given year. When individual plans change methodologies, time-series data becomes difficult to compare, along with the ability to use cross-sectional data amongst multiple plans. This change alone is helpful in increasing consistency and comparability.

Calculating the Pension Expense

Governments' net pension liability changes for a variety of reasons in any given year, but when governments recognize these period-to-period changes as an expense has been an area of vague interpretation. When governments calculate their pension expense they incorporate the following: when employees earn additional benefits, interest on the outstanding liability, and changes in the amount of plan assets due to effects other than investment earning. GASB is now proposing that the following also be recognized immediately in the period in which they incur versus being amortized over a period of up to 30 years: changes in the

terms of the benefits to be provided to retirees, projected earnings on the plans investments, the effect of the difference between what was assumed regarding economic and demographic factors and what actually occurred for retired workers, and the effect of using new economic and demographic assumptions for retired workers.

The differences between the assumed and actual investment returns on the plan's assets would have to be recognized in the expense calculation over a five-year period rather than first being smoothed, but then also amortized as part of the unfunded liability. The net effect of these proposals is that most governments would experience overall accelerated amortization and expense recognition.

Note Disclosure and Required Supplementary Information

If the proposals regarding note disclosure and required supplementary information all become requirements, users of these statements will have access to more pertinent information needed to properly assess the fiscal health of municipal pension plans. A few of the proposed requirements for all governments participating in defined benefit plans would include: a description of the plan, a policy for determining annual contributions, and a sensitivity analysis of the impact on the net pension liability of a one percentage point increase and decrease in the discount rate.

The changes proposed to the required supplementary information provide users with historic data that was previously unavailable. Under the new proposals governments would have to provide detailed information about the changes and schedules of the net pension liability and annual required contribution for the past ten years. Such detailed information, and the addition of these schedules, should enable users to better ascertain what has driven changes, particularly related to the net pension liability in the current period.

Cost-Sharing Multiple-Employer Pension Plans

A small portion of GASB's proposals relate specifically to cost sharing multiple-employer (CSME) plans. In cost-sharing multiple employer plans governments share the costs and risks of providing benefits and administering the plan and assets accumulated to pay benefits. Unlike an agent multiple-employer (AME) plan, any assets in

the CSME plan may be used to pay any employee's benefits regardless of which government they worked for. GASB is proposing that an employer participating in a CSME plan report a net pension liability in its own financial statements based on its proportional share of the collective unfunded liability for the whole plan. Currently employers participating in CSME plan do not have to do so. The implication for users studying these plans is that they would have the same information about individual employers participating in CSME plans as they currently do for single-employer (SE) and (AME) plans.

Opposing Views of the Proposed Regulations

Proponents of the proposals say the changes will have a detrimental effect on public attitudes about state and local government pension plans, as the new standards will generally show higher unfunded liabilities. These changes come at an inopportune time, as state and local governments continue to experience budgetary distress as economic recovery remains sluggish.

Those in favor of such changes applaud GASB for their commitment to increase transparency, consistency, and comparability of state and local plans. They also argue the proposals are such that they only relate the financial reporting, not funding requirements by governments. In addition, rating agencies have also said they do not anticipate any immediate repercussions to a credit from the new rules, as they have already done analyses that include many of the proposed changes when evaluating the impact of funding obligations in ratings.

While arguments are strong from both those that contest the proposals and those that support them, there is a good chance the majority of these proposals become requirements. The phase in period, though, could be years down the road.

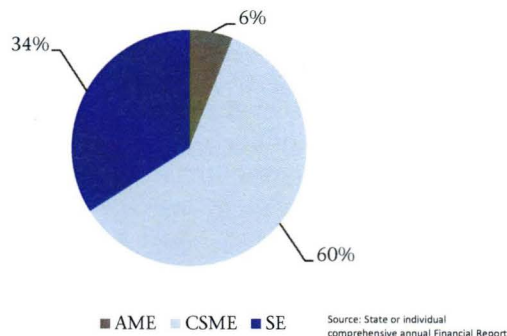
Three Types of Employer Sponsorship

There are three distinct types of employer sponsorship plans. Most local pensions are single-employer (SE) plans, meaning that they cover current and former employees of just one employer. In this case the local government is fully responsible for the financing of the plan. Sixty-one of the 74 local plans reviewed that noted the type of employer sponsorship were categorized as a single-employer plan. Only about 34% of the state-level plans examined were SE plans.

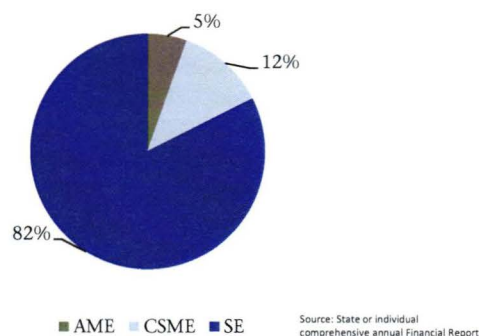
The second type of plan, agent multi-employer (AME), is in essence an aggregate of SE plans. Each plan remains distinctly separate in terms of benefit calculations, asset accumulation, and financing costs, and separate accounts are maintained for each employer so employer’s contributions provide benefits only for the employees of that employer. Separate actuarial valuations are also done for each employer. Smaller plans in particular recognize significant savings as part of the administrative and investment costs are fixed. Only four local pensions and 15 state pension plans reviewed were categorized as AME plans.

The majority of municipal pensions at the state-level are cost sharing multi-employer (CSME) plans. Of the 233 state plans that listed the type of the employer sponsorship, 140 were categorized as CSME plans. Unlike AME plans, there is no separation of employer accounts so all employers have to offer the same benefits to their employees. All funding and investment risks, rewards, and costs (including benefit costs) are shared. There is just one actuarial valuation done for all plans. While the employer loses the ability to designate their own benefits, realizing economies of scale, employers can achieve significant savings in administrative and investment costs. Any state-level CSME plan may include hundreds of local-level employers (i.e. school districts, cities towns, counties, special districts, public authorities, etc.) in addition to the state government employer.

Type of Employer Sponsorship - State Plans



Type of Employer Sponsorship - Local Plans



Cost Method & Attribution

The existing pension standards allow a government to choose between six acceptable actuarial cost methods. The cost method determines how the total pension expense is allocated over the years. The way in which costs are divided among prior, current, and future years has an effect on the size of the pension expense reported in any given year and the degree to which the pension obligation appears to be funded. The funded ratio is typically used as a generic “snap-shot” indicator of the health of any plan. Using different cost methods has a significant effect on the funded ratio. As an example, the aggregate cost method, will always show a plan as being at least 100% funded. States are fully aware of the method they choose, and many have voiced concern that the methodologies are showing a misrepresentation of the full extent of plans liabilities. The Empire Center for New York State Policy states that, “pension costs would be even higher if New York’s state and local retirement funds were not calculating pension contributions based on permissive government accounting standards, which allow them to understate their true liabilities.”⁽¹⁵⁾

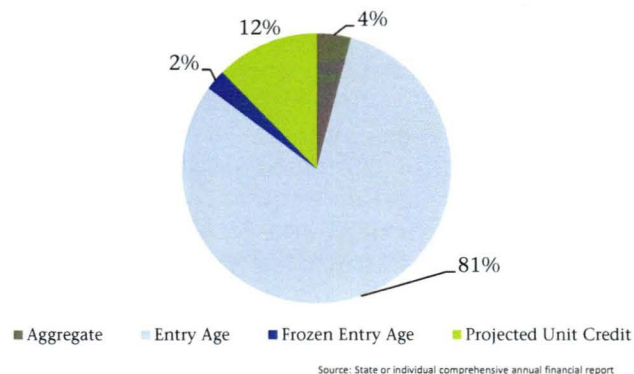
The method of attribution also has a significant effect of the amount of benefits assigned to past periods. State and local public pension plans amortize their unfunded actuarial accrued liability over a period of up to 30 years, either in level dollar amounts or as a level percentage of projected payroll. The level dollar method divides the liability into equal dollar amounts over the selected number of years. The level percentage method calculates payments so that they equal a constant percentage of payroll over time. Generally, the level dollar method is considered to be more aggressive as costs are evenly spread over a period of years much like an insurance policy versus level percentage where costs are back-loaded as the assumed payroll growth rate does not include an assumed increase in the number of plan members. Sixty-six state-level plans amortized using level dollar amounts, while 160 amortized using a level percentage of projected payroll. The local-level plan distribution was similar, as 18 used level dollar amounts, while 40 amortized using a level percentage of projected payroll.

GASB used two criteria to evaluate the suitability of actuarial cost methods for financial reporting in their new proposals. The first being that the attribution method should assign portions of the present value of projected benefit payments to past periods to the extent that benefits relate to services received from employees in past periods. For this reason GASB decided the aggregate, frozen attained age, and frozen entry age actuarial cost methods were insufficient in meeting the first criteria, as the methods attribute the effects of actuarial gains and losses only to current and future period not to past years of service. The second evaluation criteria is that the cost method selected should employ the same method if attributing the portion of the present value of projected benefit payments to past periods as it does for current and future periods. The second criteria again confirms why the aggregate, frozen attained age, and frozen entry age are insufficient, but this second criteria also negates the reason why a government should use the attained age cost method.

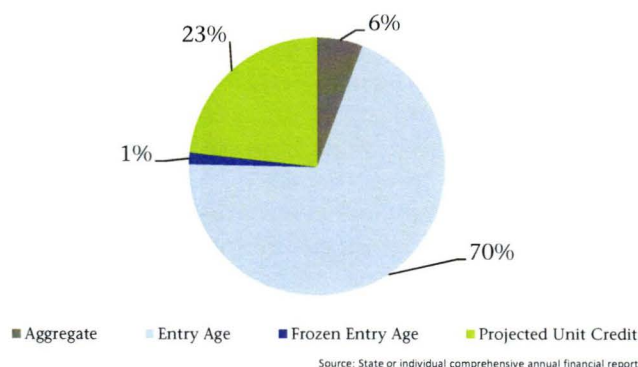
The projected unit credit and entry-age are the most widely used methods. The projected unit cost method, typically applied on a level-dollar basis, attributes each projected benefit payment to an employee's projected periods of service in equal units. This tends to result in greater normal costs

as beneficiaries approach retirement. For this reason entry-age is the most popular method as normal costs appear more smoothed, as they are determined as a level percent of pay over the employee's entire career. GASB in their new proposed requirements suggests that all state and local governments will have to use the entry age method as a level percentage of payroll. As shown in the chart below, the majority of state and local plans already use the entry age method. Having just one acceptable cost method will be a significant improvement for analysts, investors, economists, and all who attempt to use panel data as a basis of comparison between plans.

Cost Method State Plans



Cost Method Local Plans



Cost of Living Adjustment

Some pension plans include provisions for adjusting benefits to keep pace with rising prices, known as the cost-of-living adjustment (COLA). When COLA's are continual or automatic they're

typically based off of the consumer price index (CPI), and are included in the total pension liability calculation. Ad hoc COLA's are not included in the liability projection as they are adjustments made at the discretion of the government, and are not written into the provisions of the plan. Ad hoc COLA's may be granted for a variety of reasons, such as investment gains exceeding expectations, or even as an alternative to an automatic COLA, which would give the employer more flexibility to grant them when they are in more favorable funded positions. Whether the COLA's are automatic or ad hoc, they are expensive for plan sponsors. Many state and local plans have started to either eliminate automatic COLAS or change the provisions dictating when they are granted. The National Conference of State Legislatures notes that in 2011 ten states revised their provisions for automatic cost-of-living adjustments, as eight other states had done in 2010.⁽²⁰⁾

Amortization

As with the smoothing interval, the shorter the amortization period, the higher the annual required contribution. The average amortization period was 24 years for state-level plans and 26 years for local-level plans. Individuals evaluating municipal plans from a long-term solvency perspective would typically advocate for a shorter amortization period, but considering current economic conditions, one would not expect many plans to decrease their amortization period by more than a year. This year, there were 15 state-level plans, with an average funded ratio of 69%, that decreased their amortization assumption by more than one year. There were also 19 state-level plans that increased their amortization assumption.

Smoothing

Municipal pension plans allow for a smoothing period to offset market volatility. The reason for this approach is that short-term volatility is a natural byproduct of the business cycle of economic expansion and recession. In years of market declines, the losses are not immediately recognized but smoothed generally over a period of five years. The average smoothing period for state and local-level plans was approximately five years. Without smoothing, the investments losses endured since the end of 2007 would seem much more pronounced. Of the state-level plans examined, none raised or lowered their smoothing period.

The allowable smoothing period has been an area of controversy, as many believe that allowing smoothing masks the true health of the plan, as funded ratios appear to be more constant than they would without smoothing. GASB has addressed this issue in its proposal of new regulations.

Spread Between Investment Return and Salary Increase Assumptions

The spread between the investment return and salary increase assumptions helps identify the amount that will need to be contributed to fully fund future benefits. The larger the gap between the two, the lower the funding requirement is projected to be, as the investment returns should offset salary increases. Of the 244 state-level plans examined, 83 had a spread that did not include a salary range. For those 83 plans the average spread was 3.10%, slightly up from last year, when 79 plans were examined without a salary range and the average spread was 3.05%. This finding raises some concern, as a weak economic recovery and persistent volatility in the global markets negates the assumption that the projected near term investment returns will be substantial enough to cover future salary increases. Of the 75 local-level plans examined, 32 had a spread that did not include a salary range. The average spread of 3.96%, similar to that of the state-level plans, allows us to draw similar conclusions.

Inflation

Higher inflation is associated with higher expected investment returns and salary growth. At the state-level the average inflation assumption was 3.5%. Similarly, the average inflation assumption for local-level plans was 3.4%. Compared to last year, 11 state-level plans decreased the inflation assumption, while 14 increased it.

Investment Rate of Return

The typical 8% long-term investment rate of return that state and local pensions use has drawn substantial controversy over the last few years. The current economic malaise and uncertainty with the turmoil in Europe, coupled with the overall low interest rate environment, has lead investors, taxpayers, and government employers to question whether the assumed 8% rate of return is a reasonable assessment of future asset performance. If the investment community has learned anything over the last decade, it's that no one has

the ability to truly predict future returns. Actuaries, like investors, rely on history and basic investment fundamentals to ascertain the appropriate rate of return which state and local pensions should use to forecast the contributions necessary to fully fund the benefits for past and future retirees. Over the last decade the returns on state and local pension funds have been significantly lower than the assumed 8%, but over the last 85 years the average annual returns are slightly below 10% as of June 2011.⁽¹³⁾

There's also concern about the risks investment managers will take in an effort to earn returns that mirror actuaries' assumptions. In a recent Wall Street Journal article, Jeffery Friedman, a market strategist at MF Global states, "to target 8% means some aggressive trading."⁽⁴⁾ Any seasoned investor understands that aggressive trading increases risk/uncertainty. The larger the risks, the greater the potential returns, but also the bigger the potential losses. When governments have a contractual obligation to fully fund these promised benefits, most would argue investment managers should take the stance of being appropriately risk adverse.

GASB has also addressed this issue in their most recent proposal on changes to the way public employers must report their pension liabilities. GASB's stance is that if an employer has not set aside enough money to cover future benefits, they would have to use a combination of the historical rate of return and a lower rate pegged to a high-quality municipal index rate. The lower the rate, the higher the liability is stated, and the more the employer is required to contribute. The net effect on the increase in present value of the liability would be far less with GASB's proposal than discounting the entire liability at a lower rate, but either way funded ratios will appear far lower than they had previously. As Moody's notes, as a general rule of thumb, a 100 bps movement in the discount rate results in an inverse movement in the obligation of approximately 8-12%.⁽¹¹⁾

Out of the 245 state-level plans examined, the average investment return assumption was 7.79%, and the median was 8%. Similarly, of the 72 local-level plans examined, the average investment return assumption was 7.88%, and the median was 8%. Plans with over \$1 billion in assets had an average investment return assumption of 7.91%

at the state-level, and 8.01% at the local-level. Plans with less than \$500 million in assets had an average investment return assumption of 7.67% at the state-level, and 7.69% at the local-level.

Some states, however, have begun to take proactive steps in lowering their investment return assumptions. Thirteen plans decreased their investment return assumption by an average of 0.38%. Montana lowered their investment return assumption for all state-level plans, except the teachers retirement system, (whose return was already 7.75%), from 8.00% to 7.75%. All other states that lowered their rate did so for just one, or a couple of their state-level plans.

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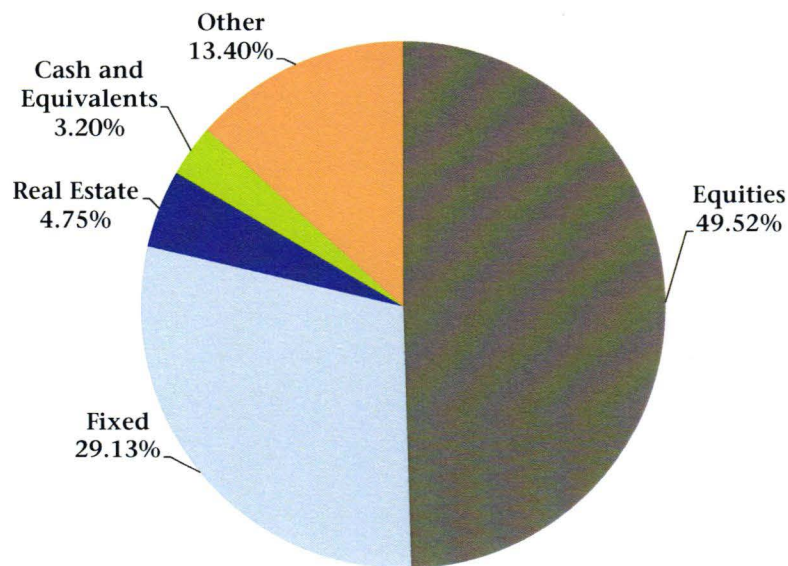
Asset Allocation For State-Level Plans

The Great Recession has had a devastating effect on municipal pension plans, largely due to changes in pension portfolio managers' investment strategies. Years ago, many businesses, portfolio managers, mutual funds, and consumers invested in lower risk investments, which offered steady, but modest returns. In the 1950's state pension funds invested almost entirely in cash and fixed income.⁽¹⁶⁾ Over the next sixty years pension managers' asset allocation strategies became much more diverse due to their desire for higher returns. These higher returns, though, came at a cost that few pension fund managers accurately assessed. As demonstrated in the last recession, over-investing in real-estate, subprime mortgages and collateralized debt obligations resulted in massive losses for

state and local pension, which many have still not been able to fully recoup.

