

Pension Pressures Continue

2014 State Pension Update

Special Report

State Plan Challenges Persist Even With Market Gains

Funded Ratios Stop Declining: The median reported funded ratio for major statewide defined benefit pension plans that have reported 2013 valuations rose slightly in 2013, to 71.6%, from 69.1% in 2012. This contrasts with major plans' experience from the 2008–2009 recession until 2012, during which median reported funded ratios fell nearly 14% in aggregate. Although many plans were still absorbing recessionary losses in 2013 given their practice of smoothing asset gains and losses over many years, recent asset gains and in some cases benefit and contribution reforms that materially reduce actuarial liabilities are contributing to plan stabilization.

Pension Burdens Vary: The median unfunded pension liability attributable to states equals 3.3% of 2013 personal income, moderately higher than the corresponding median for states' net tax-supported debt, which is 2.6% of personal income. Fitch's pension calculation includes all defined benefit plan liabilities attributable to the states and adjusted to a consistent 7% discount rate. The range of states' unfunded pensions varies widely, from 0.2%–19.3%. Although high pension burdens present a credit challenge for some states, Fitch believes most are well positioned to manage their unfunded liabilities and increased contributions.

Solid Market Value Gains: Pension investment portfolios grew strongly in fiscal 2013, generally ahead of plan discount rate assumptions. Based on their most recently published data, more than half of major statewide plans' funded ratios on a market value of assets (MVA) basis are now higher than on an actuarial smoothing basis. Reporting of funded ratios on an MVA basis will become the standard under GASB 67.

ARC Funding Remains Inadequate: In aggregate, actual contributions by participating governments have consistently fallen short of the actuarially calculated annual required contribution (ARC), with only about 40% of major statewide plans receiving full ARC payments in 2013. Persistently underfunding the ARC reflects numerous factors, including budgetary constraints in the face of a historically slow economic recovery and, in some cases, an unwillingness to revisit statutorily fixed contributions.

Rolling Amortization Risk: Approximately 40% of major plans continue to calculate an ARC assuming a rolling, 30-year amortization of the unfunded liability, a method allowable under existing GASB standards. The repeated re-amortization of the unfunded liability over new, 30-year periods means that little meaningful progress is possible toward full funding absent investment gains above the discount rate assumption.

Demographic Challenges Growing: Plans' demographic profiles continue to erode, with flat or declining government employment, rising retirements and longer lifespans in retirement. These trends raise plan liabilities and pressure cash flows through higher benefit payouts, shifting additional risk of plan performance to participating governments.

GASB Reporting: Fiscal 2013 is the last year that most large defined benefit pension plans report under existing GASB standards. Plans with fiscal years ending on June 30, 2014 and thereafter will report under the new GASB 67 standards. Fitch expects few surprises from the first round of reporting and some additional tools to assess plans' credit risks, although analytical challenges will remain.

Related Research

[U.S. Public Finance Credit View: States \(March 2014\)](#)

[2014 Outlook: U.S. States \(December 2013\)](#)

[Fitch Fundamentals Index – U.S. \(April 2014\)](#)

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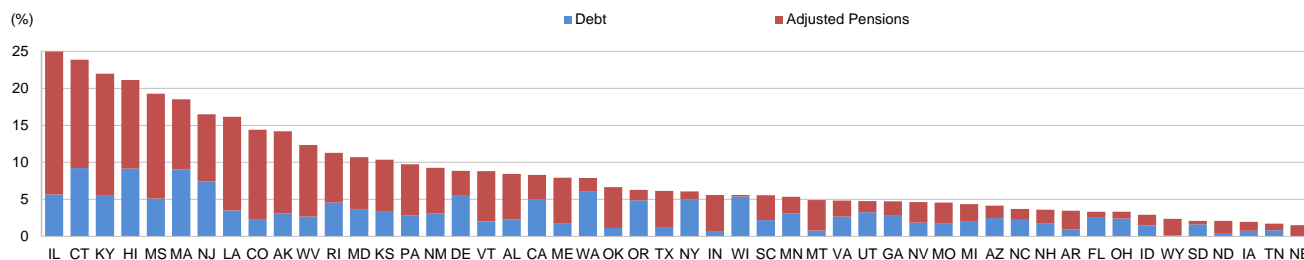
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Pension Risks Continue Despite Investment Gains

Debt and Pensions Moderate for Most: Fitch calculates the burden of each state’s net tax-supported debt plus unfunded pension liabilities attributable to the state as a share of personal income. By this measure, the median combined debt plus pension burden is 6.1% of 2013 personal income, using the most recently available state debt and pension data. The states’ median debt burden totals 2.6% of personal income, while unfunded pensions attributable to the states have a median of 3.3% of personal income (see *Appendix A, page 8*).

Net Tax-Supported Debt and Adjusted Pensions as a % of Personal Income



As noted by Fitch in past reports, the distribution of debt burdens for states is relatively narrow, ranging from 0%–9.2%. This reflects states’ typically conservative, well-established approach to debt management, including centralized issuance and debt service affordability guidelines. By contrast, the distribution of pension burdens is much broader, ranging from 0.2%–19.3%. The wider range reflects plans’ divergent actuarial assumptions, benefit levels, historical contribution practices and funded ratio trends, and whether the state assumes responsibility for the pension obligations of employees of certain local governments (typically school districts).

Solid Market Value Gains: For major statewide pension systems, portfolio investment gains were strong in fiscal 2013 and well ahead of fiscal 2012 gains. Equities tend to make up the largest share of pension investment portfolios, and domestic equity markets rose sharply for the year ending June 30, 2013 (the fiscal year end for the majority of major statewide plans). The Dow Jones Industrial Average rose 15.8% in the year ending June 30, 2013, compared with 2.4% for the year ending June 30, 2012.

While market trends were exceptional, Fitch cautions that the key figure in assessing each plan’s asset performance is the margin of investment gain over that plan’s discount rate, which ranges from 7.5%–8.0% for most plans. Fitch calculates that for major statewide plans, reported investment values (net of securities lending collateral) rose 9.1% as of their most recent financial statements (fiscal 2013 for most plans), compared with an average discount rate in 2013 of 7.73%. By contrast, during the previous year the same plans’ investment portfolios lost 1.3%.

Under GASB 25, the accounting standard currently governing public defined benefit pensions, plans typically smooth the recognition of asset value changes for actuarial purposes, with the intention of reducing contribution volatility. Most major statewide plans smooth over five years, often with a corridor that limits changes, although a handful of plans, such as the main systems in Oregon and Idaho, use unsmoothed market values. Other plans use much longer asset smoothing, extending out seven to 10 years.

Related Criteria

- [Tax-Supported Rating Criteria \(August 2012\)](#)
- [U.S. State Government Tax-Supported Rating Criteria \(August 2012\)](#)

Fitch's Annual State Pension Update

This report provides a summary of states' defined benefit pension obligations as disclosed in their fiscal 2013 accounting statements. This update includes, in Appendix A, Fitch's calculation of states' net tax-supported debt plus their aggregate unfunded pension liability. The aggregate unfunded pension liability data reflects the portion of all plans attributable to the states, as disclosed in their financial statements, with cost-sharing plan liabilities allocated proportionally to the state and liabilities adjusted to reflect a consistent 7% investment return assumption. For additional information on Fitch's adjustments to defined benefit pensions, see "Improving Comparability of State Liabilities," dated March 28, 2012. Fitch reviewed approximately 225 defined benefit plans reported by states to determine the aggregate figures provided in Appendix A. In addition, this update provides, in Appendices B–F, performance data for roughly 100 major statewide plans, based on their most recent financial and actuarial reports (2013 for most plans).

For plans with five-year smoothing, 2013 is the final year for recognizing recessionary asset value losses from 2008–2009. Meanwhile, several years of asset value gains are now being reflected in improving funded ratios on an MVA basis (see Appendix B, pages 9–11). Aggregating major plans' most recent reporting, the median funded ratio on an MVA basis is now 71.4%, compared with 71.6% on an actuarial basis. Under GASB 67, the new pension accounting standard that will be operative for most plans beginning in fiscal 2014, use of the MVA for reporting the funded ratio will be required. Fitch expects future funded ratio performance to be much more volatile given the inherent volatility of asset portfolios.

Actuarial Funded Ratios Level Out: The median actuarially calculated funded ratio rose slightly in 2013 for major plans with reported 2013 actuarial valuations compared with those plans' reported 2012 data. (see Appendix C, pages 12–14). Among the reasons affecting the actuarial funded ratios are the asset-smoothing practices noted earlier. For plans with five-year smoothing, 2013 will be the last year for absorbing recessionary losses, while plans with shorter smoothing have finished recognizing losses and in some cases are recording gains from several years of market value improvement.

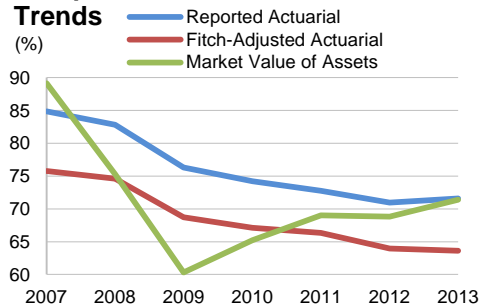
Discount Rate Changes Affecting Funded Ratios: In addition to the recognition of asset losses noted earlier, the lower discount rates implemented by plans since the downturn are a contributing factor to declining funded ratios in recent years. From an average of 7.97% in fiscal 2008, the discount rate for major statewide plans has dropped to 7.73% as of fiscal 2013, a positive development in Fitch's view. Of the roughly 100 major plans detailed in this report, 66 have lowered their discount rates (see Appendix D, pages 15–16). Fitch continues to view discount rates of 8% or higher to be aggressive. For public defined benefit plans, which use the discount rate to calculate the present value of future benefit payments, a lower discount rate raises the actuarial liability and hence lowers the funded ratio.

