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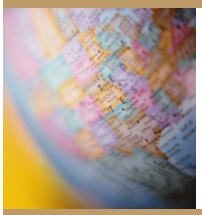

CENTER for RETIREMENT RESEARCH at BOSTON COLLEGE

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HOW WILL LONGER LIFESPANS AFFECT STATE AND LOCAL PENSION FUNDING?

*By Alicia H. Munnell, Jean-Pierre Aubry, and Mark Cafarelli**

Introduction

The fact that people are living longer is good news from a human perspective. But longer lifespans also make defined benefit pension plans more expensive because sponsors must pay benefits to retirees for a longer period of time. The question is the extent to which state and local plans have already incorporated this pattern of continued longevity improvement into their cost estimates. For example, CalPERS – one of the nation's largest plans – revised its longevity assumptions in 2014, significantly increasing its liabilities and reducing its funded ratio by 5 percentage points. This change raises the question whether more cost increases due to longevity improvements are on the horizon. To answer the question, this *brief* explores what public plan liabilities and funded ratios would look like under two alternative scenarios: 1) if public plans were required to use the new mortality table designed for private sector plans; and 2) if public plans were required to go one step further and fully incorporate expected future mortality improvements.

The discussion proceeds as follows. The first section describes how public and private plans currently incorporate longevity improvements into their cost estimates. The second section presents a simple model that relates the impact of improved longevity to liabilities, showing that, if beneficiaries live an additional year, liabilities increase by 3.5 percent. The third section estimates the impact of changing the longevity assumptions to: 1) the new standard designed for use in the private sector; and 2) the more stringent standard that incorporates future mortality improvements. The results suggest that, under the first standard, public plans underestimate life expectancy by only 0.5 year. Adopting the second standard would increase life expectancy by 2.3 years and reduce the funded ratio of public plans from 73 percent to 67 percent. Of course, public plans vary significantly, so the impacts would be much larger for some and smaller for others.

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Estimating Longevity Improvements

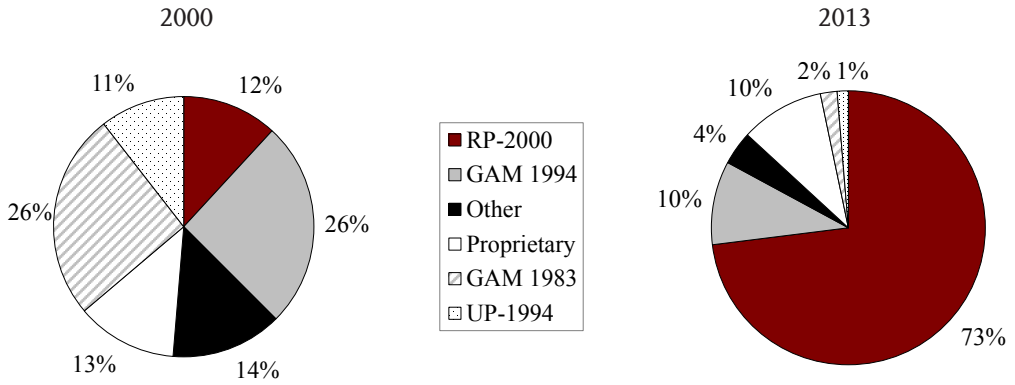
The private sector is under much more specific guidance than the public sector in terms of how to calculate expected mortality. The Pension Protection Act of 2006 directed the Internal Revenue Service (IRS) to publish mortality tables for private sector funding calculations. Currently, these IRS tables are based on the RP-2000 mortality table, which was constructed by the Society of Actuaries (SOA) with data from over 100 private pension plans for the period 1990-1994. These mortality rates are then updated using the mortality improvement Scale AA.[1] In an effort to approximate future mortality improvements, the 2014 IRS table actually uses estimated retiree mortality rates for 2021.

In 2009, the SOA initiated a new study of mortality trends, focusing on death rates of participants in private pension plans in 2006. They then applied an updated mortality improvement scale, MP-2014, to create RP-2014. It is uncertain when these new tables will be adopted.[2]

Unlike the private sector, public sector plans are not required to use a specific mortality table and, at the turn of the century, state and local plans used a wide variety of approaches (see Figure 1). By 2013, however, 73 percent of plans in the *Public Plans Database* (PPD) used the RP-2000 as their base.[3] But the base table is only the starting point; public plan actuaries make a variety of adjustments to align the tables with the expected mortality of their plan members.[4] The common adjustments are mortality improvement scales, setbacks, or some combination of the two. A mortality improvement scale specifies the pace at which mortality rates will decline each year. A setback involves applying mortality rates at younger ages to older ages. For example, a 3-year setback would use age-62 mortality rates for a 65-year old.