The chart below shows the average asset allocation for all state pension plans as of 2010. On the following pages in tables 1.1-1.4 there is a more comprehensive list of individual state pension plans' asset allocation. As this is our first year incorporating the data, it will serve as a comparative indicator in future reports to let our readers better assess what changes to their asset allocation strategy pension fund managers are making.

**Average Asset Allocation for all
State Pension Plans as of 2010**



Source: State or individual comprehensive annual reports

Table 1.1 State Pension System Asset Allocation

State Pension System	Equities	Fixed	Real Estate	Cash and Equivalents	Other
Alabama Teachers' Retirement System	60%	24%	11%	3%	2%
Alabama Employee' Retirement System	59%	24%	12%	4%	2%
Alabama Judicial Retirement System	64%	28%	1%	4%	3%
Alaska Public Employees' Retirement System	50%	19%	15%	1%	15%
Alaska Teachers' Retirement System	50%	19%	15%	1%	15%
Alaska Judicial Retirement System	*	*	*	*	*
Alaska National Guard & Naval Military Retirement System	*	*	*	*	*
Alaska Elected Public Officers' Retirement System	*	*	*	*	*
Arizona State Retirement System	65%	24%	3%	5%	3%
Arizona Public Safety Personnel Retirement System	43%	18%	16%	0%	24%
Arizona Correctional Officers Retirement System	41%	19%	14%	1%	24%
Arizona Elected Officials' Retirement Plan	43%	25%	16%	0%	17%
Arkansas Teachers' Retirement Fund	61%	20%	7%	2%	10%
Arkansas Public Employees' Retirement System	63%	23%	12%	0%	2%
Arkansas Highway Retirement System	*	*	*	*	*
Arkansas State Police Retirement System	63%	23%	0%	0%	13%
Arkansas Judicial Retirement System	52%	48%	0%	1%	0%
Arkansas District Judge Retirement System	*	*	*	*	*
California Public Employees' Retirement Fund	45%	26%	8%	5%	17%
California State Teachers' Retirement Fund	51%	22%	10%	1%	16%
California Judges Retirement Fund II	52%	38%	10%	0%	*
California Legislators' Retirement Fund	38%	62%	0%	0%	0%
California Judges Retirement Fund	*	*	*	*	*
Colorado State Public Employees' Retirement System	58%	23%	7%	1%	11%
Colorado School Retirement System	58%	23%	7%	1%	11%
Colorado Local Government Retirement System	58%	23%	7%	1%	11%
Colorado Judicial Division Retirement System	58%	23%	7%	1%	11%
Colorado Fire & Police Retirement System	58%	21%	3%	2%	15%
Connecticut State Employees' Retirement Fund	*	*	*	*	*
Connecticut Teachers' Retirement Fund	*	*	*	*	*
Connecticut Judicial Retirement Fund	*	*	*	*	*
Delaware State Employees' Pension Plan	45%	26%	0%	4%	26%
Delaware Special Pension Plan	45%	26%	0%	4%	26%
Delaware New State Police Pension Plan	45%	26%	0%	4%	26%
Delaware Judiciary Pension Plan	45%	26%	0%	4%	26%
Delaware County & Municipal Police and Firefighters' Pension Plan	45%	26%	0%	4%	26%
Delaware County & Municipal Other Employees' Pension Plan	45%	26%	0%	4%	26%
Delaware Diamond State Port Corporation Pension Plan	45%	26%	0%	4%	26%
Delaware Closed State Police Pension Plan	45%	26%	0%	4%	26%
Delaware Volunteer Firemen's Pension Plan	45%	26%	0%	4%	26%
District Of Columbia Police & Firefighters' Retirement Fund	54%	24%	5%	2%	15%
District Of Columbia Teachers' Retirement Fund	54%	24%	5%	2%	15%
Florida Retirement System	55%	31%	7%	0%	8%
Georgia Teachers' Retirement System	62%	35%	0%	3%	0%
Georgia Employees' Retirement System	58%	33%	0%	3%	6%
Georgia Public School Employees' Retirement System	58%	33%	0%	3%	6%
Georgia Legislative Retirement System	58%	33%	0%	3%	6%
Georgia Judicial System's Retirement System	58%	33%	0%	3%	6%
Georgia Military Pension Fund	58%	33%	0%	3%	6%
Hawaii Employees' Retirement System	58%	30%	7%	0%	5%
Idaho Public Employees' Retirement Fund	56%	25%	3%	4%	13%
Idaho Firefighters' Retirement Fund	56%	25%	3%	4%	13%
Idaho Judicial Retirement Fund	*	*	*	*	*
Illinois Teachers' Retirement System	48%	18%	20%	1%	13%
Illinois State University Retirement System	57%	23%	6%	4%	10%
Illinois State Employees' Retirement System	57%	16%	10%	3%	14%
Illinois Judges' Retirement System	57%	18%	8%	3%	14%
Illinois General Assembly Retirement System	57%	18%	8%	3%	14%
Indiana State Police Retirement Fund	40%	36%	0%	0%	25%
Indiana Public Employees' Retirement Fund	40%	36%	0%	0%	25%
Indiana Excise Police, Gaming & Conservation Officers' Retirement Plan	40%	36%	0%	0%	25%
Indiana Judges' Retirement System	40%	36%	0%	0%	25%
Indiana Prosecuting Attorneys' Retirement Fund	40%	36%	0%	0%	25%
Indiana Legislators' Retirement System	40%	36%	0%	0%	25%
Indiana Teachers' Retirement Fund	40%	36%	0%	0%	25%
Indiana 1977 Police Officers' & Firefighters' Pension & Disability Fund	40%	36%	0%	0%	25%
Iowa Public Employees' Retirement System	39%	38%	8%	1%	14%
Iowa Peace Officers' Retirement, Accident and Disability System	39%	38%	8%	1%	14%
Iowa Judicial Retirement System	39%	38%	8%	1%	14%
Iowa Municipal Fire & Police Retirement System	39%	38%	8%	1%	14%

Source: State or individual plan comprehensive annual financial reports

Table 1.2 State Pension System Asset Allocation

State Pension System	Equities	Fixed	Real Estate	Cash and Equivalents	Other
Kansas Public Employees' Retirement System - State/School	49%	34%	11%	5%	0%
Kansas Public Employees' Retirement System - Local	49%	34%	11%	5%	0%
Kansas Police & Firemen's Retirement System	49%	34%	11%	5%	0%
Kansas Retirement System For Judges	49%	34%	11%	5%	0%
Kentucky State Employees' Non-Hazardous - Pension	51%	32%	0%	2%	17%
Kentucky State Employees' Hazardous Retirement Plan - Pension	51%	32%	0%	2%	17%
Kentucky State Police Retirement Plan - Retirement Funds	51%	32%	0%	2%	17%
Kentucky Judicial Retirement Plan - Retirement Funds	51%	32%	0%	2%	17%
Kentucky Legislators' Retirement System - Retirement Funds	51%	32%	0%	2%	17%
Kentucky Teachers' Retirement System - Retirement Funds	51%	32%	0%	2%	17%
Kentucky County Employees' Hazardous - Pension	51%	32%	0%	2%	17%
Kentucky County Employees' Non-Hazardous - Pension	51%	32%	0%	2%	17%
Louisiana Teachers' Retirement System	48%	25%	0%	2%	25%
Louisiana State Employees' Retirement System	50%	22%	0%	3%	25%
Louisiana School Employees' Retirement System	50%	22%	0%	3%	25%
Louisiana State Police Retirement System	50%	22%	0%	3%	25%
Maine State Employees' and Teachers' Pension Plan	59%	30%	4%	1%	7%
Maryland Teachers' Retirement System	51%	22%	0%	2%	24%
Maryland State Employees' Retirement System	51%	22%	0%	2%	24%
Maryland State Police Retirement System	51%	22%	0%	2%	24%
Maryland Judges' Retirement System	51%	22%	0%	2%	24%
Maryland State Law Enforcement Officers' Pension System	51%	22%	0%	2%	24%
Maryland Transit Administration Pension Plan	51%	22%	0%	2%	24%
Massachusetts Teachers' Retirement System	*	*	*	*	*
Massachusetts State Employees' Retirement System	*	*	*	*	*
Michigan Legislative Retirement System	*	*	*	*	*
Michigan State Police Retirement System	48%	16%	9%	2%	25%
Michigan State Employees' Retirement System	49%	16%	9%	2%	24%
Michigan Public School Employees' Retirement System - Pension	49%	17%	9%	1%	25%
Michigan Judges' Retirement System - Pension	51%	15%	13%	1%	20%
Michigan Military Retirement Plan	*	*	*	*	*
Michigan Municipal Employees' Retirement System	44%	33%	5%	3%	15%
Minnesota Teachers' Retirement Association Plan		25%	0%	15%	2%
Minnesota Public Employees' Retirement Fund	58%	25%	0%	15%	2%
Minnesota Public Employees' Police & Fire Fund	58%	25%	0%	15%	2%
Minnesota Public Employees' Correctional Fund	58%	25%	0%	15%	2%
Minnesota State Employees' Retirement Fund	58%	25%	0%	15%	2%
Minnesota State Patrol Retirement Fund	58%	25%	0%	15%	2%
Minnesota Correctional Employees' Retirement Fund	58%	25%	0%	15%	2%
Minnesota Judges' Retirement Fund	58%	25%	0%	15%	2%
Minnesota Legislators' Retirement Fund	58%	25%	0%	15%	2%
Minnesota Elective State Officers' Retirement Fund	58%	25%	0%	15%	2%
Mississippi Public Employees' Retirement System	69%	25%	5%	1%	1%
Mississippi Highway Safety Patrol Retirement System	69%	25%	5%	1%	1%
Mississippi Municipal Retirement System	69%	25%	5%	1%	1%
Mississippi Supplemental Legislative Retirement Plan	69%	25%	5%	1%	1%
Montana Public Employees' Retirement System - Defined Benefit Retirement Plan	64%	30%	6%	1%	0%
Montana Judges' Retirement System	63%	29%	5%	3%	0%
Montana Highway Patrol Officers' Retirement System	64%	29%	5%	2%	0%
Montana Sheriffs' Retirement System	63%	29%	5%	3%	0%
Montana Game Wardens' & Peace Officers' Retirement System	63%	28%	5%	4%	0%
Montana Municipal Police Officers' Retirement System	64%	29%	5%	1%	0%
Montana Firefighters' Unified Retirement System	64%	29%	5%	2%	0%
Montana Volunteer Firefighters' Compensation Act	60%	28%	5%	7%	0%
Montana Teachers' Retirement System	41%	36%	11%	0%	13%
Nebraska State Employees' Retirement Benefit Fund	2%	81%	0%	6%	11%
Nebraska School Employees' Retirement System	2%	81%	0%	6%	11%
Nebraska Judges' Retirement System	2%	81%	0%	6%	11%
Nebraska State Patrol Retirement System	2%	81%	0%	6%	11%
Nevada Public Employees' Retirement System	54%	37%	0%	2%	7%
Nevada Judicial Retirement System	54%	37%	0%	2%	7%
Nevada Legislators' Retirement System	54%	37%	0%	2%	7%
New Hampshire Retirement System - Pension Plan	62%	31%	5%	0%	2%
New Hampshire Judicial Retirement Plan	*	*	*	*	*
New Jersey Judicial Retirement System	42%	33%	4%	5%	15%
New Jersey Consolidated Police & Firemen's Pension Fund	42%	33%	4%	5%	15%
New Jersey Police & Firemen's Retirement System - State	42%	33%	4%	5%	15%
New Jersey Prison Officers' Pension Fund	42%	33%	4%	5%	15%
New Jersey Public Employees' Retirement System - State	42%	33%	4%	5%	15%
New Jersey State Police Retirement System	42%	33%	4%	5%	15%
New Jersey Teachers' Pension & Annuity Fund	42%	33%	4%	5%	15%
New Mexico Public Employees' Retirement System	68%	11%	0%	0%	20%
New Mexico Judicial Retirement System	68%	11%	0%	0%	20%
New Mexico Magistrate Retirement System	68%	11%	0%	0%	20%
New Mexico Volunteer Firefighters' Retirement System	68%	11%	0%	0%	20%
New Mexico Educational Employees' Retirement System	46%	26%	1%	4%	23%

Source: State or individual plan comprehensive annual financial reports

Table 1.3 State Pension System Asset Allocation

State Pension System	Equities	Fixed	Real Estate	Cash and Equivalents	Other
New York State & Local Employees' Retirement System	55%	28%	4%	0%	13%
New York Teachers' Retirement System	56%	25%	9%	1%	8%
New York Police & Fire Retirement System	55%	28%	4%	0%	13%
North Carolina Teachers' & State Employees' Retirement System	50%	40%	6%	0%	5%
North Carolina Consolidated Judicial Retirement System	50%	40%	6%	0%	5%
North Carolina Legislative Retirement System	50%	40%	6%	0%	5%
North Carolina Firemen's & Rescue Squad Retirement System	50%	40%	6%	0%	5%
North Carolina National Guard Retirement System	50%	40%	6%	0%	5%
North Carolina Registers of Deeds' Retirement System	50%	40%	6%	0%	5%
North Carolina Local Governmental Employees' Retirement System	50%	40%	6%	0%	5%
North Dakota Teachers' Fund for Retirement	56%	27%	10%	2%	5%
North Dakota Public Employees' Retirement System	56%	27%	10%	2%	5%
Job Service North Dakota	56%	27%	10%	2%	5%
North Dakota Highway Patrolmen's Retirement System	56%	27%	10%	2%	5%
Ohio Public Employees' Retirement System	62%	27%	7%	5%	0%
Ohio State Teachers' Retirement System	62%	27%	7%	5%	0%
Ohio School Employees' Retirement System	62%	27%	7%	5%	0%
Ohio Police & Fire Pension Fund	62%	27%	7%	5%	0%
Ohio State Highway Patrol Retirement System	62%	27%	7%	5%	0%
Oklahoma Teachers' Retirement System	61%	38%	0%	1%	0%
Oklahoma Public Employees' Retirement System	61%	38%	0%	1%	0%
Oklahoma Firefighters' Pension & Retirement System	61%	38%	0%	1%	0%
Oklahoma Police Pension & Retirement System	61%	38%	0%	1%	0%
Oklahoma Law Enforcement Retirement System	61%	38%	0%	1%	0%
Oklahoma Uniform Retirement System for Justices & Judges	61%	38%	0%	1%	0%
Oklahoma Wildlife Conservation Retirement Plan	61%	38%	0%	1%	0%
Oregon Public Employees' Retirement System	37%	26%	9%	5%	23%
Pennsylvania Public School Employees' Retirement System	28%	27%	9%	0%	35%
Pennsylvania State Employees' Retirement System	*	*	*	*	*
Pennsylvania Municipal Retirement System	66%	18%	13%	3%	0%
Rhode Island Employees' Retirement System: State Employees	50%	26%	4%	11%	10%
Rhode Island Employees' Retirement System: Teachers	50%	26%	4%	11%	10%
Rhode Island Municipal Employees' Retirement System	50%	26%	4%	11%	10%
Rhode Island State Police Retirement Benefits Trust	50%	26%	4%	11%	10%
Judicial Retirement Benefits Trust	50%	26%	4%	11%	10%
South Carolina Retirement System	27%	25%	3%	14%	31%
South Carolina Police Officers' Retirement System	27%	25%	3%	14%	31%
South Carolina General Assembly Retirement System	27%	25%	3%	14%	31%
South Carolina Judges & Solicitors Retirement System	27%	25%	3%	14%	31%
South Carolina National Guard Retirement System	27%	25%	3%	14%	31%
South Dakota	52%	22%	9%	0%	16%
Tennessee State Employees, Teachers, and Higher Education Employees' Pension Plan	46%	50%	3%	1%	0%
Tennessee Political Subdivision Defined Benefits Plan	46%	50%	3%	1%	0%
Texas Employees' Retirement System	60%	36%	0%	1%	3%
Texas Law Enforcement & Custodial Officer Supplemental Retirement	60%	36%	0%	1%	3%
Texas Judicial Retirement System Plan One	60%	36%	0%	1%	3%
Texas Judicial Retirement System Plan Two	60%	36%	0%	1%	3%
Texas Teachers' Retirement System	61%	24%	8%	1%	6%
Texas Municipal Retirement System	24%	66%	0%	11%	0%
Texas County & District Retirement System Pension Trust Fund	*	*	*	*	*
Texas Emergency Services Retirement System	76%	24%	0%	0%	0%
Utah Noncontributory Retirement System	36%	21%	14%	5%	24%
Utah Contributory Retirement System	36%	21%	14%	5%	24%
Utah Public Safety Retirement System	36%	21%	14%	5%	24%
Utah Firefighters' Retirement System	36%	21%	14%	5%	24%
Utah Judges' Retirement System	36%	21%	14%	5%	24%
Utah Governors' & Legislators' Retirement System	36%	21%	14%	5%	24%
Vermont State Retirement System	36%	37%	5%	0%	22%
Vermont State Teachers' Retirement System	36%	37%	5%	0%	22%
Vermont Municipal Employees' Retirement System	36%	37%	5%	0%	22%
Virginia Retirement System	39%	22%	6%	1%	32%
Virginia State Police Officers' Retirement System	39%	22%	6%	1%	32%
Virginia Law Officers' Retirement System	39%	22%	6%	1%	32%
Virginia Judicial Retirement System	39%	22%	6%	1%	32%
Washington Public Employees' Retirement System Plan 1	35%	22%	14%	1%	28%
Washington Public Employees' Retirement System Plan 2/3	35%	22%	14%	1%	28%
Washington School Employees Retirement System Plan 2/3	35%	22%	14%	1%	28%
Washington Public Safety Employees Retirement System Plan 2	35%	22%	14%	1%	28%
Washington Teachers' Retirement System Plan 1	35%	22%	14%	1%	28%
Washington Teachers' Retirement System Plan 2/3	35%	22%	14%	1%	28%
Washington Law Enforcement & Firefighters' Retirement System Plan 1	35%	22%	14%	1%	28%
Washington Law Enforcement & Firefighters' Retirement System Plan 2	35%	22%	14%	1%	28%
Washington State Patrol Retirement System Plan 1/2	35%	22%	14%	1%	28%
Washington Judicial Retirement System	35%	22%	14%	1%	28%
Washington Judges' Retirement System	35%	22%	14%	1%	28%
Washington Volunteer Fire Fighters' and Reserve Officers' Relief and Pension Fund	35%	22%	14%	1%	28%