Most Reforms Not Halting Liability Growth: Total actuarial liabilities in the aggregate have risen without pause over the past five years. For major statewide plans, aggregate actuarial liabilities as of 2012 (the most consistently available valuation date for most major plans) are 18.4% higher than at their 2008 valuation dates, and have risen in each year of that period. For the plans that already have 2013 valuations, actuarial liabilities have risen another 2.7%, with 59 of 67 plans reporting higher liabilities.

The seemingly inexorable growth in actuarial liabilities during a period in which more than 40 states have adopted numerous pension reforms underscores the difficulty of implementing benefit changes that reduce benefits accrued to date. In most states, defined benefit pensions for current workers and retirees enjoy strong legal protections. Thus, pension reforms most often take the form of reduced benefits for future hires, resulting in only gradual improvements in liability trends and ARCs over time as turnover replaces existing workers with those under the new benefit regime.

For some plans, the implementation of reforms has led to higher funded ratios, in some cases significantly higher. For instance, the funded ratios for plans in Montana, New Mexico and Ohio have jumped significantly in their most recent reports due to reforms that have included

Comparative Funded Ratio Trends



Note: 2013 valuations reflect 75 plans reporting to date; prior valuations reflect 97 plans.

changes to the plan COLA and increasing contribution requirements for employees, both of which result in an immediate reduction in the actuarial liability.

ARC Funding Still Lags: An additional factor affecting the performance of major state plans' funded ratios is whether participating governments make full payments of their annual pension contributions. By definition, an actuarially calculated ARC covers both the pension benefits earned by existing workers in the current fiscal year (the normal cost) and a supplemental amount formulated by actuaries that amortizes a portion of the remaining unfunded liability. Current GASB standards require plans and all participating governments to report their ARC and actual contributions.

The ARC has risen significantly since the 2008–2009 downturn due to the need to gradually recoup recessionary asset value losses. For major statewide plans in aggregate, the total ARC rose 46% by fiscal 2012 from its fiscal 2007 level, to \$80.2 billion.

Actual contributions by participating governments in aggregate have never historically matched the ARC, but have fallen even further behind in recent years. In aggregate, actual contributions to major statewide plans as a percentage of the ARC, which totaled 85.5% in fiscal 2007 before the downturn, fell to 77.2% by fiscal 2012. It remained at that level in 2013 for plans that have reported 2013 valuation data to date.

In Fitch's view, fully paying an ARC is an important measure of a participating government's commitment to addressing its pension liability over the long term. Full amortization of an unfunded liability assumes the progressive growth of an asset portfolio both from employer and employee contributions and from investment returns, ultimately reaching a point at which invested assets equal all future expected benefit payments. Failure to pay the ARC delays progress toward full funding and makes future ARCs higher.

In some cases, underfunding the ARC stems from differences between the timing of budgets and actuarial valuations, resulting in typically small variations. More problematic are situations in which a longstanding statutory provision pegs the actual contribution either at a fixed percentage of payroll or based on a formula that inadequately considers actual plan experience. Over time, many states with such provisions have reexamined longstanding funding practices in the face of recent market losses, either raising contributions or lowering benefits.

In some cases, state legislatures have relied on cuts to contributions as a gap-closing mechanism. Fitch views such actions as an expensive form of deficit financing, because the plan foregoes asset value growth at the plan's assumed discount rate and future ARC amounts must rise to recoup the diversion, weighing on participating governments' future structural balance. A few states, such as New Jersey, have sought to address pension plan weakness by implementing wide-ranging benefit reform simultaneously with multiyear delays in full ARC funding. Fitch views such situations as a credit negative given that plan liabilities will continue to grow even with the potentially offsetting impact of benefit reforms.

Plans' ARC Funding by Year

(% by Category)

	2008	2009	2010	2011	2012	2013
100 >	54.5	53.5	45.5	41.6	43.6	40.4
90–99.9	11.9	5.9	8.9	8.9	11.9	16.9
80–89.9	5.0	11.9	13.9	20.8	16.8	11.2
70–79.9	6.9	8.9	7.9	7.9	5.9	12.4
60–69.9	6.9	6.9	8.9	5.0	7.9	7.9
50–59.9	5.9	5.9	4.0	4.0	4.0	3.4
< 50	8.9	6.9	10.9	11.9	9.9	7.9

ARC – Annual required contribution.

Some Amortization Practices Riskier: Although Fitch believes the ARC is an important indicator of a government's annual commitment needed to manage its pension liability, it remains an imperfect one. The ARC incorporates a broad range of economic and actuarial assumptions that vary significantly from plan to plan. Among the most important of these are a plan's amortization assumptions, which allocate how much of the unfunded liability is to be paid off each year to ultimately achieve full funding over time. In Fitch's view, combinations of these assumptions can range from reasonable to problematic.

Two key assumptions are the amortization method and the amortization period. The amortization method determines whether the plan pays down the unfunded liability at a fixed dollar amount (level dollar), which remains unchanged over time, or at a fixed percentage of payroll (level percentage), which typically results in an annual payment rising over time at the rate of payroll growth.

The amortization period is usually either closed or open for a certain number of years. Under a closed amortization, a plan commits to fully paying down the unfunded liability by a specific date in the future. Although gains and losses in the intervening years may result in falling or rising amortization payments, the end of the repayment period remains fixed. On the opposite end of the spectrum is an open or rolling amortization. As of the valuation date, the unfunded liability is amortized over a certain number of years (current GASB standards allow up to 30). Then, at subsequent valuation dates, the liability is re-amortized over the same number of years, in effect perpetually refinancing the unfunded liability.

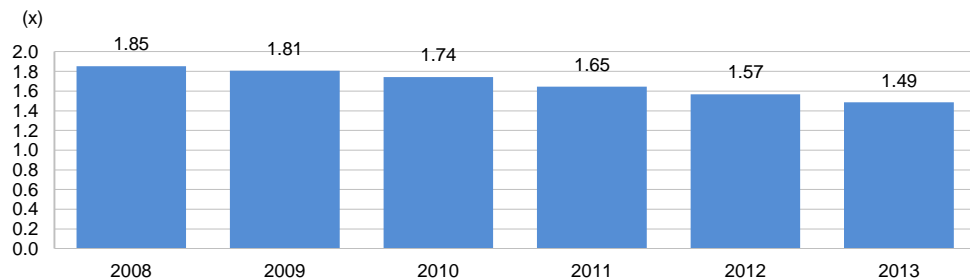
Level percentage methods and an open period can result in plans having negative amortization. In effect, the amortization component of the ARC ends up being insufficient to fully cover annual interest on the unfunded liability, resulting in a progressively higher unfunded amount. Such plans have no clear path to paying down their unfunded obligation in the absence of asset gains consistently ahead of the discount rate.

Fitch considers level dollar, closed amortization periods to be inherently more conservative because they maintain a final payment date for achieving full funding. (Private defined benefit pension plans governed by federal law must use level dollar, closed amortization.) Major statewide plans use a wide range of amortization assumptions, with roughly half reporting closed amortization periods (see *Appendix E, pages 17–18*).

As with benefits, contributions and other plan features, amortization assumptions are subject to change. For example, some states whose plans have a fixed amortization period manage volatility in the ARC (or seek budget relief) by adjusting their plan amortization. Alternatively, several plans have shifted to closed amortization as part of broader pension reforms. Some plans report an amortization method by which the GASB-compliant ARC is calculated, while maintaining a separate, lower statutory annual contribution that would result in a much longer amortization period. Regardless, Fitch reviews changes in amortization assumptions to better understand the purpose of changes.

Demographic Challenges Growing: Fitch believes that negative demographic trends will be a rising source of pressure on pension funded ratios, even assuming that market values achieve the level of returns currently assumed in the discount rate. Demographic changes are affecting plans over a much longer timeframe than the economic cycles driving funded ratios in recent years. For plans open to new members, total retirees are rising steadily even as the number of active employees remains stagnant or even declines. The median ratio of active employees to retirees — one indicator of a plan's maturity — has fallen to 1.5 as of 2013, from 1.9 in 2008 (see *Appendix F, pages 19–20*).

Median Ratio of Actives to Retirees



The decline reflects multiple trends, notably including fiscal austerity-driven constraints on public sector headcount, the aging public sector workforce and the lengthening lifespans of retirees. In some cases, specific initiatives to provide budget relief during the recession — such as early retirement incentive plans — have accelerated these longer term trends.

The consequences of plans' aging demographic profiles are numerous. Plans that would have invested their asset portfolios in longer dated (and thus higher yielding) investments in the past may need to shift toward shorter dated (and thus lower yielding), more liquid investments in the future. For plans that amortize their unfunded liability based on a level percentage of payroll, flat or declining payroll makes paying down the unfunded liabilities more expensive over time.

New GASB Standards: Fiscal 2013 is the last year that most large state plans report under GASB 25, the old GASB standard governing defined benefit pension plan financial statements. Plans with fiscal years ending after June 15, 2014 will report under GASB 67, meaning that for most plans, fiscal 2014 financials will conform to the new standard. (One major statewide plan, the New Mexico Educational Employees Retirement System, already has begun reporting under the new standard in its fiscal 2013 financials.) Individual state and local governments only begin reporting their own pension data under GASB 68 one year later.

Fitch expects few surprises from the first round of plan reporting. For most plans that forecast fully amortizing plan liabilities, Fitch expects that discount rates will reflect the long-term expected return of plan assets (as is currently the case) rather than a blended discount rate required for plans expected to deplete their assets. Funded ratios will reflect a market value of assets, and notably, the actuarial liability for accounting purposes will reflect a relatively consistent set of actuarial assumptions.

Fitch believes the new standards will provide far more transparent, comparable data for analysts compared with existing standards, as well as several useful new tools for measuring pension-related credit risks. The latter includes both a figure for accrued liabilities calculated using relatively consistent actuarial assumptions and a clearly disclosed cost of benefits earned during a given year (service cost), as well as a sensitivity analysis measuring the impact of changes in the discount rate. Moreover, cost-sharing plan participants will begin reporting their proportionate share of systemwide liabilities, an important step toward improved disclosure.

However, the new standards raise concerns as well. Although a consistent accounting method for reporting pension expense will be present, the ARC itself may not be reported by all plans. The ARC is an actuarial rather than accounting concept, and the new standards require its disclosure only to the extent that the plan is funded on an actuarial basis. Fitch believes this to mean that plans requiring only a statutory annual contribution may not disclose the ARC.