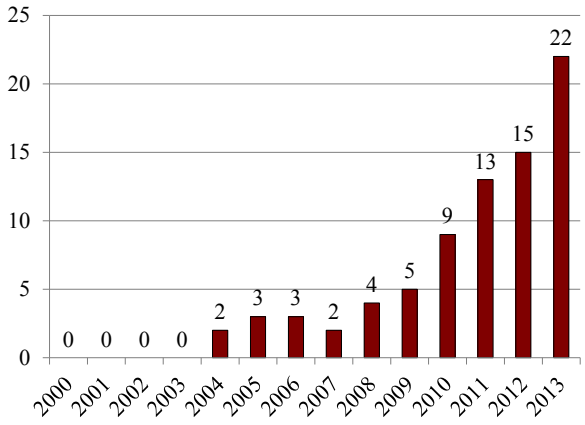
In developing mortality tables, actuaries use two different approaches: "static" and "generational."[5] The static method is a snapshot of mortality rates at a given point in time. As noted, the IRS tables used by private plans choose a point in time that is seven years in the future in an effort to partially reflect future mortality improvements. The generational method goes further, fully incorporating anticipated future improvements in longevity. Interestingly, while state and local plans primarily use a static approach, they have been gradually moving toward an explicit generational method (see Figure 2 on the next page).

Figure 1. Distribution of Mortality Tables Used by Large State and Local Pension Plans, 2000 and 2013



Note: Alabama Teachers Retirement System (2000), DC Teachers Retirement System (2013), and North Dakota Teachers Retirement System (2013) use different mortality tables for male and female retirees. For these plans, the figure reflects the male mortality tables. For a description of the various methods, see endnote 6.
Source: Various pension plan actuarial valuations.

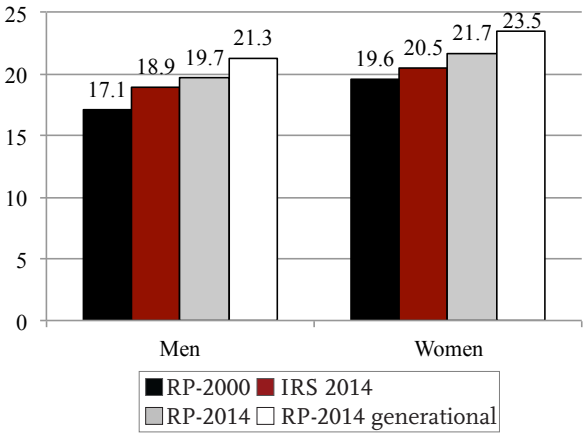
Figure 2. Number of State and Local Pension Plans Using Generational Scaling, 2000-13



Source: Various pension plan actuarial valuations.

Figure 3 compares life expectancies for men and women at age 65 from old, scaled, new, and generational tables. The first comparison shows that – between the original RP-2000 and the current 2014 IRS table – life expectancy for healthy annuitants increased by 1.8 years for men and 0.9 years for women. The second comparison – between the 2014 IRS table and life expectancy implied by RP-2014 – suggests that the IRS tables (which, as noted, actually project mortality rates in 2021) do not fully account for all the gains in life expectancy that occurred from 2000-2014.[7] The third comparison – between RP-2014 life expectancy calculated on a static basis and on a generational basis – shows that the latter adds 1.6 years for men and 1.8 years for women. The comparisons suggest that even though the IRS tables are intended to be up to date, they still show lower mortality improvements than the RP-2014. In addition, the application of generational tables to the RP-2014, which incorporate *future* improvements, would result in a further increase.

Figure 3. Life Expectancy at Age 65 for Healthy Annuitants Under Various Mortality Tables



Source: Authors' calculations from Society of Actuaries (2015); and Internal Revenue Service (2013).

How Do Differences in Life Expectancy Affect Liabilities?

The overall goal of this analysis is to calculate how much applying private sector life expectancy assumptions would affect public sector liabilities and funded status.[8] The first step is to establish a relationship between life expectancy and liabilities. To this end, we estimate a model where the present value of pension liabilities (L) is approximated as follows:

$$L = p\ b\left(\frac{1-(1+r)^{-n}}{r}\right)$$

This relationship can be transformed into a linear equation as follows:

$$\text{Log}(L) = a + \beta_1 \log(p) + \beta_2 \log(b) + \beta_3 \log(r) + \beta_4 n + \beta_5\, n \log(r) + \varepsilon,$$

where p is the number of participants; b is the average annual benefit; r is the discount rate; and n – our life expectancy variable – is the average length of expected future payouts.