Source: State or individual plan comprehensive annual financial reports

Table 1.4 State Pension System Asset Allocation

State Pension System	Equities	Fixed	Real Estate	Cash and Equivalents	Other
West Virginia Teachers' Retirement System	47%	23%	6%	3%	21%
West Virginia Public Employees' Retirement System	48%	25%	6%	0%	21%
West Virginia Public Safety Death, Disability, & Retirement Fund	47%	25%	6%	3%	20%
West Virginia Judges' Retirement System	48%	25%	6%	0%	21%
West Virginia Deputy Sheriff Retirement System	48%	25%	6%	1%	21%
West Virginia State Police Retirement System	47%	25%	6%	1%	21%
West Virginia Emergency Medical Services Retirement System	49%	21%	6%	2%	21%
Wisconsin Retirement System	60%	29%	0%	0%	11%
Wyoming Public Employees Pension Plan	59%	29%	0%	3%	8%
Wyoming Law Enforcement Retirement Plan	59%	29%	0%	3%	8%
Wyoming Paid Firemen's Pension Plan A	59%	29%	0%	3%	8%
Wyoming State Patrol, Game and Fish Warden and Criminal Investigator Pension Plan	59%	29%	0%	3%	8%
Wyoming Paid Firemen's Pension Plan B	59%	29%	0%	3%	8%
Wyoming Volunteer Fireman's Pension Plan	59%	29%	0%	3%	8%
Wyoming Judicial Pension Plan	59%	29%	0%	3%	8%
Wyoming Volunteer EMT Pension Plan	59%	29%	0%	3%	8%
Air Guard Firefighter Pension Plan	59%	29%	0%	3%	8%

Source: State or individual plan comprehensive annual financial reports

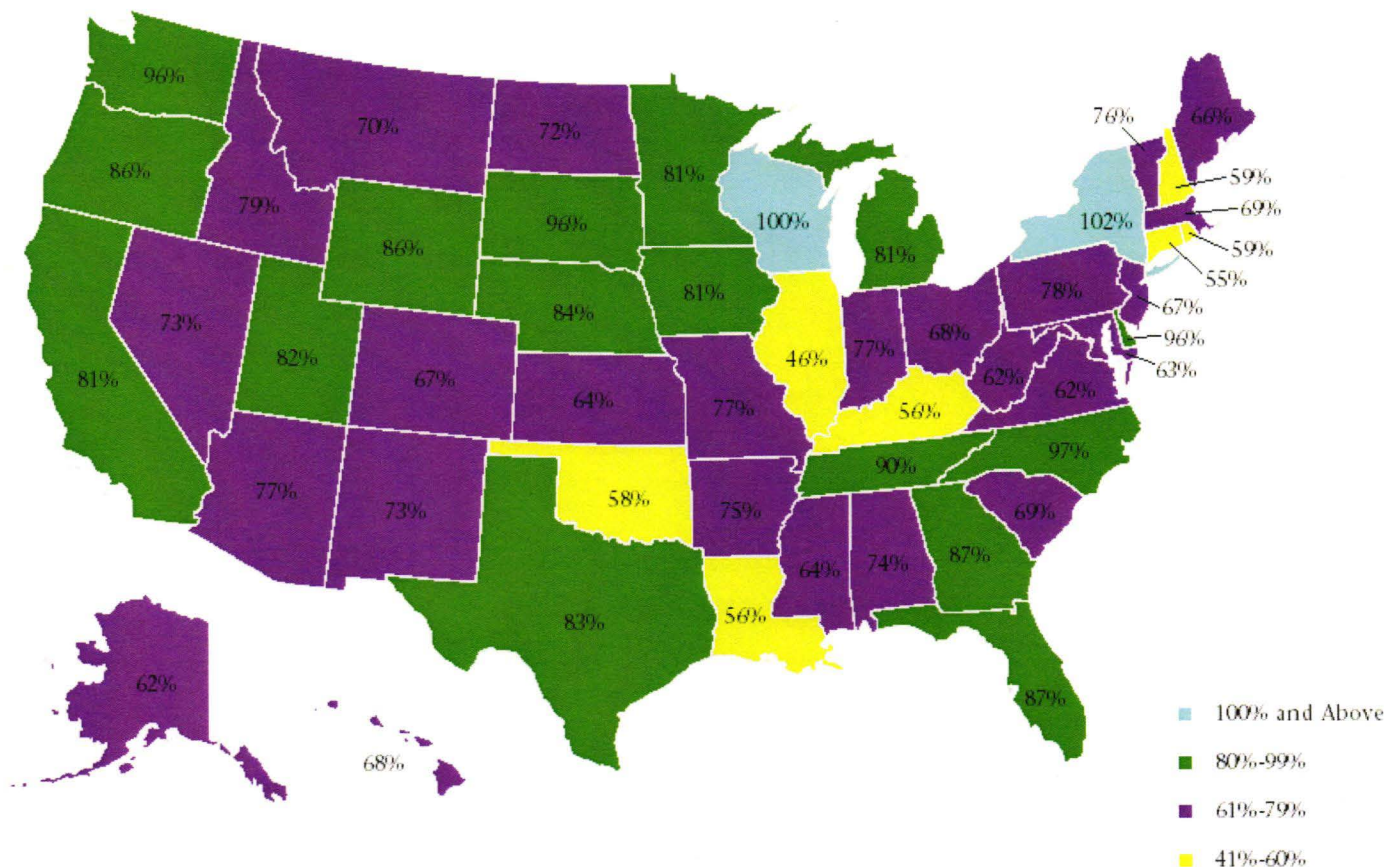
Funded Ratio

The funded ratio for municipal plans, like the annual required contribution, is used as a comparative indicator to assess a plan’s fiscal health. Unlike private sector plans, municipal plans are considered adequately funded at 80%. As expected, funded ratios worsened for almost all plans in 2010. Of the 149 state-level plans with funded ratios for 2010, only 56 had funded ratios over 80%. Similarly, of the 31 local-level plans with funded ratios for 2010, only 11 had funded ratios over 80%. Out of the 146 state-level and the 29 local-level plans with funded ratios for both 2010 and 2009, 69% of state-level plans and 83% of local-level plans were less funded then they were the previous year. Of the plans observed this year with funded ratios and assets in excess of \$1 billion, only 21 of the 72 state-level plans, and 7 of the 18 local-level plans were funded over 80%.

As only a fraction of the state plans and less than half the local plans examined with assets over \$1 billion are currently considered funded, it’s clear

there is a serious issue that needs to be addressed, as the largest funding shortfalls are in the plans with the largest liabilities. When reviewing the overall funded status of state-level pension plans on a weighted average basis, as shown in the map below, our findings are concurrent with those above. While a fair amount of states are funded 80% or above, the majority of states are still underfunded. On a weighted average basis 18 states are considered funded, while 32 are not. The states in yellow, which include Connecticut, Illinois, Kentucky, Louisiana, New Hampshire, and Oklahoma, are severely underfunded. States considered severely underfunded last year included Illinois, Louisiana, New Hampshire, Oklahoma, and Kansas. The largest increases in the funded ratio on a weighted average basis from last year were in Wyoming, (6.8% increase), Oregon, (5.6% increase), and the District of Columbia (5.5% increase). The largest decreases in the funded ratio on a weighted average basis from last year were in Alaska, (14.6% decrease), North Dakota, (9.3% decrease), and Connecticut (8.1% decrease).

2010 Weighted Average Funded Ratio



Funded Ratio Sensitivity Analysis

With the current economic malaise, it appears as though there is a low probability of pension funds achieving the assumed 8% investment rate of return. If the last decade was any indication of the next in terms of plausible investment returns, this further supports the claim that the projected 8% is unlikely, as shown in the chart below.

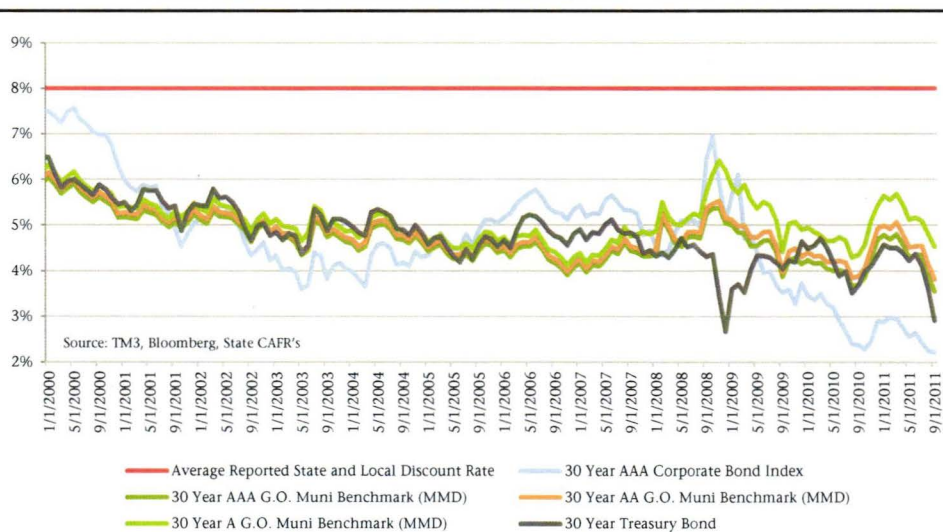
As discussed, lowering the projected investment rate of return inflates the present value of plan liabilities, thus lowering the funded ratio. While GASB is proposing that plans that are not fully funded use a combination of the historical rate of return and a lower rate pegged to a high-quality municipal index, the public has also suggested that the entire liability should be discounted using a lower rate. We, however, do not think using the risk free rate is necessary or appropriate to restore the health of public pensions.

To see what the net effect would be if a plan discounted their entire liability using a lower rate, we have conducted a basic sensitivity analysis. In

tables 7.1-7.6 in the appendix, the historical funded ratios for state and local plans are shown as they are displayed in the comprehensive annual financial reports. On the following pages, in tables 2.1-2.4, the most recent funded ratio for state and local plans is shown, assuming all other actuarial assumptions are constant, using a discount rate from 8% all the way down to 1%.

Using a discount rate of 6%, which is the average rate for private plans, only 45 state-level and seven local-level plans would be considered funded. Using a discount rate of 4%, which is closer to a 30-year high quality municipal index, only 16 state-level plans, and not even one local-level plan would be considered funded. While this is a very basic analysis, and makes no adjustment for any of the other actuarial assumptions, just a one-percent decrease in the rate of return assumption has a severe impact on the funded ratio.

YTM Rates of Different Asset 2000 - 2011 YTD



Additional Information Regarding Sensitivity Analysis

Our analysis uses the same methodology as Fitch used in their report entitled, "Enhancing the Analysis of U.S. State and Local Government Pension Obligations." (Issued February 17, 2011)

Excerpt from Fitch's report: "Based on a review of the literature and discussions with actuaries and pension experts, Fitch believes it is reasonable to adjust the actuarial accrued liability up by 11% for each 1% by which the plan's current investment return assumption exceeds the standardized return scenario being considered - 6%, 7%, and 8%. The 11% adjustment is in the middle of the range of the 10%-12% approximation that is most frequently cited as the impact of a 1% adjustment to the return."

Please see the report for additional information on the methodology.

Table 2.1 Funded Ratio Based on Liability at Adjusted Discount Rates (Alabama - Kentucky)