Although other new GASB 67 disclosure may reveal inadequate progress toward full funding, notably for those plans whose assets will be depleted, the consistent disclosure of an ARC would provide a more consistent tool for measuring state and local commitment to full funding across all plans, particularly in the context of the new statement's requirements on amortization. Perhaps more significantly, the existence of two simultaneous pension measurement methodologies — one accounting-based for inclusion in financial statements and the other actuarial for calculation of plan funding — may result in confusion regarding how plan funding decisions are made and may obscure situations in which a plan relies on riskier actuarial assumptions.

Fitch expects to review its pension analysis following implementation of the new standards.

Appendix A: Estimates of States' Net Tax-Supported Debt and Unfunded Pension Obligations^a

(\$ Mil.)

State	Total Net Tax-Supported Debt ^b	Debt as % Personal Income	Rank (Low to High)	Reported Pension UAAL Allocation ^c	Fitch-Adjusted Pension UAAL Allocation ^d	Fitch-Adjusted Pension UAAL as % Personal Income ^d	Rank (Low to High)	Debt and Pension Allocation	Debt and Pension Allocation as % Personal Income	Rank (Low to High)
Alabama	3,969	2.2	21	8,318	10,942	6.2	34	14,911	8.5	32
Alaska	1,138	3.1	30	3,261	4,086	11.1	43	5,224	14.2	41
Arizona	6,032	2.5	24	2,964	4,073	1.7	14	10,104	4.1	13
Arkansas	1,012	0.9	8	1,820	2,681	2.5	22	3,693	3.5	10
California ^e	91,583	5.0	40	48,811	59,118	3.3	26	150,701	8.3	31
Colorado	5,754	2.3	22	22,799	29,632	12.1	45	35,387	14.4	42
Connecticut	20,212	9.2	50	25,256	32,008	14.6	48	52,220	23.9	49
Delaware	2,698	5.6	44	1,070	1,564	3.2	25	4,262	8.8	34
Florida	20,360	2.5	25	4,381	6,863	0.8	3	27,223	3.3	9
Georgia	10,564	2.8	28	6,057	7,516	2.0	17	18,080	4.7	17
Hawaii	5,868	9.2	49	6,371	7,686	12.0	44	13,554	21.1	47
Idaho	836	1.5	11	606	829	1.5	9	1,665	2.9	7
Illinois	34,039	5.6	45	100,501	116,529	19.3	50	150,567	25.0	50
Indiana ^f	1,601	0.6	4	12,665	12,665	5.0	30	14,266	5.6	24
Iowa	1,041	0.7	5	1,292	1,664	1.2	7	2,705	1.9	3
Kansas	4,367	3.4	34	7,041	8,819	6.9	38	13,185	10.4	37
Kentucky	8,891	5.6	43	23,471	26,114	16.4	49	35,005	22.0	48
Louisiana	6,604	3.5	35	19,025	23,799	12.6	46	30,403	16.2	43
Maine	973	1.8	15	2,942	3,338	6.1	32	4,311	7.9	30
Maryland	11,538	3.6	36	19,380	22,926	7.1	39	34,464	10.7	38
Massachusetts	34,531	9.1	48	28,104	36,068	9.5	41	70,599	18.5	45
Michigan	7,988	2.1	18	6,934	8,867	2.3	21	16,855	4.3	14
Minnesota	8,068	3.1	32	3,372	5,834	2.2	20	13,903	5.4	21
Mississippi	5,282	5.1	41	11,592	14,609	14.2	47	19,891	19.3	46
Missouri	4,105	1.7	13	5,289	6,857	2.8	24	10,963	4.5	15
Montana	310	0.8	6	1,246	1,639	4.1	28	1,948	4.9	20
Nebraska	29	0.0	1	808	1,269	1.5	10	1,298	1.5	1
Nevada	2,015	1.9	16	2,226	3,026	2.8	23	5,041	4.6	16
New Hampshire	1,141	1.7	14	1,052	1,247	1.9	16	2,388	3.6	11
New Jersey	36,850	7.4	47	37,284	45,335	9.1	40	82,185	16.5	44
New Mexico	2,349	3.1	31	3,646	4,647	6.1	33	6,996	9.2	35
New York	53,278	5.0	39	7,889	11,299	1.1	6	64,577	6.1	25
North Carolina	8,403	2.2	20	3,865	5,644	1.5	11	14,047	3.7	12
North Dakota	188	0.5	3	526	679	1.6	13	867	2.1	4
Ohio	11,371	2.4	23	2,838	4,360	0.9	5	15,731	3.3	8
Oklahoma	1,822	1.1	9	7,046	8,841	5.5	31	10,663	6.7	28
Oregon	7,701	4.9	38	1,182	2,229	1.4	8	9,930	6.3	27
Pennsylvania	16,525	2.8	29	35,374	40,622	6.9	37	57,147	9.7	36
Rhode Island	2,252	4.6	37	2,948	3,330	6.7	35	5,582	11.3	39
South Carolina	3,730	2.2	19	4,873	5,645	3.3	27	9,357	5.5	22
South Dakota	622	1.6	12	8	187	0.5	2	809	2.1	5
Tennessee	2,122	0.8	7	1,466	2,226	0.9	4	4,348	1.7	2
Texas	14,747	1.3	10	35,857	56,033	4.9	29	70,780	6.1	26
Utah	3,434	3.3	33	1,297	1,593	1.5	12	5,027	4.8	18
Vermont	580	2.0	17	1,459	1,945	6.8	36	2,525	8.8	33
Virginia	10,776	2.7	27	8,695	8,695	2.2	18	19,471	4.8	19
Washington	19,825	6.0	46	3,274	5,990	1.8	15	25,815	7.9	29
West Virginia	1,757	2.7	26	5,615	6,399	9.7	42	8,156	12.4	40
Wisconsin	13,329	5.4	42	19	494	0.2	1	13,823	5.6	23
Wyoming	31	0.1	2	434	667	2.2	19	698	2.4	6
Median		2.6				3.3			6.1	
Low		0.0				0.2			1.5	
High		9.2				19.3			25.0	

^aU.S. Bureau of Economic Analysis 2013 personal income by state as of March 25, 2014. ^bNet tax-supported debt based on most recent state bond disclosure documents. ^cCombined pension data by state is estimated by Fitch for all reported state pension plans whose liability is attributable to the state based on state-provided figures, and/or most recent state bond disclosure documents, state annual reports, pension system annual financial reports and actuarial valuations. ^dFitch-adjusted figures assume an 11% increase in actuarial liabilities for every 1% variance between 7% and the plan's investment return assumption. ^eActuarial liability of California State Teachers Retirement System allocated to state is estimated by Fitch based on the share of state statutory contributions to all statutory contributions. ^fIncludes the Indiana State Teachers Retirement System pre-1996 plan obligation, which was not intended to be prefunded and is considered a pay-as-you-go plan.

Appendix B: Comparative Funded Ratios

(% As of Most Recent Actuarial Valuation Date)

Plan Name	Actuarial Valuation Date	Reported Actuarial Funded Ratio	Market Value of Assets Funded Ratio ^a	Actuarial Funded Ratio with 7% Liability Adjustment
Alabama Employees Retirement System	9/30/2013	65.7	71.9	59.2
Alabama Teachers Retirement System	9/30/2012	66.5	72.8	59.9
Alaska Public Employees' Retirement System	6/30/2012	57.1	57.8	51.5
Alaska Teachers' Retirement System	6/30/2012	49.9	50.6	45.0
Arizona Public Safety Personnel Retirement System	6/30/2013	58.7	51.1	53.6
Arizona State Retirement System ^b	6/30/2013	75.4	76.0	68.0
Arkansas Highway and Transportation Retirement Plan	6/30/2013	90.8	86.6	81.8
Arkansas Public Employees Retirement Plan	6/30/2013	74.3	75.2	67.0
Arkansas Teacher Retirement Plan	6/30/2013	73.3	75.2	66.0
California Public Employee Retirement Fund	6/30/2012	83.1	76.4	78.8
California State Teachers' Retirement Fund	6/30/2012	67.2	77.1	63.7
Colorado Public Employees' Retirement Association – State Division	12/31/2012	59.2	58.8	53.3
Connecticut State Employees Retirement System	6/30/2013	41.2	42.4	37.1
Connecticut Teachers Retirement System	6/30/2013	55.2	58.1	47.4
Delaware State Employees	6/30/2013	91.1	84.7	86.3
District of Columbia Police & Fire Pension Plan	10/1/2013	110.1	113.7	116.5
District of Columbia Teachers Pension Plan	10/1/2013	90.1	97.2	95.4
Florida Retirement System	7/1/2013	85.4	88.9	78.9
Georgia Public Employees' Retirement System ^b	6/30/2013	71.4	72.7	67.7
Georgia Teachers Retirement System	6/30/2012	82.3	82.3	78.0
Hawaii Employees' Retirement Plan	6/30/2013	60.0	57.9	55.4
Idaho Public Employee Retirement Fund	7/1/2013	85.4	86.0	80.9
Illinois State Employees Retirement System	6/30/2013	34.2	35.1	31.6
Illinois State Universities Retirement System	6/30/2013	41.5	42.0	38.3
Illinois Teachers' Retirement System	6/30/2013	40.6	42.3	36.6
Indiana 1977 Police Officers' and Firefighters' Pension and Disability Fund	6/30/2013	95.2	100.1	97.9
Indiana Public Employees Retirement Fund-State Employees	6/30/2013	80.2	80.1	82.5
Indiana State Teachers' Retirement System ^c	6/30/2013	45.7	46.7	47.0
Iowa Public Employees' Retirement System	6/30/2013	81.0	80.9	76.8
Kansas Public Employees Retirement System	12/31/2012	56.4	61.6	50.8
Kentucky Employees Retirement System – Non-Hazardous	6/30/2013	23.2	23.0	21.4
Kentucky Teachers' Retirement System	6/30/2013	51.9	55.7	49.2
Louisiana School Employees Retirement System	6/30/2013	62.1	69.1	58.9
Louisiana State Employees Retirement System	6/30/2013	60.2	63.2	54.2
Teachers Retirement System of Louisiana	6/30/2013	56.4	58.3	50.8
Maine Public Employees Retirement System	6/30/2013	79.6	78.6	77.4
Maryland Employees Retirement & Pension System	6/30/2013	63.3	61.5	58.8
Maryland Teachers Retirement & Pension System	6/30/2013	67.1	65.7	63.6
Massachusetts State Employees' Retirement System	1/1/2013	69.1	73.4	62.3
Massachusetts Teachers' Retirement System	1/1/2013	55.7	58.9	50.2
Michigan Public School Employees' Retirement System	9/30/2012	61.3	64.2	55.2
Michigan State Employees' Retirement System	9/30/2012	60.3	63.1	54.4
Minnesota General Employees Retirement Fund	6/30/2013	72.8	77.7	62.5
Minnesota Police & Fire Fund	6/30/2013	81.2	86.7	69.7
Minnesota State Employees Retirement Fund	6/30/2013	82.0	85.5	70.4
Minnesota Teachers Retirement Fund	7/1/2013	71.6	74.8	62.2
Mississippi Public Employees' Retirement System	6/30/2013	57.7	60.4	51.9
Missouri Dept. of Transp. & Patrol Employees' Retirement System	6/30/2013	46.2	46.1	42.7
Missouri State Employees' Plan	6/30/2013	72.7	61.3	65.5

^aMarket value excludes securities lending collateral. ^bActuarial funded ratios from recently disclosed reports; market values from prior annual financial statements. ^cActuarial data for Indiana State Teachers Retirement System – Pre-1996 Account and 1996 Account, the state and local divisions of New Jersey Police & Fireman's Retirement System and the New Jersey Public Employees' Retirement System, and the state employees and teachers divisions of Rhode Island Employees Retirement System are combined because market value of assets for separate plan divisions is not disclosed.

Appendix B: Comparative Funded Ratios (continued)

(% As of Most Recent Actuarial Valuation Date)

Plan Name	Actuarial Valuation Date	Reported Actuarial Funded Ratio	Market Value of Assets Funded Ratio ^a	Actuarial Funded Ratio with 7% Liability Adjustment
Montana Public Employees Retirement System	6/30/2013	80.2	82.1	74.1
Montana Teachers Retirement System	7/1/2013	66.8	67.8	61.7
Nebraska School Retirement	6/30/2013	77.1	82.1	69.5
Nebraska State Employees' Retirement – Cash Balance	12/31/2012	93.6	75.9	86.5
Nevada Public Employees' Retirement System	6/30/2013	69.3	67.4	62.5
New Hampshire Retirement System	6/30/2013	56.7	59.1	52.4
New Jersey Police & Fireman's Retirement System – State & Local ^c	6/30/2013	73.1	64.5	66.5
New Jersey Public Employees' Retirement System – State & Local ^c	6/30/2013	62.1	54.5	56.5
New Jersey Teachers' Pension & Annuity Fund	6/30/2013	57.1	48.6	51.9
New Mexico Educational Employees Retirement System	6/30/2013	61.9	57.3	57.2
New Mexico Public Employees' Retirement System	6/30/2013	72.9	71.8	67.4
New York State & Local Employees' Retirement System	4/1/2012	87.2	94.6	82.7
New York State & Local Police & Fire Retirement System	4/1/2012	87.9	96.5	83.3
North Carolina Teachers' & State Employees' Retirement System	12/31/2012	94.2	91.6	91.6
North Dakota Public Employees' Retirement System	6/30/2013	62.0	71.4	55.8
North Dakota Teachers' Fund For Retirement	7/1/2013	58.8	64.7	53.0
Ohio Public Employees Retirement System	12/31/2012	80.9	80.9	72.9
Ohio State Teachers Retirement System	7/1/2013	66.3	66.9	61.3
Oklahoma Firefighters Pension & Retirement System	7/1/2013	58.8	59.4	55.7
Oklahoma Police Pension & Retirement System	7/1/2013	89.3	89.1	84.6
Oklahoma Public Employees Retirement System	7/1/2013	81.6	87.0	77.3
Oklahoma Teachers' Retirement System	6/30/2013	57.2	58.7	51.6
Oregon Public Employees Retirement System	12/31/2012	90.7	92.0	83.8
Pennsylvania Public School Employees' Retirement System	6/30/2012	66.3	56.2	62.9
Pennsylvania State Employees' Retirement System	12/31/2012	58.8	59.4	55.7
Rhode Island Employees' Retirement System ^{b, c}	6/30/2013	57.3	57.7	54.4
South Carolina Police Officers' Retirement System	7/1/2012	71.1	59.8	67.4
South Carolina Retirement System	7/1/2012	64.7	53.8	61.4
South Dakota Retirement System	6/30/2013	100.0	103.6	94.8
Tennessee State Emp., Teachers & Higher Ed. Emp. Pension Plan ^b	7/1/2013	93.3	90.9	88.5
Texas Employees Retirement System	8/31/2013	79.6	71.4	71.7
Texas Teacher Retirement System	8/31/2013	80.8	77.5	72.8
Utah Public Employees Noncontributory Retirement System	1/1/2013	76.1	81.4	72.1
Utah Public Safety Retirement System	1/1/2013	73.0	78.1	69.2
Vermont State Retirement System	6/30/2013	76.7	76.5	68.5
Vermont State Teachers' Retirement System	6/30/2013	60.5	60.2	55.0
Virginia Retirement System	6/30/2012	65.8	72.4	65.8
Washington Law Enf. Officers & Fire Fighters Ret. System – Plan 1	6/30/2012	135.0	124.4	122.8
Washington Law Enf. Officers & Fire Fighters Ret. System – Plan 2	6/30/2012	113.7	119.7	107.8
Washington Public Employees Retirement System – Plan 1	6/30/2012	68.9	59.3	62.7
Washington Public Employees Retirement System – Plan 2/3	6/30/2012	99.4	102.6	90.5
Washington Teachers Retirement System – Plan 1	6/30/2012	79.1	67.7	71.9
Washington Teachers Retirement System – Plan 2/3	6/30/2012	103.7	107.8	94.4

^aMarket value excludes securities lending collateral. ^bActuarial funded ratios from recently disclosed reports; market values from prior annual financial statements. ^cActuarial data for Indiana State Teachers Retirement System – Pre-1996 Account and 1996 Account, the state and local divisions of New Jersey Police & Fireman's Retirement System and the New Jersey Public Employees' Retirement System, and the state employees and teachers divisions of Rhode Island Employees Retirement System are combined because market value of assets for separate plan divisions is not disclosed.

Appendix B: Comparative Funded Ratios (continued)

(% As of Most Recent Actuarial Valuation Date)

Plan Name	Actuarial Valuation Date	Reported Actuarial Funded Ratio	Market Value of Assets Funded Ratio ^a	Actuarial Funded Ratio with 7% Liability Adjustment
West Virginia Public Employees' Retirement System	7/1/2012	77.6	75.9	73.6
West Virginia Teachers' Retirement System	7/1/2012	53.0	52.6	50.2
Wisconsin Retirement System	12/31/2012	99.9	103.6	97.8
Wyoming Law Enforcement Retirement Plan	1/1/2013	92.3	91.1	83.2
Wyoming Public Employees Pension Plan	1/1/2013	78.6	77.8	70.8

^aMarket value excludes securities lending collateral. ^bActuarial funded ratios from recently disclosed reports; market values from prior annual financial statements. ^cActuarial data for Indiana State Teachers Retirement System – Pre-1996 Account and 1996 Account, the state and local divisions of New Jersey Police & Fireman's Retirement System and the New Jersey Public Employees' Retirement System, and the state employees and teachers divisions of Rhode Island Employees Retirement System are combined because market value of assets for separate plan divisions is not disclosed.

Appendix C: Reported Plan Information

(% As of Actuarial Valuation Dates^a)