	Year	Actual Valuation	Investment Rate of Return	Funded Ratio/Using Actuarial Discount Rate	Discount Rates								
					8.00%	7.00%	6.00%	5.00%	4.00%	3.00%	2.00%	1.00%	
State Pension System													
Alabama Teachers' Retirement System	2010	8.00%	8.00%	75%	75%	67%	61%	56%	52%	48%	45%	42%	42%
Alabama Employee' Retirement System	2010	8.00%	8.00%	68%	68%	61%	56%	51%	47%	44%	41%	39%	39%
Alabama Judicial Retirement System	2010	8.00%	8.00%	69%	69%	62%	56%	52%	48%	44%	41%	39%	39%
Alaska Public Employees' Retirement System	2009	8.25%	8.25%	63%	61%	55%	51%	46%	43%	40%	37%	35%	35%
Alaska Teachers' Retirement System	2009	8.25%	8.25%	57%	55%	50%	46%	42%	39%	36%	34%	32%	32%
Alaska Judicial Retirement System	2008	8.25%	8.25%	94%	92%	83%	75%	69%	64%	60%	56%	52%	52%
Alaska National Guard & Naval Military Retirement System	2009	7.25%	7.25%	100%	109%	97%	88%	80%	73%	68%	63%	59%	59%
Alaska Elected Public Officers' Retirement System	2008	5.00%	5.00%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Arizona State Retirement System	2009	8.00%	8.00%	79%	79%	71%	65%	59%	55%	51%	48%	45%	45%
Arizona Public Safety Personnel Retirement System	2010	8.50%	8.50%	68%	64%	58%	53%	49%	45%	42%	39%	37%	37%
Arizona Correctional Officers Retirement System	2010	8.50%	8.50%	84%	79%	72%	66%	61%	56%	52%	49%	46%	46%
Arizona Elected Officials' Retirement Plan	2010	8.50%	8.50%	68%	65%	59%	53%	49%	46%	42%	40%	37%	37%
Arkansas Teachers' Retirement Fund	2010	8.00%	8.00%	74%	74%	66%	60%	55%	51%	48%	44%	42%	42%
Arkansas Public Employees' Retirement System	2010	8.00%	8.00%	74%	74%	67%	61%	56%	51%	48%	45%	42%	42%
Arkansas Highway Retirement System	2010	8.00%	8.00%	92%	92%	83%	75%	69%	64%	59%	55%	52%	52%
Arkansas State Police Retirement System	2010	8.00%	8.00%	63%	63%	57%	52%	48%	44%	41%	38%	36%	36%
Arkansas Judicial Retirement System	2010	7.50%	7.50%	90%	96%	86%	78%	71%	65%	60%	56%	53%	53%
Arkansas District Judge Retirement System	2010	8.00%	8.00%	42%	42%	38%	34%	32%	29%	27%	25%	24%	24%
California Public Employees' Retirement Fund	2009	7.75%	7.75%	83%	86%	77%	70%	64%	59%	55%	51%	48%	48%
California State Teachers' Retirement Fund	2009	8.00%	8.00%	78%	78%	70%	64%	59%	54%	50%	47%	44%	44%
California Judges Retirement Fund II	2009	7.25%	7.25%	84%	92%	82%	74%	67%	62%	57%	53%	50%	50%
California Legislators' Retirement Fund	2009	7.00%	7.00%	120%	134%	120%	108%	98%	90%	83%	77%	72%	72%
California Judges Retirement Fund	2009	4.50%	4.50%	1%	2%	2%	1%	1%	1%	1%	1%	1%	1%
Colorado School Retirement System	2010	8.00%	8.00%	65%	65%	58%	53%	49%	45%	42%	39%	37%	37%
Colorado State Public Employees' Retirement System	2010	8.00%	8.00%	63%	63%	57%	51%	47%	44%	41%	38%	35%	35%
Colorado Local Government Retirement System	2010	8.00%	8.00%	73%	73%	66%	60%	55%	51%	47%	44%	41%	41%
Colorado Fire & Police Retirement System	2010	8.00%	8.00%	101%	101%	91%	83%	76%	70%	65%	61%	57%	57%
Colorado Judicial Division Retirement System	2010	8.00%	8.00%	75%	75%	68%	61%	56%	52%	48%	45%	42%	42%
Connecticut State Employees' Retirement Fund	2010	8.50%	8.50%	44%	42%	38%	35%	32%	30%	28%	26%	24%	24%
Connecticut Teachers' Retirement Fund	2010	8.25%	8.25%	61%	60%	54%	49%	45%	42%	39%	36%	34%	34%
Connecticut Judicial Retirement Fund	2010	8.25%	8.25%	65%	63%	57%	52%	48%	44%	41%	38%	36%	36%
Delaware State Employees' Pension Plan	2010	8.00%	8.00%	96%	96%	86%	79%	72%	67%	62%	58%	54%	54%
Delaware Special Pension Plan	2010	8.00%	8.00%	137%	137%	124%	112%	103%	95%	89%	83%	78%	78%
Delaware New State Police Pension Plan	2010	8.00%	8.00%	94%	94%	85%	77%	71%	65%	61%	57%	53%	53%
Delaware Judiciary Pension Plan	2010	8.00%	8.00%	86%	86%	77%	70%	65%	60%	55%	52%	48%	48%
Delaware County & Municipal Police and Firefighters' Pension Plan	2010	8.00%	8.00%	96%	96%	86%	79%	72%	67%	62%	58%	54%	54%
Delaware County & Municipal Other Employees' Pension Plan	2010	8.00%	8.00%	89%	89%	80%	73%	67%	62%	57%	53%	50%	50%
Delaware Diamond State Port Corporation Pension Plan	2010	8.00%	8.00%	84%	84%	76%	69%	63%	58%	54%	51%	47%	47%
Delaware Closed State Police Pension Plan	2010	8.00%	8.00%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Delaware Volunteer Firemen's Pension Plan	2010	8.00%	8.00%	50%	50%	45%	41%	38%	35%	32%	30%	28%	28%
District Of Columbia Police & Firefighters' Retirement Fund	2009	7.00%	7.00%	101%	113%	101%	91%	83%	76%	70%	65%	61%	61%
District Of Columbia Teachers' Retirement Fund	2009	7.00%	7.00%	111%	124%	111%	100%	91%	83%	77%	71%	67%	67%
Florida Retirement System	2010	7.75%	7.75%	87%	89%	80%	73%	66%	61%	57%	53%	50%	50%
Georgia Teachers' Retirement System	2009	7.50%	7.50%	87%	92%	83%	75%	68%	63%	58%	54%	51%	51%
Georgia Employees' Retirement System	2009	7.50%	7.50%	86%	91%	81%	74%	67%	62%	57%	53%	50%	50%
Georgia Public School Employees' Retirement System	2009	7.50%	7.50%	94%	99%	89%	80%	73%	68%	63%	58%	55%	55%
Georgia Legislative Retirement System	2009	7.50%	7.50%	129%	136%	122%	111%	101%	93%	86%	80%	75%	75%
Georgia Judicial System's Retirement System	2009	7.50%	7.50%	112%	119%	107%	96%	88%	81%	75%	70%	66%	66%
Georgia Military Pension Fund	2009	7.50%	7.50%	31%	32%	29%	26%	24%	22%	20%	19%	18%	18%
Hawaii Employees' Retirement System	2008	8.00%	8.00%	69%	69%	62%	56%	52%	48%	44%	41%	39%	39%
Idaho Public Employees' Retirement Fund	2010	7.75%	7.75%	79%	81%	73%	66%	61%	56%	52%	48%	45%	45%
Idaho Firefighters' Retirement Fund	2009	7.75%	7.75%	69%	71%	64%	58%	53%	49%	46%	42%	40%	40%
Idaho Judicial Retirement Fund	2010	7.50%	7.50%	70%	74%	66%	60%	55%	51%	47%	44%	41%	41%
Illinois Teachers' Retirement System	2010	8.50%	8.50%	48%	46%	42%	38%	35%	32%	30%	28%	27%	27%
Illinois State University Retirement System	2010	8.50%	8.50%	46%	44%	40%	36%	34%	31%	29%	27%	25%	25%
Illinois State Employees' Retirement System	2010	8.50%	8.50%	37%	35%	32%	29%	27%	25%	23%	22%	20%	20%
Illinois Judges' Retirement System	2010	8.00%	8.00%	34%	34%	31%	28%	26%	24%	22%	21%	19%	19%
Illinois General Assembly Retirement System	2010	8.00%	8.00%	26%	26%	24%	22%	20%	18%	17%	16%	15%	15%
Indiana Public Employees' Retirement Fund	2009	7.25%	7.25%	93%	91%	82%	75%	69%	63%	59%	55%	52%	52%
Indiana Teachers' Retirement Fund	2009	7.50%	7.50%	42%	44%	40%	36%	33%	30%	28%	26%	24%	24%
Indiana 1977 Police Officers' & Firefighters' Pension & Disability Fund	2009	7.25%	7.25%	98%	107%	95%	86%	79%	72%	67%	62%	58%	58%
Indiana State Police Retirement Fund	2010	7.00%	7.00%	81%	91%	81%	73%	66%	61%	56%	52%	49%	49%
Indiana Judges' Retirement System	2009	7.25%	7.25%	73%	80%	71%	64%	59%	54%	50%	46%	43%	43%
Indiana Excise Police, Gaming & Conservation Officers' Retirement Plan	2009	7.25%	7.25%	76%	83%	74%	67%	61%	56%	52%	48%	45%	45%
Indiana Prosecuting Attorneys' Retirement Fund	2009	7.25%	7.25%	59%	64%	57%	52%	47%	43%	40%	37%	35%	35%
Indiana Legislators' Retirement System	2009	7.25%	7.25%	93%	101%	91%	82%	75%	69%	63%	59%	55%	55%
Iowa Public Employees' Retirement System	2010	7.50%	7.50%	81%	86%	77%	70%	64%	59%	54%	51%	47%	47%
Iowa Municipal Fire & Police Retirement System	2010	7.50%	7.50%	81%	86%	77%	70%	64%	59%	54%	51%	47%	47%
Iowa Peace Officers' Retirement, Accident and Disability System	2010	8.00%	8.00%	67%	67%	60%	55%	50%	47%	43%	40%	38%	38%
Iowa Judicial Retirement System	2010	7.50%	7.50%	64%	67%	60%	55%	50%	46%	43%	40%	37%	37%
Kansas Public Employees' Retirement System - State/School	2009	8.00%	8.00%	62%	62%	55%	50%	46%	43%	40%	37%	35%	35%
Kansas Public Employees' Retirement System - Local	2009	8.00%	8.00%	64%	64%	57%	52%	48%	44%	41%	38%	36%	36%
Kansas Police & Firemen's Retirement System	2009	8.00%	8.00%	76%	76%	69%	62%	57%	53%	49%	46%	43%	43%
Kansas Retirement System For Judges	2009	8.00%	8.00%	82%	82%	74%	67%	62%	57%	53%	50%	46%	46%
Kentucky Teachers' Retirement System - Retirement Funds	2010	7.50%	7.50%	61%	65%	58%	52%	48%	44%	41%	38%	36%	36%
Kentucky County Employees' Non-Hazardous - Pension	2010	7.75%	7.75%	66%	67%	61%	55%	50%	46%	43%	40%	38%	38%
Kentucky State Employees' Non-Hazardous - Pension	2010	7.75%	7.75%	38%	39%	35%	32%	29%	27%	25%	23%	22%	22%
Kentucky County Employees' Hazardous - Pension	2010	7.75%	7.75%	66%	67%	61%	55%	50%	46%	43%	40%	38%	38%
Kentucky State Employees' Hazardous Retirement Plan - Pension	2010	7.75%	7.75%	73%	75%	68%	61%	56%	52%	48%	45%	42%	42%
Kentucky State Police Retirement Plan - Retirement Funds	2010	7.75%	7.75%	50%	51%	46%	42%	38%	35%	33%	30%	29%	29%
Kentucky Judicial Retirement Plan - Retirement Funds	2010	7.00%	7.00%	66%	74%	66%	59%	54%	49%	46%	42%	40%	40%
Kentucky Legislators' Retirement System - Retirement Funds	2010	7.00%	7.00%	64%	72%	64%	58%	53%	48%	45%	41%	39%	39%

Table 2.2 Funded Ratio Based on Liability at Adjusted Discount Rates (Louisiana - North Dakota)

	Actuarial Valuation	Investment Rate of Return	Funded Ratio/Using Actuarial Discount Rate									
			8.00%	7.00%	6.00%	5.00%	4.00%	3.00%	2.00%	1.00%		
State Pension System												
Louisiana Teachers' Retirement System	2010	8.25%	54%	53%	48%	44%	40%	37%	34%	32%	30%	30%
Louisiana State Employees' Retirement System	2010	8.25%	58%	56%	51%	46%	43%	39%	37%	34%	32%	32%
Louisiana School Employees' Retirement System	2010	7.50%	61%	65%	58%	52%	48%	44%	41%	38%	36%	36%
Louisiana State Police Retirement System	2010	7.50%	56%	59%	53%	48%	44%	40%	37%	35%	32%	32%
Maine State Employees' and Teachers' Pension Plan	2010	7.75%	66%	68%	61%	55%	51%	47%	43%	40%	38%	38%
Maryland Teachers' Retirement System	2010	7.75%	65%	67%	60%	55%	50%	46%	43%	40%	38%	38%
Maryland State Employees' Retirement System	2010	7.75%	60%	61%	55%	50%	46%	42%	39%	37%	34%	34%
Maryland State Police Retirement System	2010	7.75%	63%	65%	58%	53%	48%	45%	41%	39%	36%	36%
Maryland Judges' Retirement System	2010	7.75%	65%	67%	60%	54%	50%	46%	43%	40%	37%	37%
Maryland State Law Enforcement Officers' Pension System	2010	7.75%	51%	53%	48%	43%	39%	36%	34%	31%	30%	30%
Maryland Transit Administration Pension Plan	2009	7.50%	38%	40%	36%	33%	30%	28%	26%	24%	22%	22%
Massachusetts Teachers' Retirement System	2010	8.25%	63%	61%	55%	51%	46%	43%	40%	37%	35%	35%
Massachusetts State Employees' Retirement System	2010	8.25%	77%	74%	67%	61%	56%	52%	48%	45%	43%	43%
Michigan Public School Employees' Retirement System - Pension	2009	8.00%	79%	79%	71%	65%	59%	55%	51%	48%	45%	45%
Michigan State Employees' Retirement System	2009	8.00%	78%	78%	70%	64%	59%	54%	50%	47%	44%	44%
Michigan Municipal Employees' Retirement System	2009	8.00%	92%	92%	83%	76%	70%	64%	60%	56%	52%	52%
Michigan State Police Retirement System	2009	8.00%	81%	81%	73%	66%	61%	56%	52%	49%	46%	46%
Michigan Judges' Retirement System - Pension	2010	8.00%	113%	113%	102%	93%	85%	78%	73%	68%	64%	64%
Michigan Legislative Retirement System	2010	7.00%	92%	103%	92%	83%	75%	69%	64%	59%	55%	55%
Michigan Military Retirement Plan	2009	8.00%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Minnesota Teachers' Retirement Association Plan	2010	8.50%	78%	74%	67%	62%	57%	52%	49%	46%	43%	43%
Minnesota Public Employees' Retirement Fund	2010	8.50%	76%	72%	66%	60%	55%	51%	48%	45%	42%	42%
Minnesota State Employees' Retirement Fund	2010	8.50%	87%	83%	75%	68%	63%	58%	54%	51%	48%	48%
Minnesota Public Employees' Police & Fire Fund	2010	8.50%	87%	82%	75%	68%	63%	58%	54%	51%	48%	48%
Minnesota Correctional Employees' Retirement Fund	2010	8.50%	71%	67%	61%	56%	51%	47%	44%	41%	39%	39%
Minnesota State Patrol Retirement Fund	2010	8.50%	83%	79%	71%	65%	60%	56%	52%	48%	45%	45%
Minnesota Public Employees' Correctional Fund	2010	8.50%	97%	92%	83%	76%	70%	65%	61%	57%	53%	53%
Minnesota Judges' Retirement Fund	2010	8.50%	60%	57%	52%	47%	43%	40%	37%	35%	33%	33%
Minnesota Legislators' Retirement Fund	2010	8.50%	31%	29%	27%	24%	22%	21%	19%	18%	17%	17%
Minnesota Elective State Officers' Retirement Fund	2010	8.50%	6%	5%	5%	4%	4%	4%	4%	3%	3%	3%
Mississippi Public Employees' Retirement System	2010	8.00%	64%	64%	58%	53%	48%	45%	41%	39%	36%	36%
Mississippi Highway Safety Patrol Retirement System	2010	8.00%	68%	68%	62%	56%	51%	47%	44%	41%	39%	39%
Mississippi Municipal Retirement System	2009	8.00%	50%	50%	45%	41%	38%	35%	32%	30%	28%	28%
Mississippi Supplemental Legislative Retirement Plan	2010	8.00%	78%	78%	70%	64%	58%	54%	50%	47%	44%	44%
Missouri Public School Retirement System	2010	8.00%	78%	78%	70%	64%	58%	54%	50%	47%	44%	44%
Missouri State Employees' Pension Plan	2010	8.50%	80%	76%	69%	63%	58%	54%	50%	47%	44%	44%
Missouri Local Government Employees' Retirement System	2010	7.50%	81%	86%	77%	70%	64%	58%	54%	50%	47%	47%
Missouri Public Education Employee Retirement System	2010	8.00%	79%	79%	71%	65%	59%	55%	51%	48%	45%	45%
Missouri Dep. of Transportation and Highway Patrol Employees' Retirement System	2010	8.25%	42%	41%	37%	34%	31%	29%	27%	25%	23%	23%
Missouri Judges' Pension Plan	2010	8.50%	23%	22%	20%	18%	17%	16%	15%	14%	13%	13%
Montana Public Employees' Retirement System - Defined Benefit Retirement Plan	2010	7.75%	74%	76%	69%	62%	57%	53%	49%	45%	43%	43%
Montana Teachers' Retirement System	2010	7.75%	65%	67%	60%	55%	50%	46%	43%	40%	38%	38%
Montana Municipal Police Officers' Retirement System	2010	7.75%	57%	59%	53%	48%	44%	40%	38%	35%	33%	33%
Montana Firefighters' Unified Retirement System	2010	7.75%	64%	66%	59%	53%	49%	45%	42%	39%	37%	37%
Montana Sheriffs' Retirement System	2010	7.75%	81%	84%	75%	68%	62%	58%	53%	50%	47%	47%
Montana Highway Patrol Officers' Retirement System	2010	7.75%	64%	66%	59%	54%	49%	46%	42%	39%	37%	37%
Montana Game Wardens' & Peace Officers' Retirement System	2010	7.75%	75%	77%	69%	63%	57%	53%	49%	46%	43%	43%
Montana Judges' Retirement System	2010	7.75%	144%	148%	133%	121%	111%	102%	95%	88%	83%	83%
Montana Volunteer Firefighters' Compensation Act	2010	7.75%	77%	79%	71%	65%	59%	55%	51%	47%	44%	44%
Nebraska School Employees' Retirement System	2009	8.00%	82%	82%	74%	68%	62%	57%	53%	50%	47%	47%
Nebraska State Employees' Retirement Benefit Fund	2010	7.75%	94%	97%	87%	79%	72%	66%	62%	58%	54%	54%
Nebraska State Patrol Retirement System	2010	8.00%	85%	85%	76%	70%	64%	59%	55%	51%	48%	48%
Nebraska Judges' Retirement System	2010	8.00%	100%	100%	90%	82%	75%	70%	65%	60%	57%	57%
Nevada Public Employees' Retirement System	2010	8.00%	71%	71%	64%	58%	53%	49%	45%	42%	40%	40%
Nevada Judicial Retirement System	2010	8.00%	74%	74%	67%	61%	56%	51%	48%	45%	42%	42%
Nevada Legislators' Retirement System	2010	8.00%	59%	59%	53%	48%	44%	41%	38%	36%	33%	33%
New Hampshire Retirement System - Pension Plan	2010	8.50%	59%	55%	50%	46%	42%	39%	36%	34%	32%	32%
New Hampshire Judicial Retirement Plan	2008	8.00%	92%	92%	83%	75%	69%	64%	59%	55%	52%	52%
New Jersey Teachers' Pension & Annuity Fund	2009	8.25%	64%	62%	56%	51%	47%	43%	40%	38%	35%	35%
New Jersey Public Employees' Retirement System - State	2009	8.25%	56%	55%	50%	45%	42%	38%	36%	33%	31%	31%
New Jersey Police & Firemen's Retirement System - State	2009	8.25%	57%	55%	50%	45%	42%	39%	36%	33%	31%	31%
New Jersey State Police Retirement System	2009	8.25%	73%	71%	64%	59%	54%	50%	46%	43%	41%	41%
New Jersey Judicial Retirement System	2009	8.25%	60%	58%	52%	48%	44%	41%	38%	35%	33%	33%
New Jersey Consolidated Police & Firemen's Pension Fund	2009	2.00%	96%	284%	214%	172%	144%	124%	108%	96%	87%	87%
New Jersey Prison Officers' Pension Fund	2009	5.00%	195%	291%	250%	219%	195%	176%	160%	147%	136%	136%
New Mexico Public Employees' Retirement System	2010	8.00%	79%	79%	71%	64%	59%	55%	51%	47%	44%	44%
New Mexico Educational Employees' Retirement System	2010	8.00%	66%	66%	59%	54%	49%	46%	42%	40%	37%	37%
New Mexico Judicial Retirement System	2010	8.00%	61%	61%	55%	50%	46%	43%	39%	37%	35%	35%
New Mexico Volunteer Firefighters' Retirement System	2010	8.00%	231%	231%	208%	190%	174%	161%	149%	139%	131%	131%
New Mexico Magistrate Retirement System	2010	8.00%	66%	66%	59%	54%	49%	46%	42%	40%	37%	37%
New York State & Local Employees' Retirement System	2009	8.00%	101%	101%	91%	83%	76%	70%	65%	61%	57%	57%
New York Teachers' Retirement System	2009	8.00%	103%	103%	93%	85%	78%	72%	67%	62%	58%	58%
New York Police & Fire Retirement System	2009	8.00%	104%	104%	94%	85%	78%	72%	67%	63%	59%	59%
North Carolina Teachers' & State Employees' Retirement System	2009	7.25%	96%	105%	93%	84%	77%	71%	65%	61%	57%	57%
North Carolina Local Governmental Employees' Retirement System	2009	7.25%	99%	108%	97%	87%	80%	73%	68%	63%	59%	59%
North Carolina Consolidated Judicial Retirement System	2009	7.25%	93%	101%	90%	81%	74%	68%	63%	59%	55%	55%
North Carolina Firemen's & Rescue Squad Retirement System	2009	7.25%	90%	98%	87%	79%	72%	66%	61%	57%	53%	53%
North Carolina National Guard Retirement System	2009	7.25%	67%	73%	65%	59%	54%	49%	46%	42%	40%	40%
North Carolina Registers of Deeds' Retirement System	2009	5.75%	178%	237%	207%	183%	165%	149%	137%	126%	117%	117%
North Carolina Legislative Retirement System	2009	7.25%	127%	138%	123%	111%	102%	93%	86%	80%	75%	75%
North Dakota Teachers' Fund for Retirement	2010	8.00%	70%	70%	63%	57%	52%	48%	45%	42%	39%	39%
North Dakota Public Employees' Retirement System	2010	8.00%	73%	73%	66%	60%	55%	51%	47%	44%	41%	41%
Job Service North Dakota	2010	7.50%	105%	111%	99%	90%	82%	76%	70%	65%	61%	61%
North Dakota Highway Patrolmen's Retirement System	2010	8.00%	80%	80%	72%	65%	60%	55%	51%	48%	45%	45%