Plan Name	Plan Type	Actuarial Valuation Date	2007 Funded Ratio	2008 Funded Ratio	2009 Funded Ratio	2010 Funded Ratio	2011 Funded Ratio	2012 Funded Ratio	2013 Funded Ratio	UAAL – Latest Valuation (\$ Mil.)
Alabama Employees Retirement System	AME	9/30	79.0	75.7	72.2	68.2	65.8	65.7	N.A.	4,768.4
Alabama Teachers Retirement System	CSME	9/30	79.5	77.6	74.7	71.1	67.5	66.5	N.A.	9,465.4
Alaska Public Employees' Retirement System	CSME	6/30	77.8	78.8	63.0	62.4	61.9	57.1	N.A.	4,898.5
Alaska Teachers' Retirement System	CSME	6/30	68.2	70.2	57.0	54.3	54.0	49.9	N.A.	3,204.8
Arizona Public Safety Personnel Retirement System	AME	6/30	65.2	68.8	70.0	67.7	63.7	60.2	58.7	562.5
Arizona State Retirement System	CSME	6/30	83.3	82.1	79.0	76.4	75.5	75.3	N.A.	9,502.0
Arkansas Highway and Transportation Retirement Plan	SE	6/30	98.8	101.5	96.6	91.9	91.4	89.5	90.8	129.3
Arkansas Public Employees Retirement Plan	CSME	6/30	89.1	89.7	78.0	74.1	70.7	68.9	74.3	2,125.0
Arkansas Teacher Retirement Plan	CSME	6/30	85.3	84.9	75.7	73.8	71.8	71.2	73.3	4,471.0
California Public Employee Retirement Fund	AME	6/30	87.2	86.9	83.3	83.4	82.6	83.1	N.A.	28,169.0
California State Teachers' Retirement Fund	CSME	6/30	88.8	87.3	78.2	71.5	69.3	67.2	N.A.	70,533.0
Colorado Public Employees' Retirement Association – State Div.	CSME	12/31	73.3	67.9	67.0	62.8	57.7	59.2	N.A.	22,711.1
Connecticut State Employees Retirement System	SE	6/30	53.6	51.9	44.4	47.9	42.3	41.2	N.A.	13,983.7
Connecticut Teachers Retirement System	SE	6/30	N.A.	70.0	N.A.	61.4	N.A.	55.2	N.A.	11,127.4
Delaware State Employees	SE	6/30	103.7	103.1	98.8	96.0	94.0	91.5	91.1	737.5
District of Columbia Police & Fire Pension Plan	SE	10/1	101.0	99.8	100.7	108.0	108.6	110.1	110.1	(369.4)
District of Columbia Teachers Pension Plan	SE	10/1	111.6	108.2	110.8	118.3	101.9	94.4	90.1	173.3
Florida Retirement System	CSME	7/1	105.6	105.3	87.1	86.6	86.9	86.4	85.4	22,445.3
Georgia Public Employees' Retirement System	CSME	6/30	93.0	89.4	85.7	80.1	76.0	73.1	N.A.	4,517.3
Georgia Teachers Retirement System	CSME	6/30	94.7	91.9	89.9	85.7	84.0	82.3	N.A.	12,086.3
Hawaii Employees' Retirement Plan	CSME	6/30	67.5	68.8	64.6	61.4	59.4	59.2	60.0	8,494.9
Idaho Public Employee Retirement Fund	CSME	7/1	105.5	93.3	74.1	78.9	90.2	84.7	85.4	2,074.1
Illinois State Employees Retirement System	SE	6/30	54.2	46.1	43.5	37.4	35.5	34.7	34.2	22,843.3
Illinois State Universities Retirement System	CSME	6/30	68.4	58.5	54.3	46.4	44.3	42.1	41.5	20,110.5
Illinois Teachers' Retirement System	CSME	6/30	63.8	56.0	52.1	48.4	46.5	42.1	40.6	55,731.8
Indiana 1977 Police Officers' and Firefighters' Pension and Disability Fund	CSME	6/30	113.6	106.4	98.0	92.7	98.8	91.9	95.2	212.2
Indiana Public Employees Retirement Fund – State Employees	AME	6/30	98.2	97.5	93.1	85.2	80.5	76.6	80.2	1,274.9
Indiana State Teachers' Retirement System – Pre-1996 Account	CSME	6/30	36.0	37.7	31.9	33.1	32.0	30.1	31.8	11,227.3
Indiana State Teachers' Retirement System – 1996 Account	CSME	6/30	96.0	104.1	93.1	94.7	91.7	90.7	93.8	295.5
Iowa Public Employees' Retirement System	CSME	6/30	90.2	89.1	81.2	81.4	79.9	79.9	81.0	5,787.2
Kansas Public Employees Retirement System	CSME	12/31	70.8	58.8	63.7	62.2	59.2	56.4	N.A.	10,252.9
Kentucky Employees Retirement System – Non-Hazardous	CSME	6/30	56.9	52.5	45.0	38.3	33.3	27.3	23.2	8,750.5
Kentucky Teachers' Retirement System	CSME	6/30	71.9	68.2	63.6	61.0	57.4	54.5	51.9	13,854.4
Louisiana School Employees Retirement System	CSME	6/30	80.0	76.6	65.5	61.0	59.9	61.6	62.1	911.1
Louisiana State Employees Retirement System	SE	6/30	67.2	67.6	60.8	57.7	57.6	55.9	60.2	6,441.3
Teachers Retirement System of Louisiana	CSME	6/30	71.3	70.2	59.1	54.4	55.1	55.4	56.4	11,348.6
Maine Public Employees Retirement System	AME	6/30	80.0	79.7	72.6	70.4	80.2	79.1	79.6	2,942.3
Maryland Employees Retirement & Pension System	CSME	6/30	79.5	77.2	63.9	62.8	62.8	62.5	63.3	7,720.1
Maryland Teachers Retirement & Pension System	CSME	6/30	81.1	79.6	66.1	65.4	66.3	65.8	67.1	11,684.8
Massachusetts State Employees' Retirement System	SE	1/1	85.1	89.4	71.6	76.5	81.0	73.8	69.1	9,068.1
Massachusetts Teachers' Retirement System	SE	1/1	71.0	73.9	58.2	63.0	66.3	60.7	55.7	17,347.7
Michigan Public School Employees' Retirement System	CSME	9/30	88.7	83.6	78.9	71.1	64.7	61.3	N.A.	24,266.0

^aThe funded ratios shown are based on the reported actuarial valuation date of each plan rather than the financial statement date. CSME – Cost-sharing multi-employer. AME – Agent multiple employer. SE – Single employer. N.A. – Not available.

Appendix C: Reported Plan Information (continued)

(% As of Actuarial Valuation Dates^a)

Plan Name	Plan Type	Actuarial Valuation Date	2007	2008	2009	2010	2011	2012	2013	UAAL – Latest
			Funded Ratio	Funded Ratio	Funded Ratio	Funded Ratio	Funded Ratio	Funded Ratio	Funded Ratio	Valuation (\$ Mil.)
Michigan State Employees' Retirement System	SE	9/30	86.2	82.8	78.0	72.6	65.5	60.3	N.A.	6,207.0
Minnesota General Employees Retirement Fund	CSME	6/30	73.3	73.6	70.0	76.4	75.2	73.5	72.8	5,266.5
Minnesota Police & Fire Fund	CSME	6/30	91.7	88.4	83.2	87.0	82.9	78.3	81.2	1,371.1
Minnesota State Employees Retirement Fund	CSME	6/30	92.5	90.2	85.9	87.3	86.3	82.7	82.0	2,052.9
Minnesota Teachers Retirement Fund	CSME	7/1	87.5	82.0	77.4	78.5	77.3	73.0	71.6	6,644.0
Mississippi Public Employees' Retirement System	CSME	6/30	73.7	72.9	67.3	64.2	62.2	58.0	57.7	15,052.3
Missouri Dept. of Transp. & Patrol Employees' Retirement System	SE	6/30	58.2	59.1	47.3	42.2	43.3	46.3	46.2	1,926.6
Missouri State Employees' Plan	SE	6/30	86.8	85.9	83.0	80.4	79.2	73.2	72.7	3,038.2
Montana Public Employees Retirement System	CSME	6/30	91.0	90.2	83.5	74.2	70.2	67.4	80.2	1,021.0
Montana Teachers Retirement System	CSME	7/1	79.6	79.9	66.2	65.4	61.5	59.2	66.8	1,524.8
Nebraska School Retirement	CSME	6/30	90.5	90.6	86.6	82.4	80.4	76.6	77.1	2,281.8
Nebraska State Employees' Retirement – Cash Balance	SE	12/31	103.4	96.9	93.9	93.6	91.5	93.6	N.A.	68.5
Nevada Public Employees' Retirement System	CSME	6/30	77.2	76.2	72.5	70.5	70.2	71.0	69.3	12,876.0
New Hampshire Retirement System	CSME	6/30	67.0	67.8	58.3	58.5	57.4	56.1	56.7	4,638.1
New Jersey Police & Fireman's Retirement System – State	CSME	7/1	64.7	61.8	56.5	59.7	54.6	51.5	48.6	2,154.9
New Jersey Public Employees' Retirement System – State	CSME	7/1	68.8	65.6	56.4	58.8	54.3	49.1	46.0	10,802.2
New Jersey Teachers' Pension & Annuity Fund	CSME	7/1	74.7	70.8	63.8	67.1	62.8	59.3	57.1	23,039.5
New Mexico Educational Employees Retirement System	CSME	6/30	70.5	71.5	67.5	65.7	63.0	60.7	61.9	6,276.9
New Mexico Public Employees' Retirement System	CSME	6/30	92.8	93.3	84.2	78.5	70.5	65.3	72.9	4,619.2
New York State & Local Employees' Retirement System	CSME	4/1	105.8	107.3	101.0	93.9	90.2	87.2	N.A.	18,419.0
New York State & Local Police & Fire Retirement System	CSME	4/1	106.5	108.0	103.8	96.7	91.9	87.9	N.A.	3,038.0
North Carolina Teachers' & State Employees' Retirement System	CSME	12/31	104.7	99.3	95.9	95.4	94.0	94.2	N.A.	3,718.4
North Dakota Public Employees' Retirement System	CSME	7/1	93.3	92.6	85.1	73.4	70.5	65.1	62.0	1,033.5
North Dakota Teachers' Fund For Retirement	CSME	7/1	79.2	81.9	77.7	69.8	66.3	60.9	58.8	1,234.8
Ohio Public Employees Retirement System	CSME	12/31	96.3	75.3	75.3	79.1	77.4	80.9	N.A.	16,023.3
Ohio State Teachers Retirement System	CSME	6/30	82.2	79.1	60.0	59.1	58.8	56.0	66.3	31,775.9
Oklahoma Firefighters Pension & Retirement System	CSME	6/30	61.6	61.8	54.2	53.4	63.7	60.9	58.8	1,270.0
Oklahoma Police Pension & Retirement System	CSME	6/30	79.9	82.2	76.3	74.9	93.0	90.2	89.3	229.0
Oklahoma Public Employees Retirement System	CSME	7/1	72.6	73.0	66.8	66.0	80.7	80.2	81.6	1,577.2
Oklahoma Teachers' Retirement System	CSME	6/30	52.5	50.5	49.8	47.9	56.7	54.8	57.2	8,112.1
Oregon Public Employees Retirement System	CSME	12/31	112.2	80.2	85.8	86.9	82.0	90.7	N.A.	5,621.1
Pennsylvania Public School Employees' Retirement System	CSME	6/30	81.2	85.8	86.0	79.2	75.1	69.1	66.3	29,533.0
Pennsylvania State Employees' Retirement System	CSME	12/31	97.1	89.0	84.4	75.2	65.3	58.8	N.A.	17,753.0
Rhode Island Employees' Retirement System – State Employees	CSME	6/30	57.5	62.3	59.0	59.8	57.4	56.3	56.2	1,878.8
Rhode Island Employees' Retirement System – Teachers	CSME	6/30	55.4	61.0	58.1	61.8	59.7	58.8	58.1	2,665.9
South Carolina Police Officers' Retirement System	CSME	7/1	84.7	77.9	76.3	74.5	72.8	71.1	N.A.	1,548.6
South Carolina Retirement System	CSME	7/1	69.7	69.3	67.8	65.5	67.4	64.7	N.A.	13,917.0
South Dakota Retirement System	CSME	6/30	97.1	97.2	91.8	96.3	96.4	92.6	100.0	—
Tennessee State Emp., Teachers & Higher Ed. Employees Pension Plan	CSME	7/1	96.2	N.A.	90.6	N.A.	92.1	N.A.	93.3	2,272.5
Texas Employees Retirement System	SE	8/31	95.6	92.6	87.4	85.4	84.5	82.6	79.6	6,320.3
Texas Teacher Retirement System	SE	8/31	89.2	90.5	83.1	82.9	82.7	81.9	80.8	28,936.0
Utah Public Employees Noncontributory Retirement System	CSME	1/1	95.8	95.1	86.5	85.7	82.7	79.0	76.1	5,353.3

^aThe funded ratios shown are based on the reported actuarial valuation date of each plan rather than the financial statement date. CSME – Cost-sharing multi-employer. AME – Agent multiple employer. SE – Single employer. N.A. – Not available.

Appendix C: Reported Plan Information (continued)

(% As of Actuarial Valuation Dates^a)

Plan Name	Plan Type	Actuarial Valuation Date	2007 Funded Ratio	2008 Funded Ratio	2009 Funded Ratio	2010 Funded Ratio	2011 Funded Ratio	2012 Funded Ratio	2013 Funded Ratio	UAAL – Latest Valuation (\$ Mil.)
Utah Public Safety Retirement System	CSME	1/1	91.9	90.7	81.6	80.6	77.1	75.4	73.0	845.3
Vermont State Retirement System	SE	6/30	100.8	94.1	78.9	81.2	79.6	77.7	76.7	445.1
Vermont State Teachers' Retirement System	CSME	6/30	84.9	80.9	65.4	66.5	63.8	61.6	60.5	1,013.9
Virginia Retirement System	CSME	6/30	82.3	84.0	80.2	72.4	69.9	65.8	N.A.	77,845.3
Washington Law Enf. Officers & Fire Fighters Retirement System – Plan 1	CSME	6/30	122.6	128.4	125.4	126.9	134.6	135.0	N.A.	(1,441.3)
Washington Law Enf. Officers & Fire Fighters Retirement System – Plan 1	CSME	6/30	128.8	133.5	127.9	124.3	118.7	113.7	N.A.	(869.0)
Washington Public Employees Retirement System – Plan 1	CSME	6/30	70.7	70.9	69.9	74.1	70.7	68.9	N.A.	3,839.0
Washington Public Employees Retirement System – Plan 2/3	CSME	6/30	101.5	101.1	99.3	97.2	97.1	99.4	N.A.	127.0
Washington Teachers Retirement System – Plan 1	CSME	6/30	76.7	76.8	75.3	84.7	81.1	79.1	N.A.	1,893.0
Washington Teachers Retirement System – Plan 2/3	CSME	6/30	112.7	107.9	101.8	100.5	99.3	103.7	N.A.	(280.0)
West Virginia Public Employees' Retirement System	CSME	7/1	97.0	84.2	79.7	74.6	78.4	77.6	N.A.	1,283.4
West Virginia Teachers' Retirement System	CSME	7/1	51.3	50.0	41.3	46.5	53.7	53.0	N.A.	4,568.2
Wisconsin Retirement System	CSME	12/31	99.6	99.7	99.8	99.8	99.9	99.9	N.A.	69.7
Wyoming Law Enforcement Retirement Plan	CSME	1/1	97.4	95.9	83.4	102.2	99.9	95.9	92.3	36.3
Wyoming Public Employees Pension Plan	CSME	1/1	94.4	94.0	78.6	87.5	84.6	81.9	78.6	1,569.2

^aThe funded ratios shown are based on the reported actuarial valuation date of each plan rather than the financial statement date. CSME – Cost-sharing multi-employer. AME – Agent multiple employer. SE – Single employer. N.A. – Not available.

Appendix D: Investment Return Assumption Changes

(Fiscal Year)

Plan Name	2008 IRA (%)	2013 IRA (%)
Alabama Employees Retirement System	8.00	8.00
Alabama Teachers Retirement System	8.00	8.00
Alaska Public Employees' Retirement System	8.25	8.00
Alaska Teachers' Retirement System	8.25	8.00
Arizona Public Safety Personnel Retirement System	8.50	7.85
Arizona State Retirement System	8.00	8.00
Arkansas Highway and Transportation Retirement Plan	8.00	7.25
Arkansas Public Employees Retirement Plan	8.00	8.00
Arkansas Teacher Retirement Plan	8.00	8.00
California Public Employee Retirement Fund	7.75	7.50
California State Teachers' Retirement Fund	8.00	7.50
Colorado Public Employees' Retirement Association – State Div.	8.50	8.00
Connecticut State Employees Retirement System	8.25	8.00
Connecticut Teachers Retirement System	8.50	8.50
Delaware State Employees	8.00	7.50
District of Columbia Police & Fire Pension Plan	7.50	6.50
District of Columbia Teachers Pension Plan	7.50	6.50
Florida Retirement System	7.75	7.75
Georgia Public Employees' Retirement System	7.50	7.50
Georgia Teachers Retirement System	7.50	7.50
Hawaii Employees' Retirement Plan	8.00	7.75
Idaho Public Employee Retirement Fund	7.75	7.50
Illinois State Employees Retirement System	8.50	7.75
Illinois State Universities Retirement System	8.50	7.75
Illinois Teachers' Retirement System	8.50	8.00
Indiana 1977 Police Officers' and Firefighters' Pension and Disability Fund	7.25	6.75
Indiana Public Employees Retirement Fund – State Employees	7.25	6.75
Indiana State Teachers' Retirement System	7.50	6.75
Iowa Public Employees' Retirement System	7.50	7.50
Kansas Public Employees Retirement System	8.00	8.00
Kentucky Employees Retirement System – Non-Hazardous	7.75	7.75
Kentucky Teachers' Retirement System	7.50	7.50
Louisiana School Employees Retirement System	8.25	7.50
Louisiana State Employees Retirement System	8.25	8.00
Teachers Retirement System of Louisiana ^a	8.25	8.00
Maine Public Employees Retirement System	7.75	7.25
Maryland Employees Retirement & Pension System	7.75	7.70
Maryland Teachers Retirement & Pension System	7.75	7.70
Massachusetts State Employees' Retirement System	8.25	8.00
Massachusetts Teachers' Retirement System	8.25	8.00
Michigan Public School Employees' Retirement System	8.00	8.00
Michigan State Employees' Retirement System	8.00	8.00
Minnesota General Employees Retirement Fund	8.50	8.50
Minnesota Police & Fire Fund	8.50	8.50
Minnesota State Employees Retirement Fund ^a	8.50	8.50
Minnesota Teachers Retirement Fund ^a	8.50	8.38
Mississippi Public Employees' Retirement System	8.00	8.00
Missouri Dept. of Transp. & Patrol Employees' Retirement System	8.25	7.75
Missouri State Employees' Plan	8.50	8.00
Montana Public Employees Retirement System	8.00	7.75
Montana Teachers Retirement System	7.75	7.75
Nebraska School Retirement	8.00	8.00
Nebraska State Employees' Retirement – Cash Balance	7.75	7.75

^aSystem uses multiple rates; in cases without a reported single blended rate, highest rate shown. ^bMost recent data as of 2012.

Appendix D: Investment Return Assumption Changes (continued)

(Fiscal Year)

Plan Name	2008 IRA (%)	2013 IRA (%)
Nevada Public Employees' Retirement System	8.00	8.00
New Hampshire Retirement System	8.50	7.75
New Jersey Police & Fireman's Retirement System – State	8.25	7.90
New Jersey Public Employees' Retirement System – State	8.25	7.90
New Jersey Teachers' Pension & Annuity Fund	8.25	7.90
New Mexico Educational Employees Retirement System	8.00	7.75
New Mexico Public Employees' Retirement System	8.00	7.75
New York State & Local Employees' Retirement System	8.00	7.50
New York State & Local Police & Fire Retirement System	8.00	7.50
North Carolina Teachers' & State Employees' Retirement System	7.25	7.25
North Dakota Public Employees' Retirement System	8.00	8.00
North Dakota Teachers' Fund For Retirement	8.00	8.00
Ohio Public Employees Retirement System ^b	8.00	8.00
Ohio State Teachers Retirement System	8.00	7.75
Oklahoma Firefighters Pension & Retirement System	7.50	7.50
Oklahoma Police Pension & Retirement System	7.50	7.50
Oklahoma Public Employees Retirement System	7.50	7.50
Oklahoma Teachers' Retirement System	8.00	8.00
Oregon Public Employees Retirement System	8.00	7.75
Pennsylvania Public School Employees' Retirement System	8.25	7.50
Pennsylvania State Employees' Retirement System	8.50	7.50
Rhode Island Employees' Retirement System – State Employees	8.25	7.50
Rhode Island Employees' Retirement System – Teachers	8.25	7.50
South Carolina Police Officers' Retirement System	7.25	7.50
South Carolina Retirement System	7.25	7.50
South Dakota Retirement System	7.75	7.50
Tennessee State Emp. Teachers & Higher Ed. Emp. Pension Plan	7.50	7.50
Texas Employees Retirement System	8.00	8.00
Texas Teacher Retirement System	8.00	8.00
Utah Public Employees Noncontributory Retirement System	7.75	7.50
Utah Public Safety Retirement System	7.75	7.50
Vermont State Retirement System	8.25	8.10
Vermont State Teachers' Retirement System	8.25	7.90
Virginia Retirement System	7.50	7.00
Washington Law Enf. Officers & Fire Fighters Ret. System – Plan 1	8.00	7.90
Washington Law Enf. Officers & Fire Fighters Ret. System 2 Plan 2	8.00	7.50
Washington Public Employees Retirement System – Plan 1	8.00	7.90
Washington Public Employees Retirement System – Plan 2/3	8.00	7.90
Washington Teachers Retirement System – Plan 1	8.00	7.90
Washington Teachers Retirement System – Plan 2/3	8.00	7.90
West Virginia Public Employees' Retirement System	7.50	7.50
West Virginia Teachers' Retirement System	7.50	7.50
Wisconsin Retirement System ^{a b}	7.80	7.20
Wyoming Law Enforcement Retirement Plan	8.00	8.00
Wyoming Public Employees Pension Plan	8.00	8.00

^aSystem uses multiple rates; in cases without a reported single blended rate, highest rate shown. ^bMost recent data as of 2012.