Table 2.3 Funded Ratio Based on Liability at Adjusted Discount Rates (Ohio - Wyoming)

	Actuarial Valuation	Investment Rate of Return	Funded Ratio/Using Actuarial Discount Rate	8.00%	7.00%	6.00%	5.00%	4.00%	3.00%	2.00%	1.00%
State Pension System											
Ohio State Teachers' Retirement System	2010	8.00%	59%	59%	53%	48%	44%	41%	38%	36%	33%
Ohio Public Employees' Retirement System	2009	8.00%	75%	75%	68%	61%	56%	52%	48%	45%	42%
Ohio Police & Fire Pension Fund	2009	8.25%	72%	70%	63%	58%	53%	49%	46%	43%	40%
Ohio School Employees' Retirement System	2010	8.00%	73%	73%	65%	60%	55%	50%	47%	44%	41%
Ohio State Highway Patrol Retirement System	2009	8.00%	66%	66%	59%	54%	50%	46%	43%	40%	37%
Oklahoma Teachers' Retirement System	2010	8.00%	48%	48%	43%	39%	36%	33%	31%	29%	27%
Oklahoma Public Employees' Retirement System	2010	7.50%	66%	70%	63%	57%	52%	48%	44%	41%	38%
Oklahoma Police Pension & Retirement System	2010	7.50%	75%	79%	71%	64%	59%	54%	50%	47%	44%
Oklahoma Firefighters' Pension & Retirement System	2010	7.50%	53%	57%	51%	46%	42%	39%	36%	33%	31%
Oklahoma Law Enforcement Retirement System	2010	7.50%	74%	78%	70%	63%	58%	53%	49%	46%	43%
Oklahoma Uniform Retirement System for Justices & Judges	2010	7.50%	81%	86%	77%	70%	64%	59%	54%	51%	47%
Oklahoma Wildlife Conservation Retirement Plan	2010	7.50%	82%	86%	77%	70%	64%	59%	55%	51%	48%
Oregon Public Employees' Retirement System	2009	8.00%	86%	86%	77%	70%	65%	60%	55%	52%	48%
Pennsylvania Public School Employees' Retirement System	2009	8.00%	79%	79%	71%	65%	60%	55%	51%	48%	45%
Pennsylvania State Employees' Retirement System	2010	8.00%	75%	75%	68%	62%	57%	52%	49%	45%	42%
Pennsylvania Municipal Retirement System	2010	6.00%	104%	133%	117%	104%	94%	85%	78%	72%	67%
Rhode Island Employees' Retirement System: Teachers	2009	8.25%	58%	57%	51%	47%	43%	40%	37%	34%	32%
Rhode Island Employees' Retirement System: State Employees	2009	8.25%	59%	57%	52%	47%	43%	40%	37%	35%	33%
Rhode Island Municipal Employees' Retirement System	2009	8.25%	88%	86%	78%	71%	65%	60%	56%	52%	49%
Rhode Island State Police Retirement Benefits Trust	2009	8.25%	80%	78%	70%	64%	59%	54%	51%	47%	44%
Judicial Retirement Benefits Trust	2009	8.25%	88%	86%	78%	71%	65%	60%	56%	52%	49%
South Carolina Retirement System	2009	8.00%	68%	68%	61%	56%	51%	47%	44%	41%	38%
South Carolina Police Officers' Retirement System	2009	8.00%	76%	76%	69%	63%	57%	53%	49%	46%	43%
South Carolina Judges & Solicitors Retirement System	2009	8.00%	66%	66%	60%	54%	50%	46%	43%	40%	37%
South Carolina General Assembly Retirement System	2009	8.00%	67%	67%	60%	55%	50%	47%	43%	40%	38%
South Carolina National Guard Retirement System	2009	8.00%	35%	35%	31%	29%	26%	24%	22%	21%	20%
South Dakota Retirement System	2010	7.75%	96%	99%	89%	81%	74%	68%	63%	59%	55%
Tennessee State Employees, Teachers, and Higher Education Employees' Pension Plan	2009	7.50%	91%	96%	86%	78%	71%	65%	61%	56%	53%
Tennessee Political Subdivision Defined Benefits Plan	2009	7.50%	86%	91%	82%	74%	68%	62%	58%	54%	50%
Texas Teachers' Retirement System	2010	8.00%	83%	83%	75%	68%	62%	58%	53%	50%	47%
Texas Employees' Retirement System	2010	8.00%	85%	85%	77%	70%	64%	59%	55%	51%	48%
Texas County & District Retirement System Pension Trust Fund	2010	8.00%	89%	89%	81%	73%	67%	62%	58%	54%	51%
Texas Municipal Retirement System	2010	7.00%	78%	88%	78%	71%	64%	59%	54%	51%	47%
Texas Law Enforcement & Custodial Officer Supplemental Retirement	2010	8.00%	86%	86%	78%	71%	65%	60%	56%	52%	49%
Texas Judicial Retirement System Plan Two	2010	8.00%	94%	94%	85%	77%	71%	65%	61%	57%	53%
Texas Emergency Services Retirement System	2010	7.75%	80%	82%	74%	67%	62%	57%	53%	49%	46%
Texas Judicial Retirement System Plan One	2010	8.00%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Utah Noncontributory Retirement System	2010	7.75%	82%	85%	76%	69%	63%	58%	54%	50%	47%
Utah Public Safety Retirement System	2010	7.75%	77%	79%	71%	65%	59%	55%	51%	47%	44%
Utah Contributory Retirement System	2010	7.75%	86%	89%	80%	72%	66%	61%	57%	53%	49%
Utah Firefighters' Retirement System	2010	7.75%	92%	94%	85%	77%	70%	65%	60%	56%	53%
Utah Judges' Retirement System	2010	7.75%	79%	82%	73%	66%	61%	56%	52%	49%	46%
Utah Governors' & Legislators' Retirement System	2010	7.75%	90%	92%	83%	75%	69%	64%	59%	55%	52%
Vermont State Teachers' Retirement System	2010	8.25%	67%	65%	58%	53%	49%	45%	42%	39%	37%
Vermont State Retirement System	2010	8.25%	81%	79%	71%	65%	60%	55%	51%	48%	45%
Vermont Municipal Employees' Retirement System	2010	8.00%	92%	92%	83%	75%	69%	64%	59%	55%	52%
Virginia Retirement System	2009	7.50%	80%	85%	76%	69%	63%	58%	54%	50%	47%
Virginia Law Officers' Retirement System	2009	7.50%	65%	68%	61%	56%	51%	47%	43%	40%	38%
Virginia State Police Officers' Retirement System	2009	7.50%	74%	78%	70%	63%	58%	53%	49%	46%	43%
Virginia Judicial Retirement System	2009	7.50%	73%	77%	69%	62%	57%	52%	48%	45%	42%
Washington Public Employees' Retirement System Plan 2/3	2009	8.00%	99%	99%	89%	81%	74%	69%	64%	60%	56%
Washington Public Employees' Retirement System Plan 1	2009	8.00%	70%	70%	63%	57%	53%	49%	45%	42%	40%
Washington Teachers' Retirement System Plan 1	2009	8.00%	75%	75%	68%	61%	56%	52%	48%	45%	42%
Washington Teachers' Retirement System Plan 2/3	2009	8.00%	102%	102%	92%	84%	77%	71%	66%	61%	58%
Washington Law Enforcement & Firefighters' Retirement System Plan 1	2009	8.00%	125%	125%	113%	102%	94%	87%	81%	75%	71%
Washington Law Enforcement & Firefighters' Retirement System Plan 2	2009	8.00%	120%	120%	108%	98%	90%	83%	77%	72%	68%
Washington School Employees Retirement System Plan 2/3	2009	8.00%	100%	100%	90%	82%	75%	69%	65%	60%	56%
Washington State Patrol Retirement System Plan 1/2	2009	8.00%	114%	114%	103%	93%	86%	79%	74%	69%	64%
Washington Volunteer Fire Fighters' and Reserve Officers' Relief and Pension Fund	2009	7.00%	102%	115%	102%	92%	84%	77%	71%	66%	61%
Washington Public Safety Employees Retirement System Plan 2	2009	8.00%	108%	108%	97%	89%	81%	75%	70%	65%	61%
Washington Judges' Retirement System	2009	8.00%	97%	97%	87%	80%	73%	67%	63%	58%	55%
Washington Judicial Retirement System	2009	8.00%	2%	2%	2%	2%	2%	1%	1%	1%	1%
West Virginia Public Employees' Retirement System	2009	7.50%	80%	84%	76%	68%	63%	58%	53%	50%	46%
West Virginia Teachers' Retirement System	2009	7.50%	41%	44%	39%	35%	32%	30%	28%	26%	24%
West Virginia Public Safety Death, Disability, & Retirement Fund	2009	7.50%	63%	67%	60%	54%	50%	46%	42%	39%	37%
West Virginia Judges' Retirement System	2009	7.50%	95%	100%	90%	81%	74%	68%	63%	59%	55%
West Virginia Deputy Sheriff Retirement System	2009	7.50%	61%	64%	57%	52%	47%	44%	40%	38%	35%
West Virginia State Police Retirement System	2009	7.50%	65%	69%	62%	56%	51%	47%	44%	41%	38%
West Virginia Emergency Medical Services Retirement System	2009	7.50%	64%	67%	60%	55%	50%	46%	43%	40%	37%
Wisconsin Retirement System	2010	7.20%	100%	109%	98%	88%	80%	74%	68%	63%	59%
Wyoming Public Employees Pension Plan	2010	8.00%	85%	85%	76%	69%	64%	59%	55%	51%	48%
Wyoming Law Enforcement Retirement Plan	2010	8.00%	100%	100%	90%	82%	75%	69%	64%	60%	56%
Wyoming Paid Firemen's Pension Plan A	2010	8.00%	86%	86%	77%	70%	64%	59%	55%	52%	48%
Wyoming State Patrol, Game and Fish Warden and Criminal Investigator Pension Plan	2010	8.00%	84%	84%	76%	69%	63%	58%	54%	51%	48%
Wyoming Paid Firemen's Pension Plan B	2010	8.00%	116%	116%	104%	95%	87%	80%	75%	70%	65%
Wyoming Volunteer Fireman's Pension Plan	2010	8.00%	105%	105%	94%	86%	79%	73%	67%	63%	59%
Wyoming Judicial Pension Plan	2010	8.00%	109%	109%	98%	89%	82%	75%	70%	65%	61%
Air Guard Firefighter Pension Plan	2010	8.00%	77%	77%	70%	63%	58%	54%	50%	47%	44%
Wyoming Volunteer EMT Pension Plan	2010	8.00%	118%	118%	106%	97%	89%	82%	76%	71%	67%

Table 2.4 Funded Ratio Based on Liability at Adjusted Discount Rates (Austin - San Jose)

City	Local Pension System	Actuarial Valuation	Investment Rate of Return	Funded Ratio/Using Actuarial Discount								
				Rate	8.00%	7.00%	6.00%	5.00%	4.00%	3.00%	2.00%	1.00%
Austin	City Employees	2009	7.75%	72%	74%	66%	60%	55%	51%	47%	44%	41%
Austin	Police Officers	2009	8.00%	71%	71%	64%	58%	53%	49%	46%	43%	40%
Austin	Fire Fighters	2009	7.75%	89%	91%	82%	74%	68%	63%	58%	54%	51%
Baltimore	Fire and Police Employees' Retirement System	2010	8.00%	83%	83%	75%	68%	63%	58%	54%	50%	47%
Baltimore	Employees' Retirement System	2010	8.00%	76%	76%	69%	63%	57%	53%	49%	46%	43%
Baltimore	Elected Officials' Retirement System	2010	7.50%	84%	89%	79%	72%	66%	61%	56%	52%	49%
Baltimore	Baltimore County Employees Retirement System	2009	7.88%	83%	84%	75%	68%	63%	58%	54%	50%	47%
Charlotte	Firefighters' Retirement System	2010	7.75%	90%	93%	84%	76%	69%	64%	59%	55%	52%
Charlotte	Law Enforcement Officers System	2010	5.00%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Chicago	Municipal Employees' Pension Fund	2010	8.00%	51%	51%	46%	42%	38%	35%	33%	31%	29%
Chicago	Laborer's Pension Fund	2010	8.00%	75%	75%	68%	61%	56%	52%	48%	45%	42%
Chicago	Policemen's Pension Fund	2010	8.00%	40%	40%	36%	33%	30%	28%	26%	24%	23%
Chicago	Firemen's Pension Fund	2010	8.00%	33%	33%	30%	27%	25%	23%	21%	20%	19%
Chicago	Cook County Employee Annuity Benefit Fund Forest Preserve District	2010	7.50%	73%	77%	69%	62%	57%	53%	49%	45%	42%
Chicago	Cook County Employees Annuity Benefit Fund	2010	7.50%	66%	70%	63%	57%	52%	48%	44%	41%	39%
Chicago	Chicago Public School Teachers Pension and Retirement Fund	2009	8.00%	73%	73%	66%	60%	55%	51%	47%	44%	41%
Chicago	Chicago Transit Authority Employees Retirement Plan	2010	8.75%	75%	69%	63%	57%	53%	49%	46%	43%	40%
Chicago	The Metropolitan Water Reclamation District Retirement Fund	2010	7.75%	57%	58%	52%	47%	43%	40%	37%	35%	32%
Chicago	Park Employees Retirement Board Employees Annuity Benefit Fund	2010	8.00%	62%	62%	56%	51%	47%	43%	40%	38%	35%
Dallas	Employees' Retirement Fund	2009	8.25%	95%	92%	83%	76%	70%	65%	60%	56%	53%
Dallas	Police and Fire Pension System	2009	8.50%	82%	78%	70%	64%	59%	55%	51%	48%	45%
Dallas	Supplemental Police and Fire Pension Plan	2009	8.50%	62%	59%	53%	49%	45%	41%	39%	36%	34%
Dallas	Dallas County Hospital District Benefit and Disability Plan	2010	9.00%	87%	78%	71%	65%	60%	56%	52%	49%	46%
Dallas	Dallas Area Rapid Transit Retirement Plan A	2009	8.00%	82%	82%	74%	67%	61%	57%	53%	49%	46%
Detroit	General Retirement System	2009	7.90%	93%	94%	84%	77%	70%	65%	60%	56%	53%
Detroit	Police and Fire Retirement System	2009	7.50%	94%	99%	89%	80%	73%	68%	63%	58%	55%
Detroit	Wayne County Employees Retirement System	2010	8.00%	60%	60%	54%	49%	45%	42%	39%	36%	34%
El Paso	City Employee Pension Fund	2010	8.00%	80%	80%	72%	66%	60%	56%	52%	48%	45%
El Paso	Fireman Division Pension Fund	2008	8.00%	74%	74%	66%	60%	55%	51%	47%	44%	42%
El Paso	Policeman Division Pension Fund	2008	8.00%	84%	84%	76%	69%	63%	58%	54%	51%	47%
Fort Worth	Employees' Retirement Fund	2010	8.50%	81%	77%	70%	64%	59%	54%	51%	47%	44%
Houston	Firefighters' Pension	2009	8.50%	95%	90%	82%	75%	69%	64%	59%	55%	52%
Houston	Municipal Employees' Pension	2009	8.50%	66%	63%	57%	52%	48%	44%	41%	38%	36%
Houston	Police Officers' Pension	2009	8.50%	79%	75%	68%	62%	57%	53%	49%	46%	43%
Indianapolis	Police City	2010	6.00%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Indianapolis	Firefighters City	2010	6.00%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Indianapolis	City Employees PERF	2010	7.00%	75%	84%	75%	68%	61%	56%	52%	48%	45%
New York City	Employees' Retirement System	2008	8.00%	100%	100%	90%	82%	75%	69%	65%	60%	56%
New York City	Teachers Retirement system Qualified Pension Plan	2008	8.00%	100%	100%	90%	82%	75%	69%	65%	60%	56%
New York City	Board of Education Retirement System-Qualified Pension Plan	2008	8.00%	100%	100%	90%	82%	75%	69%	65%	60%	56%
New York City	Police Pension Fund	2008	8.00%	100%	100%	90%	82%	75%	69%	65%	60%	56%
New York City	Fire Department Pension Fund	2008	8.00%	99%	99%	90%	81%	75%	69%	64%	60%	56%
Los Angeles	Fire and Police Pension System	2010	7.75%	92%	94%	85%	77%	70%	65%	60%	56%	53%
Los Angeles	Employees' Retirement System	2010	8.00%	76%	76%	68%	62%	57%	53%	49%	46%	43%
Los Angeles	Water and Power Employees' Retirement	2010	7.75%	81%	83%	75%	68%	62%	57%	53%	50%	46%
Los Angeles	Los Angeles County Employees Retirement Association	2009	7.75%	89%	91%	82%	75%	68%	63%	58%	54%	51%
Los Angeles	Los Angeles County Metropolitan Transit Authority UTU	2009	8.00%	71%	71%	64%	58%	53%	49%	46%	43%	40%
Los Angeles	Los Angeles County Metropolitan Transit Authority TCU	2009	8.00%	69%	69%	62%	56%	52%	48%	44%	41%	39%
Los Angeles	Los Angeles County Metropolitan Transit Authority ATU	2009	8.00%	72%	72%	64%	59%	54%	50%	46%	43%	40%
Los Angeles	Los Angeles County Metropolitan Transit Authority Non-Contract	2009	8.00%	87%	87%	78%	71%	65%	60%	56%	52%	49%
Los Angeles	Los Angeles County Metropolitan Transit Authority AFSCME	2009	8.00%	88%	88%	79%	72%	66%	61%	57%	53%	50%
Memphis	City Retirement System	2009	7.50%	80%	84%	76%	68%	63%	58%	53%	50%	47%
Memphis	Library Retirement System	2009	7.50%	82%	87%	78%	70%	64%	59%	55%	51%	48%
Memphis	MLGW Retirement System	2009	8.00%	97%	97%	87%	79%	73%	67%	62%	58%	55%
Memphis	Shelby County Employees Retirement System	2010	8.25%	97%	95%	85%	78%	72%	66%	62%	58%	54%
Philadelphia	City Plan	2008	8.75%	55%	51%	46%	42%	39%	36%	34%	32%	30%
Philadelphia	Gas Works Plan	2007	8.25%	86%	84%	76%	69%	64%	59%	55%	51%	48%
Philadelphia	Redevelopment Authority Plan	2009	7.75%	69%	71%	64%	58%	53%	49%	46%	42%	40%
Phoenix	General City Employees	2010	8.00%	69%	69%	62%	57%	52%	48%	45%	42%	39%
Phoenix	Police Pension Fund	2009	8.50%	69%	66%	59%	54%	50%	46%	43%	40%	38%
Phoenix	Fire Pension Fund	2009	8.50%	72%	68%	62%	56%	52%	48%	45%	42%	39%
San Antonio	Fire and Police Pension Plan	2009	7.50%	92%	97%	87%	79%	72%	66%	61%	57%	53%
San Antonio	Municipal Retirement System	2009	7.50%	73%	78%	69%	63%	57%	53%	49%	46%	43%
San Antonio	CPS Energy	2009	7.50%	97%	103%	92%	83%	76%	70%	65%	61%	57%
San Diego	City Pension Plan	2009	7.75%	67%	68%	61%	56%	51%	47%	44%	41%	38%
San Diego	Unified Port District	2009	7.75%	78%	80%	72%	65%	60%	55%	51%	47%	44%
San Diego	County Regional Airport Authority	2009	7.75%	87%	89%	80%	73%	67%	62%	57%	53%	50%
San Diego	San Diego County Employees Retirement System	2010	8.00%	84%	84%	76%	69%	63%	59%	54%	51%	48%
San Francisco	Employees' Retirement System	2010	7.75%	91%	94%	84%	76%	70%	64%	60%	56%	52%
San Jose	Federated City Employees'	2009	8.00%	87%	87%	78%	71%	65%	60%	56%	52%	49%
San Jose	Retirement System	2009	7.75%	71%	73%	65%	59%	54%	50%	46%	43%	41%
San Jose	Santa Clara County Transit District Amalgamated Transit Union Pension Plan	2008	7.75%	88%	91%	81%	74%	68%	62%	58%	54%	51%