Appendix E: Percentage of ARC Funded and Amortization

Plan Name	2007 % ARC Funded	2008 % ARC Funded	2009 % ARC Funded	2010 % ARC Funded	2011 % ARC Funded	2012 % ARC Funded	2013 % ARC Funded	Amortization in Years ^a	Amortization Method
Alabama Employees Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	100.0	30	Open
Alabama Teachers Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	100.0	30	Open
Alaska Public Employees' Retirement System	65.4	77.3	107.4	116.1	86.0	92.7	89.2	18	Closed
Alaska Teachers' Retirement System	62.2	62.2	106.0	139.3	78.6	84.6	85.2	18	Closed
Arizona Public Safety Personnel Retirement System	107.0	104.0	103.1	104.3	104.9	104.6	103.7	23	Closed
Arizona State Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	100.0	30	Open
Arkansas Highway and Transportation Retirement Plan	100.0	100.0	100.0	100.0	100.0	100.0	100.0	30	Open
Arkansas Public Employees Retirement Plan	100.0	100.0	100.0	100.0	100.0	100.0	100.0	25	Closed
Arkansas Teacher Retirement Plan	103.2	101.8	104.4	107.3	95.9	89.9	88.7	30	Open
California Public Employee Retirement Fund	100.0	100.0	100.0	100.0	100.0	100.0	101.7	29	Closed
California State Teachers' Retirement Fund	66.6	65.7	63.1	54.7	46.7	45.8	44.1	30	Open
Colorado Public Employees' Retirement Assn. – State Div.	60.0	61.0	69.0	62.0	85.0	83.0	N.A.	30	Open
Connecticut State Employees Retirement System	100.0	99.2	92.8	80.3	87.5	100.0	99.9	18	Closed
Connecticut Teachers Retirement System	101.0	20.6	100.0	100.0	100.0	100.0	100.0	22	Closed
Delaware State Employees	100.0	100.0	100.0	100.0	100.0	100.0	100.0	20	Open
District of Columbia Police & Fire Pension Plan	100.0	100.0	100.0	100.0	100.0	100.0	100.0	19	Closed
District of Columbia Teachers Pension Plan	100.0	100.0	100.0	100.0	100.0	100.0	100.0	19	Closed
Florida Retirement System	111.0	107.0	111.0	111.0	83.0	60.0	66.0	30	Open
Georgia Public Employees' Retirement System	100.0	100.0	100.0	99.9	100.0	100.0	100.0	30	Open
Georgia Teachers Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	100.0	30	Open
Hawaii Employees' Retirement Plan	95.3	95.7	109.9	102.1	91.8	83.7	87.2	30	Open
Idaho Public Employee Retirement Fund	110.2	108.7	122.7	109.5	85.5	84.5	96.6	25	Open
Illinois State Employees Retirement System	43.6	59.6	77.2	93.1	87.5	86.5	87.9	30	Open
Illinois State Universities Retirement System	37.0	48.8	51.7	69.4	61.4	68.3	90.5	30	Open
Illinois Teachers' Retirement System	39.8	60.0	75.9	90.6	84.7	74.6	79.8	30	Open
Indiana 1977 Police Officers' and Firefighters' Pension and Disability Fund	112.8	113.1	102.2	103.3	99.9	95.5	155.3	30	Closed
Indiana Public Employees Retirement Fund-State Employees	92.2	104.3	102.2	91.9	70.8	78.1	95.5	30	Closed
Indiana State Teachers' Retirement System – Pre-1996 Account	105.5	99.7	100.9	86.0	83.7	88.2	115.9	30	Closed
Indiana State Teachers' Retirement System – 1996 Account	83.6	108.6	123.5	152.0	108.1	104.3	108.0	30	Closed
Iowa Public Employees' Retirement System	83.3	87.2	87.8	89.5	82.3	98.2	98.0	30	Open
Kansas Public Employees Retirement System	63.9	65.1	68.0	72.1	74.0	67.0	75.0	20	Closed
Kentucky Employees Retirement System – Non-Hazardous	49.9	39.5	38.2	41.3	50.7	48.7	57.9	30	Closed
Kentucky Teachers' Retirement System	88.0	83.0	74.0	76.0	152.9	73.5	70.8	30	Open
Louisiana School Employees Retirement System	108.1	94.9	75.0	61.3	80.7	93.4	92.2	30	Closed
Louisiana State Employees Retirement System	97.0	115.4	102.8	87.2	82.2	89.3	86.2	19	Closed
Teachers Retirement System of Louisiana	106.5	116.2	106.4	83.5	90.2	100.0	99.0	27	Closed
Maine Public Employees Retirement System	100.0	100.0	100.0	103.4	101.7	100.1	100.0	15	Closed
Maryland Employees Retirement & Pension System	63.6	75.8	76.3	75.1	68.8	65.9	66.9	25	Closed
Maryland Teachers Retirement & Pension System	85.1	93.6	89.4	92.3	75.1	71.2	77.5	25	Closed
Massachusetts State Employees' Retirement System	100.8	124.6	57.0	63.0	92.0	83.7	77.9	28	Closed
Massachusetts Teachers' Retirement System	100.2	107.9	68.0	62.0	111.0	90.2	80.7	39	Closed
Michigan Public School Employees' Retirement System	90.8	110.5	101.1	84.7	81.5	83.4	70.6	24	Closed
Michigan State Employees' Retirement System	47.7	115.5	97.8	88.4	94.8	81.9	99.0	24	Closed
Minnesota General Employees Retirement Fund	84.4	81.0	86.2	77.3	111.1	99.1	86.5	18	Closed
Minnesota Police & Fire Fund	64.2	60.2	72.2	71.3	88.2	80.0	66.6	26	Closed
Minnesota State Employees Retirement Fund	70.7	58.2	59.6	49.3	81.1	80.7	66.9	27	Closed
Minnesota Teachers Retirement Fund	91.1	82.6	67.8	57.4	63.4	66.4	62.7	24	Closed
Mississippi Public Employees' Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	100.0	30	Open
Missouri Dept. of Transp. & Patrol Employees' Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	100.0	18	Closed
Missouri State Employees' Plan	100.0	100.0	100.0	100.0	100.0	100.0	100.0	30	Open
Montana Public Employees Retirement System	110.4	110.4	79.4	60.5	54.6	53.7	93.8	14.5	Open
Montana Teachers Retirement System	179.8	100.0	100.0	98.3	98.3	81.9	70.2	20	Open
Nebraska School Retirement	100.0	100.0	100.0	100.0	89.0	88.0	79.0	26	Closed

^aFor plans with a range of amortization, longest amortization period shown. ^bARC funding corresponds to pension fiscal year, not state fiscal year. ^cExcludes reforms subsequent to valuation date. N.A. – Not applicable.

Appendix E: Percentage of ARC Funded and Amortization (continued)

Plan Name	2007	2008	2009	2010	2011	2012	2013	Amortization in Years ^a	Amortization Method
	% ARC Funded	% ARC Funded	% ARC Funded	% ARC Funded	% ARC Funded	% ARC Funded	% ARC Funded		
Nebraska State Employees' Retirement - Cash Balance	100.0	100.0	100.0	100.0	100.0	100.0	N.A.	22	Closed
Nevada Public Employees' Retirement System	96.0	93.0	90.0	92.0	88.0	96.0	86.0	30	Open
New Hampshire Retirement System	100.0	75.0	75.0	100.0	100.0	100.0	100.0	27	Closed
New Jersey Police & Fireman's Retirement System – State	59.2	52.8	7.3	2.1	2.0	14.3	27.8	30	Open
New Jersey Police & Fireman's Retirement System – Local	72.3	91.4	90.1	91.8	91.9	93.1	92.7	30	Open
New Jersey Public Employees' Retirement System – State	56.8	42.1	7.9	4.1	3.6	15.9	28.6	30	Open
New Jersey Public Employees' Retirement System – Local	63.4	70.1	87.2	82.9	84.1	89.6	90.5	30	Open
New Jersey Teachers' Pension & Annuity Fund	49.7	44.9	6.0	1.8	1.4	14.0	27.7	30	Open
New Mexico Educational Employees Retirement System	100.0	100.0	86.2	87.7	81.6	63.4	62.3	N.A.	N.A.
New Mexico Public Employees' Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	100.0	30	Open
New York State & Local Employees' Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	100.0	N.A.	Aggregate
New York State & Local Police & Fire Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	100.0	N.A.	Aggregate
North Carolina Teachers' & State Employees' Retirement System	100.0	99.0	100.0	100.0	73.0	100.0	104.0	12	Closed
North Dakota Public Employees' Retirement System	61.0	70.0	69.0	56.0	39.0	42.0	50.0	20	Open
North Dakota Teachers' Fund For Retirement	63.1	76.4	89.3	76.5	68.4	66.5	113.3	30	Closed
Ohio Public Employees Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	N.A.	26	Closed
Ohio State Teachers Retirement System	83.0	100.0	89.0	52.0	51.0	41.0	46.0	30	Open
Oklahoma Firefighters Pension & Retirement System	80.0	56.4	52.7	43.9	44.9	66.3	66.6	20	Closed
Oklahoma Police Pension & Retirement System	59.3	55.8	57.1	41.2	38.5	94.2	83.3	6	Closed
Oklahoma Public Employees Retirement System	58.4	60.5	75.2	66.8	62.9	109.4	105.2	14	Closed
Oklahoma Teachers' Retirement System	93.1	101.1	86.6	83.6	77.6	115.9	113.1	30	Open
Oregon Public Employees Retirement System	63.4	74.0	100.0	100.0	100.0	83.0	72.0	24	Closed
Pennsylvania Public School Employees' Retirement System	38.6	40.7	28.6	27.3	27.0	38.1	46.1	30	Open
Pennsylvania State Employees' Retirement System	39.3	39.9	39.1	31.4	42.8	53.9	N.A.	30	Open
Rhode Island Employees' Retirement System – State Employees	100.0	100.0	100.0	100.0	100.0	100.0	N.A.	22	Closed
Rhode Island Employees' Retirement System – Teachers	100.0	100.0	100.0	100.0	100.0	100.0	N.A.	22	Closed
South Carolina Police Officers' Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	100.0	30	Open
South Carolina Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	100.0	29	Open
South Dakota Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0	Closed
Tennessee State Emp., Teachers & Higher Ed. Emp. Pension Plan	100.0	100.0	100.0	100.0	100.0	100.0	100.0	13	Closed
Texas Employees Retirement System	88.9	90.3	68.4	63.4	58.5	49.2	50.7	30	Open
Texas Teacher Retirement System	85.0	102.0	108.0	86.0	86.0	74.0	74.0	28	Closed
Utah Public Employees Noncontributory Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	N.A.	22	Closed
Utah Public Safety Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	N.A.	22	Closed
Vermont State Retirement System	97.8	92.5	86.7	84.1	84.5	140.2	130.4	25	Closed
Vermont State Teachers' Retirement System	98.9	99.4	94.3	101.0	104.2	109.6	108.1	25	Closed
Virginia Retirement System	85.9	92.6	81.3	66.6	46.7	59.6	75.8	29	Open
Washington Law Enf. Officers & Fire Fighters Ret. System – Plan 1	0.0	100.0	100.0	100.0	100.0	100.0	100.0	12	Closed
Washington Law Enf. Officers & Fire Fighters Ret. System – Plan 2	101.0	117.0	122.0	114.0	157.0	137.0	144.0	N.A.	Aggregate
Washington Public Employees Retirement System – Plan 1	30.0	49.0	52.0	25.0	33.0	51.0	50.0	10	Open
Washington Public Employees Retirement System – Plan 2/3	73.2	87.7	118.9	85.0	80.0	94.0	95.0	N.A.	Aggregate
Washington Teachers Retirement System – Plan 1	24.0	38.0	46.0	28.0	47.0	44.0	43.0	10	Open
Washington Teachers Retirement System – Plan 2/3	60.9	52.4	86.0	75.0	72.0	92.0	99.0	N.A.	Aggregate
West Virginia Public Employees' Retirement System	101.2	102.1	100.0	88.0	83.3	105.3	96.6	22	Closed
West Virginia Teachers' Retirement System	454.2	110.1	94.3	91.4	106.3	105.3	100.8	21	Closed
Wisconsin Retirement System	100.0	100.0	100.0	100.0	100.0	100.0	N.A.	30	Open
Wyoming Law Enforcement Retirement Plan	135.6	130.6	103.2	164.0	153.3	135.0	N.A.	30	Open
Wyoming Public Employees Pension Plan	113.8	106.5	168.3	76.6	93.4	88.2	N.A.	30	Open

^aFor plans with a range of amortization, longest amortization period shown. ^bARC funding corresponds to pension fiscal year, not state fiscal year. ^cExcludes reforms subsequent to valuation date. N.A. – Not applicable.

Appendix F: Ratio of Active Members to Retirees and Beneficiaries

Plan Name	2008	2013 ^a
Alabama Employees Retirement System	2.4	2.1
Alabama Teachers Retirement System	2.0	1.6
Alaska Public Employees' Retirement System ^b	1.2	0.8
Alaska Teachers' Retirement System ^b	0.9	0.6
Arizona Public Safety Personnel Retirement System	2.6	1.8
Arizona State Retirement System	2.5	1.7
Arkansas Highway and Transportation Retirement Plan	1.3	1.2
Arkansas Public Employees Retirement Plan	1.9	1.5
Arkansas Teacher Retirement Plan	2.6	1.9
California Public Employee Retirement Fund	1.7	1.3
California State Teachers' Retirement Fund	2.1	1.6
Colorado Public Employees' Retirement Association - State Div.	2.3	1.6
Connecticut State Employees Retirement System	1.4	1.1
Connecticut Teachers Retirement System	1.8	1.5
Delaware State Employees	1.7	1.5
District of Columbia Police & Fire Pension Plan	3.6	2.5
District of Columbia Teachers Pension Plan	1.9	1.3
Florida Retirement System	2.5	1.8
Georgia Public Employees' Retirement System	1.9	1.4
Georgia Teachers Retirement System	2.8	2.1
Hawaii Employees' Retirement Plan	1.8	1.6
Idaho Public Employee Retirement Fund	3.7	1.7
Illinois State Employees Retirement System	1.1	0.9
Illinois State Universities Retirement System	1.6	1.2
Illinois Teachers' Retirement System	1.8	1.5
Indiana 1977 Police Off. and Firefighters' Pension and Disability Fund	5.3	3.8
Indiana Public Employees Retirement Fund-State Employees	2.3	1.8
Indiana State Teachers' Retirement System	1.8	1.3
Iowa Public Employees' Retirement System	1.9	1.6
Kansas Public Employees Retirement System	2.2	1.9
Kentucky Employees Retirement System-Non Hazardous	1.4	1.1
Kentucky Teachers' Retirement System	1.9	1.6
Louisiana School Employees Retirement System	1.1	0.9
Louisiana State Employees Retirement System	2.0	1.2
Teachers Retirement System of Louisiana ^b	1.4	1.2
Maine Public Employees Retirement System	1.5	1.3
Maryland Employees Retirement & Pension System	1.6	1.3
Maryland Teachers Retirement & Pension System	2.0	1.6
Massachusetts State Employees' Retirement System	1.7	1.6
Massachusetts Teachers' Retirement System	1.8	1.5
Michigan Public School Employees' Retirement System ^b	1.6	1.1
Michigan State Employees' Retirement System ^b	0.6	0.3
Minnesota General Employees Retirement Fund	2.2	1.8
Minnesota Police & Fire Fund	1.5	1.1
Minnesota State Employees Retirement Fund	1.8	1.5
Minnesota Teachers Retirement Fund	1.6	1.3
Mississippi Public Employees' Retirement System	2.3	1.8
Missouri Dept. of Transp. & Patrol Emp. Ret. System	1.2	1.1
Missouri State Employees' Plan	1.8	1.3
Montana Public Employees Retirement System	1.7	1.5
Montana Teachers Retirement System	1.6	1.3
Nebraska School Retirement	2.5	2.1
Nebraska State Employees' Retirement – Cash Balance	33.1	13.1

^aBased on most recent fiscal year financial statement or actuarial valuation data, 2013 in most cases. Calculation excludes terminated members not yet receiving benefits. ^bPlan closed.

Appendix F: Ratio of Active Members to Retirees and Beneficiaries (continued)

Plan Name	2008	2013 ^a
Nevada Public Employees' Retirement System	2.8	1.9
New Hampshire Retirement System	2.2	1.9
New Jersey Police & Fireman's Retirement System - State	1.4	1.0
New Jersey Public Employees' Retirement System - State	2.4	1.8
New Jersey Teachers' Pension & Annuity Fund	2.1	1.7
New Mexico Educational Employees Retirement System	2.0	1.6
New Mexico Public Employees' Retirement System	2.1	1.6
New York State & Local Employees' Retirement System	1.6	1.3
New York State & Local Police & Fire Retirement System	1.1	0.9
North Carolina Teachers' & State Employees' Retirement System	2.2	1.8
North Dakota Public Employees' Retirement System	2.8	2.5
North Dakota Teachers' Fund For Retirement	1.5	1.4
Ohio Public Employees Retirement System	2.1	1.7
Ohio State Teachers Retirement System	1.4	1.1
Oklahoma Firefighters Pension & Retirement System	1.2	1.3
Oklahoma Police Pension & Retirement System	1.8	1.6
Oklahoma Public Employees Retirement System	1.7	1.4
Oklahoma Teachers' Retirement System	2.0	1.6
Oregon Public Employees Retirement System	1.6	1.3
Pennsylvania Public School Employees' Retirement System	1.6	1.4
Pennsylvania State Employees' Retirement System	1.0	0.9
Rhode Island Employees' Retirement System-State Employees	1.2	1.0
Rhode Island Employees' Retirement System-Teachers	1.6	1.2
South Carolina Police Officers' Retirement System	2.3	1.7
South Carolina Retirement System	1.8	1.4
South Dakota Retirement System	2.0	1.7
Tennessee State Emp., Teachers & Higher Ed. Emp. Pension Plan	1.9	1.5
Texas Employees Retirement System	1.9	1.5
Texas Teacher Retirement System	3.4	2.8
Utah Public Employees Noncontributory Retirement System	2.9	2.0
Utah Public Safety Retirement System	2.1	1.7
Vermont State Retirement System	1.9	1.4
Vermont State Teachers' Retirement System	1.9	1.3
Virginia Retirement System	2.4	2.2
Washington Law Enf. Officers & Fire Fighters Ret. System - Plan 1 ^b	0.1	0.0
Washington Law Enf. Officers & Fire Fighters Ret. System - Plan 2	17.4	7.1
Washington Public Employees Retirement System - Plan 1 ^b	0.2	0.1
Washington Public Employees Retirement System - Plan 2/3	8.1	4.9
Washington Teachers Retirement System - Plan 1 ^b	0.2	0.1
Washington Teachers Retirement System - Plan 2/3	18.5	9.1
West Virginia Public Employees' Retirement System	1.7	1.6
West Virginia Teachers' Retirement System	1.2	1.1
Wisconsin Retirement System	1.8	1.5
Wyoming Law Enforcement Retirement Plan	4.2	3.3
Wyoming Public Employees Pension Plan	1.9	1.7

^aBased on most recent fiscal year financial statement or actuarial valuation data, 2013 in most cases. Calculation excludes terminated members not yet receiving benefits. ^bPlan closed.

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