Local

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Annual Required Contribution

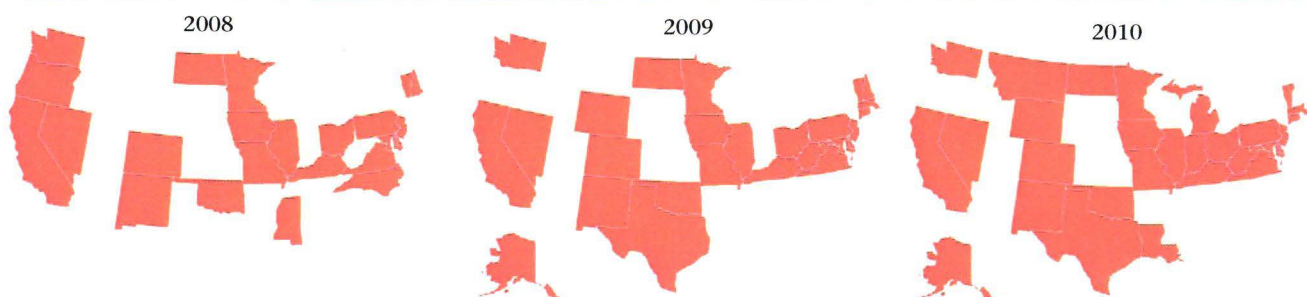
The annual required contribution (ARC) is the amount the employer would be required to contribute for the year to pay off the liability in full over the prescribed amortization period. The ARC is composed of two parts: what's referred to as the normal or service cost, and the amortized unfunded actuarial accrued liability (UAAL). The normal cost is the portion of the present value of future benefits and associated administrative expenses attributed to the current year of service. The normal cost is calculated using one of the six cost methods. The amortized unfunded actuarial accrued liability is the amount needed to amortize any existing unfunded accrued liability over a period of not more than 30 years. State and local governments are not legally required to contribute the prescribed annual required contribution for their pension plans. Therefore, the ARC is used merely as a comparative indicator of assessing how well the employer is actually funding their pension plan. When state and local governments experience budgetary distress, they may choose to forgo their entire annual required contribution. Intuitively, when a state or local government forgoes or pays less than 100% of the ARC, the UAAL becomes even larger, and higher contribution rates will be necessary to cover the shortfall in the future. If state and local governments are unable to meet the current contribution rates, higher contribution rates in the future will lead to prolonged budgetary pressure.

As shown in the maps below, 23 states did not meet annual required contribution levels for fiscal year 2008, 26 states did not meet their ARC for fiscal year 2009, and 30 states did not meet their ARC for fiscal year 2010. Alaska, California, Colorado, Delaware, Illinois, Iowa, Kentucky, Maryland, Minnesota, Missouri, Nevada, New Jersey, New Mexico, North Dakota, Ohio, Oklahoma, Pennsylvania, Vermont, Virginia, and Washington did not

meet their contribution levels for all plans in 2008, 2009, or 2010. The states that face the most severe budgetary issues are those that did not fully contribute to the state's pension plans. As shown in the map on the following page, we note extremely low levels of contributions for fiscal year 2010 in red states such as New Jersey, where only 27% of the prescribed annual required contribution was actually contributed, and Pennsylvania, where only 10% of the ARC was contributed. Both these state's contributions have decreased for three consecutive years.

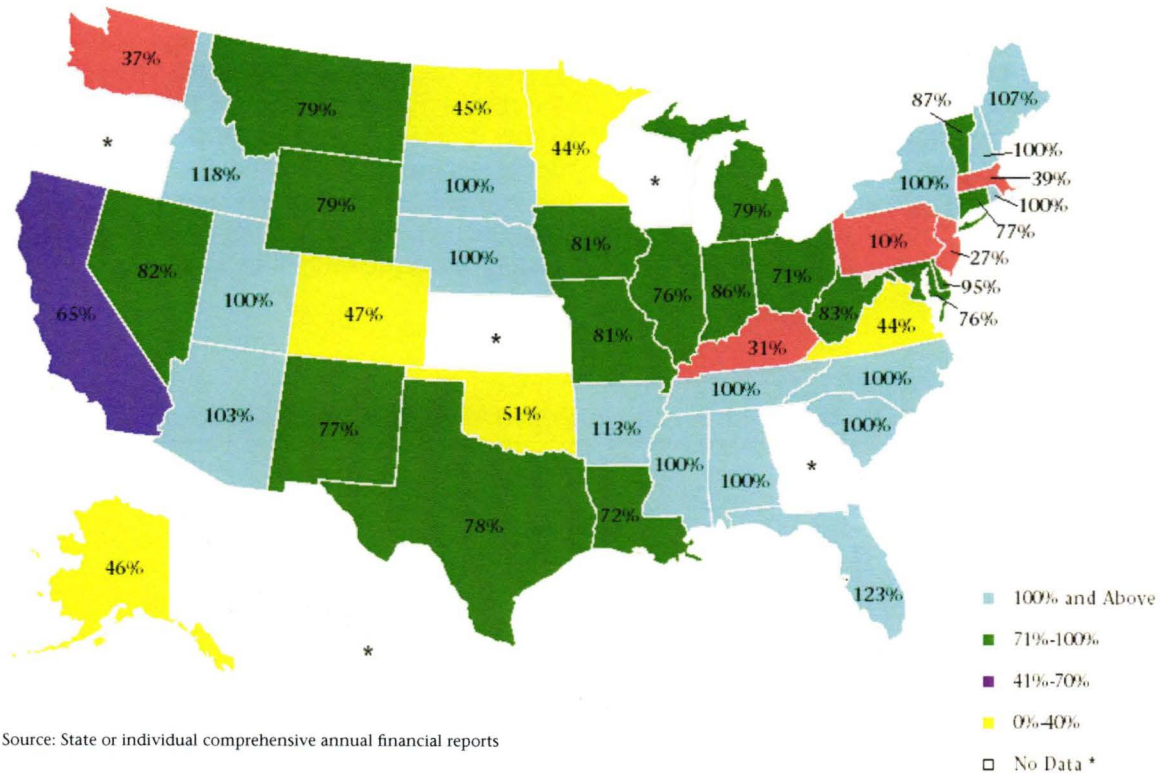
At the local level the findings were similar. (Note, we did not include any special district-administered city plans or the county plans in our weighted average ARC calculation for cities.) Over the last three years fewer and fewer cities have been able to meet their ARC levels. On a weighted average basis, eleven cities met their ARC levels for 2008, nine did in 2009, and only eight did in 2010. Surprisingly, most of the cities examined that are in states that have low contribution levels, have far exceeded their states' contribution levels. The opposite scenario also held true. As an example, the State of California's ARC for 2010 was approximately 65% on a weighted average basis, while Los Angeles, San Francisco, and San Diego contributed at least 95% of their prescribed ARC. In contrast, the State of Illinois contributed 76% of their prescribed ARC, while the City of Chicago contributed a mere 15% of their ARC. While we acknowledge that these findings could be biased due to different trends of state and local plans in terms of the type of employer sponsorship, cost method, and attribution, it's clear that local-level pension systems are facing many of the same challenges that state-level systems are in being able to diligently contribute 100% of their ARC.

Red States Did Not Meet 100% of Their ARC on a Weighted Average Basis

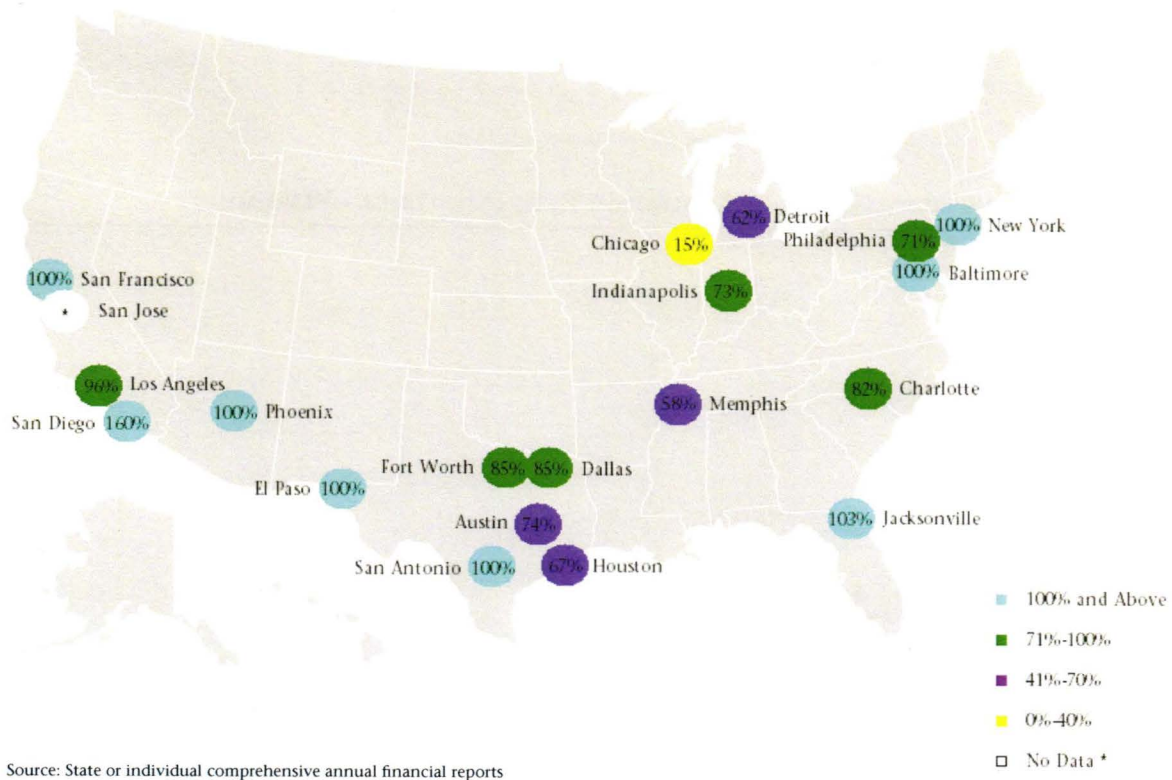


Source: State or individual comprehensive annual financial reports

2010 Weighted Average ARC - State



2010 Weighted Average ARC - Local



Economic Debt

Economic Debt, which comprises the state general fund deficits, net bonded debt, and pension obligations, has significantly risen over the last three years. The top ten states with the highest economic debt from last year remained in the top ten this year. (See Table 3.2) On average, those top ten states increased their economic debt by 10.97%. Most notably two states—California and Illinois—have increased their economic debt by over \$20 billion.

California’s sizable increase of over \$36 billion in economic debt is due to an approximate 32% increase in their pension liabilities over the last year. The rise in economic debt in Illinois is attributable to the 23% increase in their pension unfunded actuarial accrued liabilities, and an increase in their net bonded debt of approximately 29%. This sizable increase in economic debt will pose a significant burden on future budgetary planning.

Exhibit 1 Three Year History of Economic Debt (Alabama - Missouri)

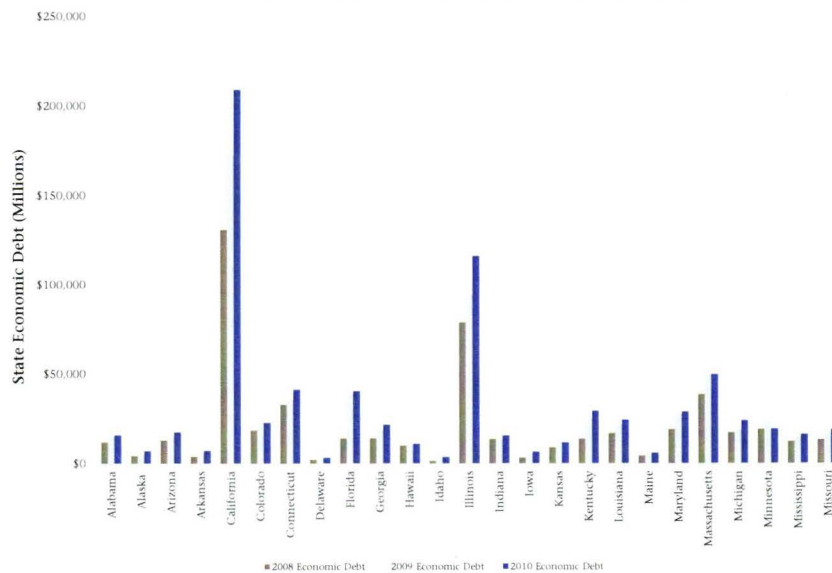


Exhibit 2 Three Year History of Economic Debt (Montana—Wyoming)

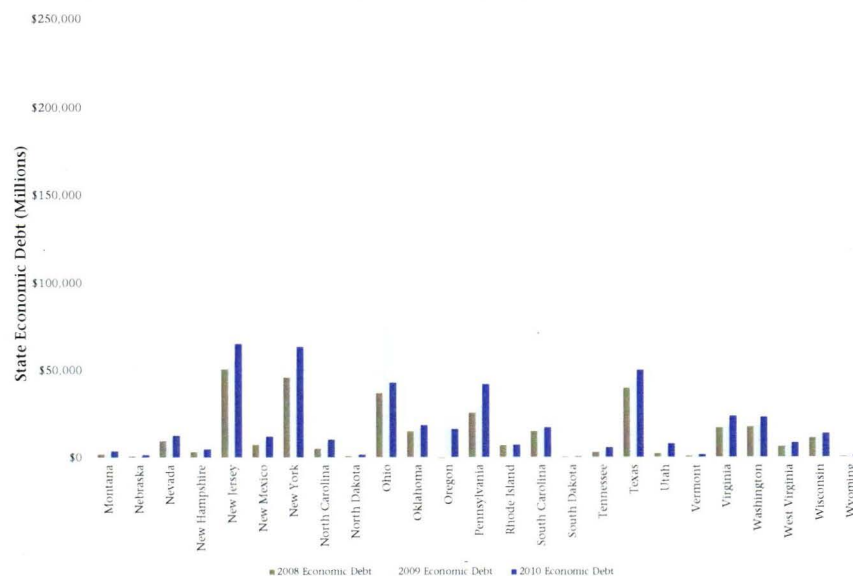
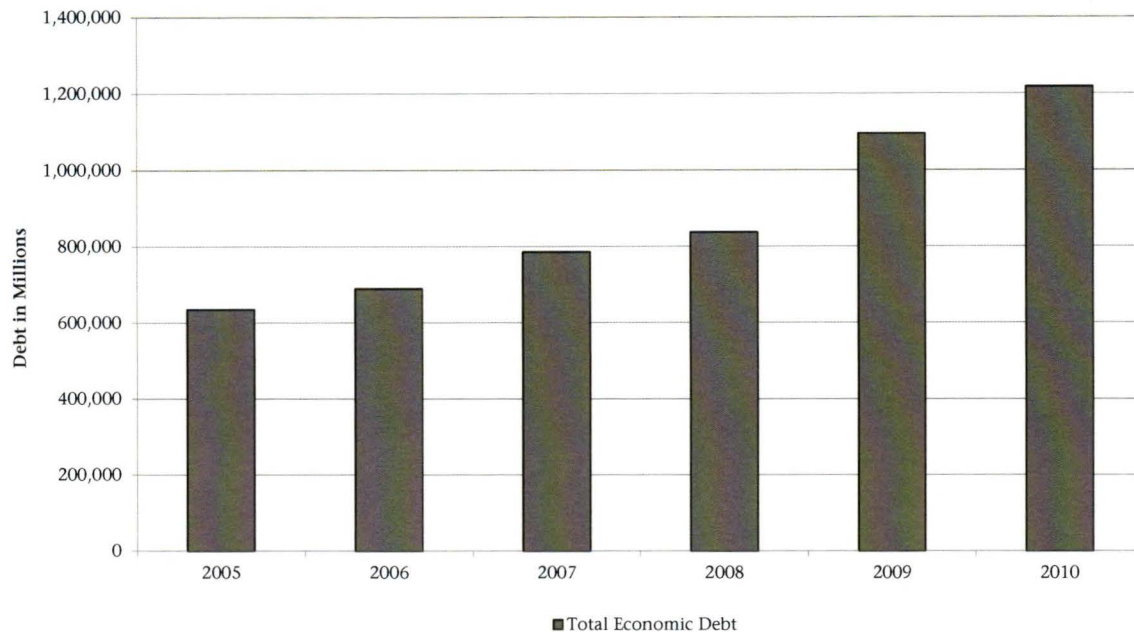


Exhibit 3 Six Year History of States Total Economic Debt



Economic Debt Per Capita

When investigating economic debt per capita, four of the top five states from last year (Connecticut, Hawaii, Illinois, and Massachusetts) remain at the

top, while Alaska moved up from the 7th to 2nd spot. The higher the economic debt per capita, the larger the burden on the state’s fiscal health.

Table 3.1 Economic Debt Per Capita

Rank	State	Economic Debt Per Capita	Rank	State	Economic Debt Per Capita	Rank	State	Economic Debt Per Capita
1	Connecticut	\$11,475	18	Colorado	\$4,461	35	Arkansas	\$2,421
2	Alaska	\$9,663	19	Maine	\$4,407	36	Wisconsin	\$2,419
3	Illinois	\$9,031	20	Oregon	\$4,270	37	Michigan	\$2,403
4	Hawaii	\$7,912	21	Kansas	\$4,022	38	Vermont	\$2,402
5	Massachusetts	\$7,570	22	South Carolina	\$3,738	39	North Dakota	\$2,374
6	New Jersey	\$7,408	23	Montana	\$3,719	40	Indiana	\$2,373
7	Rhode Island	\$6,863	24	Ohio	\$3,713	41	Idaho	\$2,225
8	Kentucky	\$6,740	25	New Hampshire	\$3,646	42	Georgia	\$2,200
9	New Mexico	\$5,846	26	Minnesota	\$3,597	43	Florida	\$2,138
10	California	\$5,606	27	Washington	\$3,435	44	Iowa	\$2,095
11	Mississippi	\$5,433	28	Alabama	\$3,276	45	Wyoming	\$2,055
12	Louisiana	\$5,340	29	New York	\$3,274	46	Texas	\$1,985
13	Delaware	\$5,015	30	Pennsylvania	\$3,183	47	North Carolina	\$1,077
14	Maryland	\$4,965	31	Missouri	\$3,118	48	Tennessee	\$905
15	Oklahoma	\$4,908	32	Virginia	\$2,936	49	Nebraska	\$885
16	Nevada	\$4,709	33	Utah	\$2,908	50	South Dakota	\$667
17	West Virginia	\$4,630	34	Arizona	\$2,690	51	District of Columbia	-\$179

Table 3.2 Calculation of Economic Debt

State	General Fund Unreserved Balance (\$ Mil)	Net Bonded Debt (\$ Mil)	Sum UPBO (\$ Mil)	Economic Debt (\$ Mil)
Alabama	\$77	\$4,047	\$11,612	\$15,659
Alaska	\$10,405	\$891	\$5,972	\$6,863
Arizona	(\$825)	\$6,076	\$10,293	\$17,194
Arkansas	\$1,815	\$1,051	\$6,009	\$7,060
California	(\$20,930)	\$94,715	\$93,211	\$208,856
Colorado	(\$31)	\$2,668	\$19,738	\$22,436
Connecticut	(\$1,679)	\$18,468	\$20,867	\$41,014
Delaware	\$844	\$2,385	\$632	\$3,018
District of Columbia	\$54	N/A	(\$161)	(\$161)
Florida	\$2,985	\$21,473	\$18,723	\$40,196
Georgia	(\$42)	\$10,933	\$10,342	\$21,318
Hawaii *	(\$88)	\$5,507	\$5,168	\$10,762
Idaho	\$490	\$809	\$2,680	\$3,488
Illinois	(\$9,283)	\$30,848	\$75,741	\$115,872
Indiana	\$1,789	\$3,033	\$12,350	\$15,383
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Kansas	(\$278)	\$3,520	\$7,677	\$11,475
Kentucky	\$3	\$8,511	\$20,739	\$29,249
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Minnesota	(\$1,526)	\$6,131	\$11,421	\$19,077
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North Carolina	(\$339)	\$7,399	\$2,529	\$10,267
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Rhode Island	\$18	\$2,316	\$4,908	\$7,223
South Carolina	(\$36)	\$4,076	\$13,179	\$17,291
South Dakota	\$155	\$269	\$273	\$543
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Texas	\$2,950	\$15,433	\$34,484	\$49,917
Utah	\$15	\$3,458	\$4,580	\$8,038
Vermont	\$73	\$465	\$1,039	\$1,503
Virginia	(\$1,069)	\$8,414	\$14,012	\$23,495
Washington	(\$561)	\$17,712	\$4,825	\$23,098
West Virginia	\$862	\$2,230	\$6,350	\$8,580
Wisconsin	(\$3,453)	\$10,174	\$132	\$13,760
Wyoming	\$149	\$39	\$1,119	\$1,158

Economic Debt = Absolute Value of General Fund Unreserved Balance (if there is a deficit) + Net Bonded Debt + Sum of the UAAL

General Fund Unreserved Balance: Individual State 2010 Comprehensive Annual Financial Reports

Net Bonded Debt: Moody's 2011 State Debt Medians

Sum UPBO: Individual State 2010 Comprehensive Annual Financial Reports

* The 2009 general fund unreserved balance was used in the absence of 2010 data.

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Progress in Managing the Future Burden of State and Local Municipal Pension Plans

State and local pensions have been dubbed the “ticking time bomb.” The combination of negative investment returns, forgone annual required contributions and inflated actuarial assumptions, raise concern that at some point in the foreseeable future municipalities will not be able to deliver these promised benefits. While this is a valid concern, one cannot ignore the recent actions state and local governments have taken to reduce this burden.

The vast majority of state and local employees participate in a defined benefit plan. With the current economic environment, state and local government have realized the immense savings a defined contribution or even hybrid plan can provide. As touched on last year, this type of change is typically met with little resistance from current employees and retirees, as the changes generally impact only new employees. A recent publication by the NASRA and Employee Benefits Research Institute lists state and local governments which have made such changes. In 2005, the Alaska Legislature closed the defined benefit plan for public employees hired after June 2006, and all new hires since that time participate in a defined contribution plan. In 2008, Georgia created a hybrid retirement plan for state employees hired on or after January 1, 2009.⁽¹⁾ Similarly, the following city and county plans have at least some portion of employees enrolled in a defined contribution plan: Autauga County Commission, Blount County Commission, Fairfax County Employees’ Retirement System, Municipal Retirement System of The City of Philadelphia, The Employee’ Retirement System of The City of Milwaukee, Baltimore County Employees Retirement System, City of Atlanta, City of Bartlett Tennessee, City of Birmingham, City of Chicago Policemen’s Annuity and Benefit Fund, and The City of Delray Beach Police and Firefighters Retirement.⁽²¹⁾ This is a trend we believe will continue, as many state and local governments realize these new plans will significantly reduce future costs.

Many state and local governments have eliminated cost-of-living adjustments for new employees, but some states have even tried to eliminate cost-of-living increases for current employees. Again, as seen with other long-term solutions, changing benefits for new employees does not reduce current pension liabilities, but it significantly

reduces future costs. As noted in last year’s report, Colorado, Minnesota and South Dakota had tried to reduce current retirees COLAs, and were all met with lawsuits contending that such changes violated state laws. The outcome was quite the contrary, as in late June public employees in Minnesota and Colorado were told their state pensions could indeed scale back COLAs to help deal with budget deficits. Similarly, New Jersey legislators recently passed a controversial pension reform bill that eliminates the COLAs for many public employees until the state’s pensions are back to being at least 80 percent funded, a level not expected to be reached anytime soon.⁽⁸⁾ The passing of such legislation should send a signal to all current and future retirees that their COLAs are not guaranteed.

This year, like last, we have observed a continued trend in decreasing future employee benefits by raising the retirement age and vesting requirement. According to the National Conference of State Legislatures, since the beginning of 2011 fifteen legislatures increased age and service requirements for normal retirement for state employees, teachers or both groups of employees.⁽²⁰⁾ These changes can represent significant savings. As an example, Massachusetts increased the minimum state retirement age to 60 from 55 as part of a broad overhaul of the state’s system that will save them more than \$5 billion over the next 30 years.⁽¹⁴⁾ The National Conference of State Legislatures also noted that minimum eligibility requirements, or vesting, increased in eight states in 2011 versus only five states in 2010.⁽²⁰⁾ Local governments, as with increasing age and service requirements, have also realized savings by increasing vesting periods. Ann Arbor, MI increased the City’s pension vesting period for non-union employees hired after July 1, 2011 from five years to ten years, and changed the final average compensation computation so that it is based on the last five years of employment, not the last three years, thus saving the city more than \$230,000 since all non-union employees have been hired under the revised plan.⁽⁵⁾

Increases in employee contributions have become much more prevalent. This is one of the few initiatives that state and local governments can apply to both current and new employees without too much resistance. In early July, Atlanta’s City Council voted unanimously to address a \$1.5 billion public-pension liability by increasing worker contributions and reducing benefits.⁽⁹⁾ CALPERS

realized significant savings over the last couple of years by increasing employee contributions. New labor contracts increased the employee pension contribution for state workers to 8-11% of pay depending on the bargaining unit, up from 5-8%.⁽¹²⁾ The increased contribution from workers allowed the state to lower its annual payment to the California Public Employees Retirement System by about \$200 million last fiscal year and \$400 million this year.⁽¹²⁾ The only problem is that many municipalities basically substitute the increase in employee contributions for a decrease in employer contributions. The net effect is that there is no funding improvement, as total contributions remain flat. Eight of the sixteen states that increased employee contributions in 2011 are either completely or partially offset by reduced employer contributions.⁽²⁰⁾

In addition to these reforms, many municipalities have also considered pension obligation bonds as a way to help manage their pension contribution levels in times of budgetary distress. Historically POBs were tax exempt, but mid 90's issuances became predominantly taxable, because of declining taxable interest rates compared to the interest rate imputed by pension funds on the unfunded accrued actuarial liability (UAAL), the need for budget relief and/or the risk arbitrage opportunities in the much wider range of investments made by pension funds than the city or county would be permitted to make.⁽¹⁷⁾ As noted in last year's report, in the last few years there has been an influx of pension obligation bonds issued by municipalities. There were approximately 20 state and local governments that issued POBs between 2007-2010.⁽²²⁾ The majority of these transactions were done by local governments. Noteworthy though, is that a greater number of pension obligation bonds have been issued by state and local governments in New York than in any other state.⁽¹⁷⁾

Conclusion

The current economic malaise, years of forgone annual required contributions and continued use of flexible actuarial assumptions justify the growing concern amongst analysts, investors, and taxpayers about the health of state and local pension plans. It's clear that state and local governments need to do something to reign in these large liabilities, and in fact many are enacting such reforms, but the question of whether these changes are aggressive enough remains. The problem, how-

ever, can in fact be solved if meaningful progress is taken today.

Many states have in fact already demonstrated progress that they are moving toward resolution grappling with their underfunded pensions. Rhode Island has become somewhat of a poster child for such changes over the last few months, as their broad sweeping pension reforms have set a precedent for other states to follow. The reforms affect not only future employees, but current employees (both vested and unvested) as well as current retirees going forward. The reforms address changes in factors that affect the state's pension liabilities that include: the retirement age, cost of living increases, amortization period of the unfunded accrued liability, employee and employer contributions, level of future benefits, and plan design. As Fitch notes, Rhode Island's pension reform is the most comprehensive measure undertaken by any of the states in recent years, as the reforms are expected to reduce the state systems' unfunded actuarially accrued liability to \$4.3 billion from \$7.3 billion.⁽²⁴⁾

Rhode Island has paved the way for other state and local governments to follow suit. The improving economy will further aid those municipalities which have taken proactive steps to address the inherent structural issues in their pension systems.

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Other Post Employment Benefits

Other post employment benefits (OPEB) are benefits granted in addition to pensions that are given to eligible retirees, and in some cases even their beneficiaries. OPEB benefits typically include: health insurance, dental, vision, prescription, disability, long-term care, and life insurance. OPEB over the last few years has been referred to as the elephant in the room. While governments are well aware of these additional promised benefits, the pay-as-you-go system has led them to account for these liabilities as an annual expense and not a long-term liability. In doing so, many municipalities have been able to ignore the rapidly increasing healthcare costs and insurance premiums. While it is a daunting and almost dubious task to accurately project future health care costs and estimate medical/healthcare inflation for the next thirty years, it is something all state and local governments must now grapple with. One could say governments are now stuck staring that same elephant straight in the eyes with the passage of GASB No. 45.

GASB No. 45 was enacted in an effort to provide more transparency to the true size of state and local governments' OPEB liabilities. Prior to GASB No. 45, state and local governments did not have to disclose information about their OPEB plans in their financials. The new standard requires state and local governments to include a footnote in their financial statements indicating the OPEB actuarial accrued liabilities. GASB No. 45 also requires disclosure of information about the plans in which an employer participates, the funding policy followed, the actuarial cost method, actuarial assumptions, plan assets, and, for certain employers, the extent to which the plan has been funded over time. As noted in last year's report, the GASB No. 45 phase-in was done over a three year period, as shown in the table below. This marks the first year in which all governments will report such liabilities.

Implementation Phase Based on Agency Revenue	Effective Date for GASB 43	Effective Date for GASB 45
\$100 million or more	July 1, 2006	July 1, 2007
\$10 million to \$100 million	July 1, 2007	July 1, 2008
Less than \$10 million	July 1, 2008	July 1, 2009

Source: See Work Cited ⁽²³⁾

Similar to the new pension proposals, GASB No. 45 does not dictate funding requirements, they

are simply reporting requirements. Governments can still use the pay-as-you-go system or make an annual required contribution to an irrevocable trust fund. There are, however, various benefits to pre-funding post-retirement benefit promises. The first is that it can significantly reduce an employer's UAAL and the associated GASB No. 45 accounting expense shown on the financials. Setting up a trust allows the municipality to invest in a variety of asset classes that on average yield significantly higher returns than the limited list of investments available to use on general operating funds. As with pensions, the assumed long-term investment rate of return is also used as the discount rate. This discount rate is then used to calculate the ARC. Being able to use a higher discount rate not only reduces the present value of UAAL, but also lowers the ARC.

Some municipalities have also allowed sponsors to set up a revocable trust. While the revocable trust is created with the intent to put assets aside to prefund OPEB benefits, the nature of the trust being revocable does not constitute a guarantee that the assets will be used for the prescribed purpose. For this reason GASB No. 45 does not allow a reporting reduction that would reduce the UAAL if an employer chooses to set up a revocable trust. The potential benefit to a revocable trust is if there is some sort of federal health initiative that absolves government's responsibility to fund OPEB, or if OPEB benefits are eliminated all together, as they are not constitutionally or statutorily guaranteed like pensions. In either one of these scenarios a municipality would be able to use assets in the trust for other purposes.

There are some risks a state or local government should consider before establishing an OPEB trust. In order for GASB to allow the use of a higher discount rate, the assets must be invested in such a way to achieve that stated rate of return. In other words, just setting up a trust isn't enough to allow use of a higher discount rate—the asset allocation must be such to warrant it. Trusts also come with significant administrative costs that can wipe out the potential investment benefits. Another risk is that while rating agencies may view a trust as a positive cost management strategy, if the employer is not able to contribute its ARC into the trust, the rating agency may actually view this as a negative credit event.

State and Local Governments are Making Positive Changes to Reduce their OPEB Liabilities

Many state and local governments have already begun to address rising healthcare—related costs by setting up OPEB trusts. Alabama, Connecticut, Delaware, Georgia, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Ohio, Rhode Island, South Carolina, Utah, Vermont, and West Virginia have all established trust funds to accumulate assets.⁽¹⁹⁾ Many of these states have also made other long-term changes that not only demonstrate fiscal responsibility, but help mitigate the unforeseen increases in healthcare costs. Like many states, local governments have also set up OPEB trusts. For example, Oakland County, MI, Gainesville, FL, Montgomery County, MD, Santa Barbara County, CA, and Waukesha, WI all have OPEB trusts.^(3, 10) Many state and local governments have experienced investment returns that warrant the establishment of such trusts. CalPERS' (the largest public pension fund in the nation) OPEB trust fund (CERBT) had a 13.4% investment return for 2010.⁽²⁾

Putting assets aside in a trust can not only lead to increased investment returns and some of the other benefits listed above, but can help a municipality in negotiating current and future reductions to OPEB benefits. Having assets set aside also improves financial security for active workers and retirees. Employees are much more receptive to changes or reductions in benefits when they know that some assets are set aside to guarantee that they will at least receive some benefits.

Many state and local governments have begun to not only look towards ways to manage their current contribution levels, but have also attempted to reduce their current and future OPEB obligations with tools other than just establishing a trust. These include but are not limited to: 1) issuing OPEB bonds, 2) reducing benefits, 3) altering vesting requirements, 4) increasing co-payments, deductibles and healthcare premiums, 5) requiring current employees to contribute to funding, 6) requiring retirees to pay a portion of the insurance premiums, and 7) switching to a defined contribution plan.

Issuing OPEB bonds, like pension obligation bonds, can be an alternative to reduce future liabilities. A concern though, is that a municipality is basically turning a long-term "soft" liability into fixed debt. Another problem with OPEB bond issu-

ance is that because OPEB benefits are not constitutionally or statutorily guaranteed, at some point they could be completely eliminated or at a minimum reduced, leaving a municipality stuck with unnecessary bonded debt. Another concern with OPEB bonds, similar to those faced when establishing a trust, is the uncertainty about federal health initiatives. If the federal government moves toward universal healthcare, OPEB could either be eliminated or the federal government could step in to fund it. Regardless of these concerns, some cities and counties have successfully issued OPEB bonds. The City of Gainesville, FL issued OPEB bonds in 2005 to fund its \$30.6 million liability.⁽¹⁰⁾ The net effect of the issuance, coupled with other reductions in benefits, reduced the City's OPEB liability from \$74.9 million in 2007 to \$57 million in 2008.⁽³⁾ Oakland County, MI issued \$557 million in OPEB bonds in 2007. While the county has experienced recent investment losses, they were still able to fully fund their ARC payment in 2008.⁽³⁾

Many state and local governments have used a variety and combination of the tools listed above:

- The City of San Diego, CA, does not offer retiree health benefits to employees hired after July 1, 2005, making the program a closed system. The City of Arlington, TX, made an identical move for employees hired after 2006.⁽¹⁰⁾
- West Virginia has taken a number of steps, including: establishing a trust, changing health care benefits plans for retirees, increasing copayments and coinsurance rates and moving Medicare-eligible retirees to a Medicare Advantage Drug Plan, and voting to eliminate all healthcare subsidies for employees hired after July 1, 2010.⁽³⁾
- Delaware, in addition to appropriations to a trust, the state deposits 0.3% of the state payroll to the trust annually. State statute also requires annual savings from healthcare cost-containment initiatives to be deposited to the trust.⁽¹⁸⁾
- Rhode Island's general assembly increased the amount of eligible service for employees that is required to obtain the benefits, and increased retiree co-share for employees to reduce the liability.⁽¹⁹⁾
- North Carolina increased vesting periods and changed benefit levels for new employees to manage future liabilities.⁽¹⁸⁾

Net Effect of the Passage of GASB no. 45

When assessing a state or local government's long-term pension liabilities, it is no longer sufficient to determine fiscal health and long-term solvency based on pension funding ratios. With the passage of GASB No. 45, OPEB benefits are no longer considered a soft liability from a financial reporting perspective, but are treated the same as long-term liabilities like bonded debt. While the standards do not necessitate a change in funding, the UAAL balances shown in financials will hopefully cause enough concern to politicians, taxpayers, analysts, and investors that they push state and local governments to take a more aggressive stance on funding these burdens. Rising healthcare costs, increased life expectancy, and lower Medicare reimbursement rates will only further inflate these liabilities. As shown in the report, OPEB liabilities far surpass those of pensions, and coupled together, it is inevitable that state and local governments will have to substantially increase contributions. While OPEB may not be constitutionally or statutorily guaranteed, until abandonment or major legislative changes, municipalities need to treat these benefits like any other long-term liability.

Economic Debt

The variables used to calculate economic debt included: state general fund deficits, net bonded debt, and pension obligations. However, when state OPEB liabilities are added to the calculation, the results are staggering. (See Exhibit 4 and 5) On average, states' economic debt increased 40%. Six states' economic debt increased by over 100% with the addition of OPEB liabilities. In dollar terms, the total economic debt for all states before factoring in OPEB liabilities totaled \$1.2 trillion dollars. With OPEB, states' overall liabilities increased by nearly 40% to total outstanding liabilities of \$1.7 trillion dollars. In short, other post employment benefits have a profound effect on states' economic debt, and are an essential factor to consider when evaluating total pension liabilities.

Economic Debt Per Capita

After adding OPEB, four of the top five states from last year with the highest economic debt per capita remained Alaska, Connecticut, Hawaii, and New Jersey. (See Table 4.1) Alaska's economic debt per capita more than doubled from last year at \$11,271. In terms of the other two states that moved into the top five, Delaware jumped from 10th to 3rd, and Connecticut moved from 6th to 5th for the highest economic debt per capita.

Table 4.1 Economic Debt + OPEB Per Capita

Rank	State	Economic Debt Per Capita	Rank	State	Economic Debt Per Capita	Rank	State	Economic Debt Per Capita
1	Alaska	\$26,405	18	California	\$5,864	35	Missouri	\$3,631
2	New Jersey	\$14,774	19	South Carolina	\$5,727	36	Virginia	\$3,474
3	Delaware	\$14,621	20	Mississippi	\$5,678	37	Utah	\$3,059
4	Hawaii	\$14,373	21	Nevada	\$5,431	38	Arkansas	\$3,027
5	Connecticut	\$11,476	22	Vermont	\$4,993	39	Arizona	\$2,745
6	Illinois	\$11,145	23	Oklahoma	\$4,908	40	Wisconsin	\$2,694
7	Massachusetts	\$9,839	24	West Virginia	\$4,630	41	Florida	\$2,573
8	Kentucky	\$9,114	25	North Carolina	\$4,528	42	Georgia	\$2,524
9	Maryland	\$7,722	26	Colorado	\$4,520	43	Wyoming	\$2,505
10	Rhode Island	\$7,611	27	Pennsylvania	\$4,459	44	North Dakota	\$2,471
11	New Mexico	\$7,471	28	Oregon	\$4,401	45	Indiana	\$2,453
12	Louisiana	\$6,996	29	New Hampshire	\$4,387	46	Idaho	\$2,316
13	Ohio	\$6,673	30	Montana	\$4,265	47	Iowa	\$2,252
14	Michigan	\$6,672	31	Texas	\$4,172	48	Tennessee	\$1,266
15	Alabama	\$6,477	32	Kansas	\$4,120	49	Nebraska	\$885
16	Maine	\$6,246	33	Washington	\$3,998	50	South Dakota	\$753
17	New York	\$6,206	34	Minnesota	\$3,818	51	District of Columbia	\$45

Exhibit 4 2010 Economic Debt versus Economic Debt + OPEB (Alabama - Missouri)

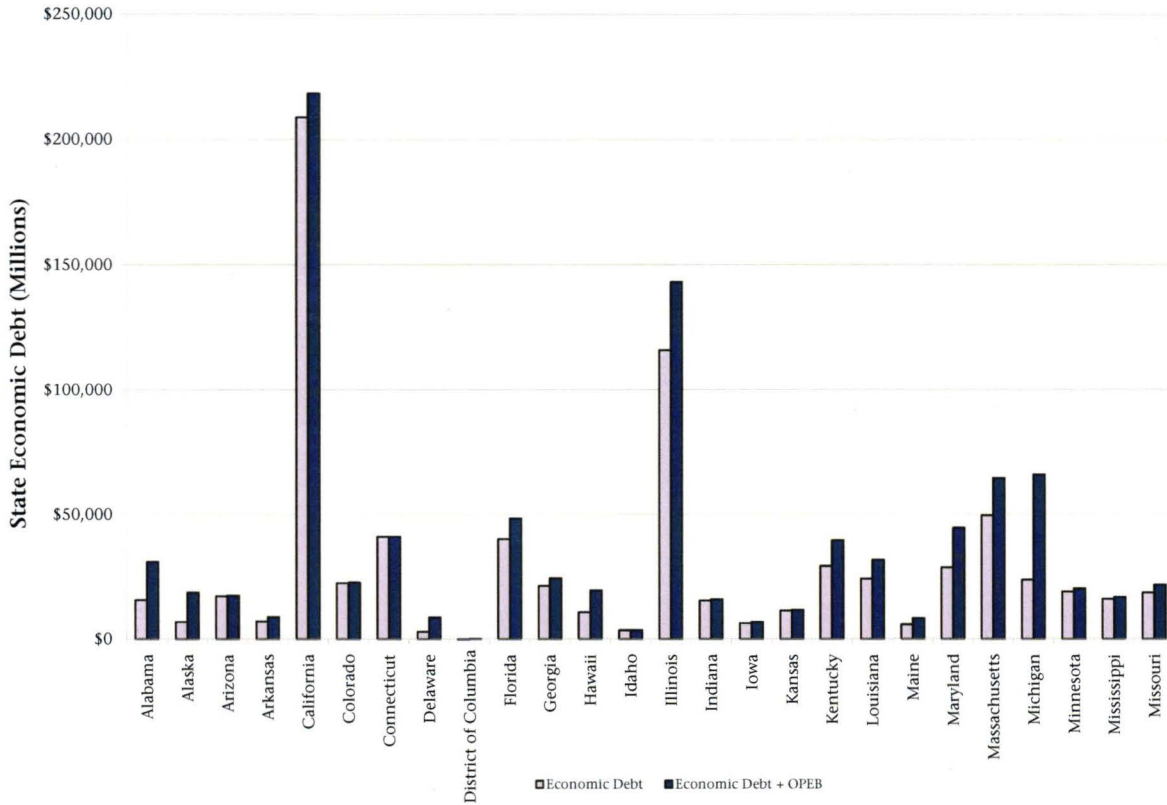


Exhibit 5 2010 Economic Debt versus Economic Debt + OPEB (Montana - Wyoming)

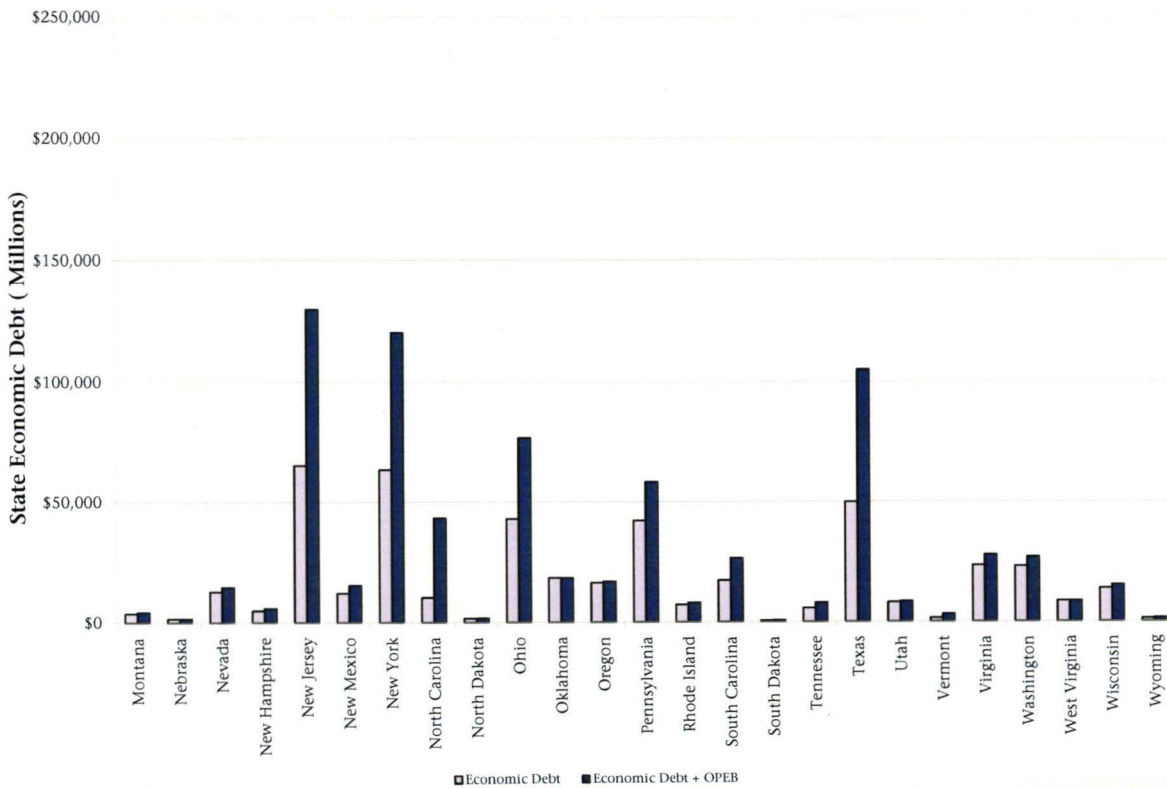


Table 4.2 Calculation of Economic Debt Including OPEB

State	General Fund Unreserved Balance (\$ Mil)	Net Bonded Debt (\$ Mil)	Sum UPBO (\$ Mil)	Sum OPEB (\$ Mil)	Economic Debt (\$ Mil)
Alabama	\$77	\$4,047	\$11,612	\$15,299	\$30,958
Alaska	\$10,405	\$891	\$5,972	\$11,891	\$18,754
Arizona	(\$825)	\$6,076	\$10,293	\$351	\$17,545
Arkansas	\$1,815	\$1,051	\$6,009	\$1,766	\$8,826
California	(\$20,930)	\$94,715	\$93,211	\$9,589	\$218,445
Colorado	(\$31)	\$2,668	\$19,738	\$294	\$22,730
Connecticut	(\$1,679)	\$18,468	\$20,867	\$3	\$41,017
Delaware	\$844	\$2,385	\$632	\$5,780	\$8,798
District of Columbia	\$54	N/A	(\$161)	\$202	\$41
Florida	\$2,985	\$21,473	\$18,723	\$8,173	\$48,369
Georgia	(\$42)	\$10,933	\$10,342	\$3,135	\$24,453
Hawaii *	(\$88)	\$5,507	\$5,168	\$8,789	\$19,551
Idaho	\$490	\$809	\$2,680	\$141	\$3,630
Illinois	(\$9,283)	\$30,848	\$75,741	\$27,124	\$142,996
Indiana	\$1,789	\$3,033	\$12,350	\$525	\$15,908
Iowa	\$915	\$817	\$5,564	\$478	\$6,860
Kansas	(\$278)	\$3,520	\$7,677	\$278	\$11,754
Kentucky	\$3	\$8,511	\$20,739	\$10,299	\$39,548
Louisiana	(\$49)	\$5,925	\$18,234	\$7,506	\$31,715
Maine	(\$411)	\$1,136	\$4,307	\$2,443	\$8,296
Maryland	(\$341)	\$9,647	\$18,680	\$15,915	\$44,583
Massachusetts	\$1,835	\$31,243	\$18,320	\$14,857	\$64,420
Michigan	\$187	\$7,566	\$16,179	\$42,194	\$65,939
Minnesota	(\$1,526)	\$6,131	\$11,421	\$1,172	\$20,249
Mississippi	\$1,896	\$4,541	\$11,580	\$728	\$16,849
Missouri	\$646	\$4,661	\$14,015	\$3,070	\$21,745
Montana	\$212	\$363	\$3,316	\$541	\$4,220
Nebraska	\$716	\$23	\$1,594	\$0	\$1,617
Nevada	\$222	\$2,330	\$10,387	\$1,948	\$14,666
New Hampshire	\$66	\$1,075	\$3,724	\$976	\$5,775
New Jersey	\$1,834	\$34,408	\$30,727	\$64,754	\$129,888
New Mexico	\$355	\$3,717	\$8,322	\$3,347	\$15,385
New York	(\$6,663)	\$61,650	(\$4,872)	\$56,826	\$120,268
North Carolina	(\$339)	\$7,399	\$2,529	\$32,906	\$43,172
North Dakota	\$834	\$206	\$1,391	\$65	\$1,662
Ohio	\$141	\$11,611	\$31,228	\$34,144	\$76,983
Oklahoma	\$2,331	\$2,361	\$16,051	\$0	\$18,411
Oregon	(\$543)	\$7,735	\$8,081	\$502	\$16,861
Pennsylvania	(\$1,435)	\$13,579	\$25,415	\$16,215	\$56,644
Rhode Island	\$18	\$2,316	\$4,908	\$788	\$8,011
South Carolina	(\$36)	\$4,076	\$13,179	\$9,198	\$26,489
South Dakota	\$155	\$269	\$273	\$71	\$613
Tennessee	\$693	\$2,184	\$3,559	\$2,291	\$8,034
Texas	\$2,950	\$15,433	\$34,484	\$54,999	\$104,915
Utah	\$15	\$3,458	\$4,580	\$417	\$8,455
Vermont	\$73	\$465	\$1,039	\$1,621	\$3,124
Virginia	(\$1,069)	\$8,414	\$14,012	\$4,302	\$27,797
Washington	(\$561)	\$17,712	\$4,825	\$3,787	\$26,885
West Virginia	\$862	\$2,230	\$6,350	\$0	\$8,580
Wisconsin	(\$3,453)	\$10,174	\$132	\$1,563	\$15,323
Wyoming	\$149	\$39	\$1,119	\$254	\$1,412

Economic Debt = Absolute Value of General Fund Unreserved Balance (if there is a deficit) + Net Bonded Debt + Sum of the Pension UAAL + Sum of OPEB UAAL

General Fund Unreserved Balance: Individual State 2010 Comprehensive Annual Financial Reports

Net Bonded Debt: Moody's 2011 State Debt Medians

Sum UPBO: Individual State 2010 Comprehensive Annual Financial Reports

Sum OPEB: Individual State 2010 Comprehensive Annual Financial Reports

* The 2009 general fund unreserved balance was used in the absence of 2010 data.