The linear equation can then be estimated using data from the 150 state and local pension plans in the PPD over the period 2001-2013.[9] The variable of interest is life expectancy, which reflects the specific mortality assumptions for men and women for each year for each plan.[10] The PPD data suggest that the average age for current annuitants is 63 in police and fire plans and 68 in plans for teachers and general employees, so the life expectancy is calculated at those ages for each type of plan. The male-female ratio is assumed to be 80-20 for police and fire plans, 20-80 for teacher plans, and 45-55 for plans for general employees; the life expectancies for men and women are weighted to reflect these aggregate ratios.

The results in Table 1 show that state and local pension plans would see their liabilities increase by 3.5 percent for each additional year of life expectancy.[11] These results are consistent with previous research on private sector plans and hypothetical arrangements.[12]

Table 1. Factors Affecting Pension Liabilities

Variables	Coefficients
Log (p)Number of participants	0.810
Log (b)Average benefit level	0.654
Log (r)Discount rate	-0.953
Life expectancy	**0.035**
Constant	2.323
R-squared	0.953
Number of observations	1,750

Notes: The data for liabilities and participants are for retirees only. The coefficients report effects from an OLS estimation and are significant at the 99-percent level. The model includes plan and year fixed effects.
Source: Authors' calculations.

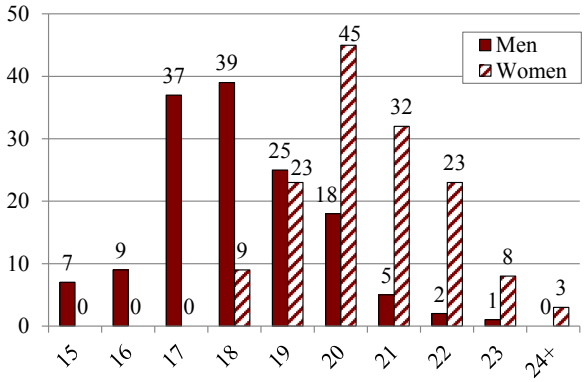
Updating Public Plan Assumptions to Static and Generational RP-2014

The results from the equation are then used to calculate what pension liabilities and funded ratios of state and local plans would be if liabilities were calculated based on the new RP-2014 mortality table and then on a generational version of RP-2014. (We are not advocating that state and local plans adopt RP-2014, since their mortality experience is quite different from private plans. Rather, RP-2014 is simply used as a benchmark.)[13]

The exercise starts with each of the 150 plans' current male-female weighted life expectancies at 63 or 68 and 2013 liabilities and assets to get a base funded ratio. Public plans show enormous variation in their life expectancies (see Figure 4). Life expectancy at 65 for men ranges from 15-23 years and for women from 18-25 years, which means that some of the high projections far exceed those implied by RP-2014.

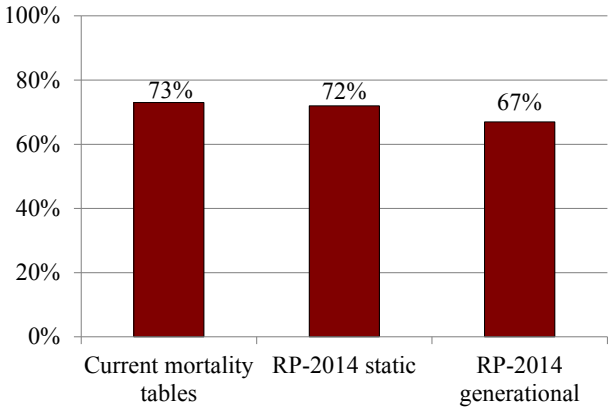
The next step is to compare each plan's assumed life expectancy with that implied by RP-2014 and multiply that difference by 3.5 percent to estimate the impact on liabilities. Finally, we recalculate the liabilities and reestimate the funded ratio.[14] The results of the exercise show that, on average, public plan life expectancies were 0.5 year lower than that implied by static RP-2014 tables. This difference means that liabilities would increase by 1.75 percent if plans adopted RP-2014, which would reduce the 2013 funded status of state and local plans from 73 percent to 72 percent (see Figure 5). If plans were required to adopt a generational, rather than a static, version of RP-2014, their assumptions would fall short by 2.3 years, implying an 8-percent increase in liabilities and a funded ratio of 67 percent.

Figure 4. Distribution of State and Local Plans by Average Life Expectancy at Age 65



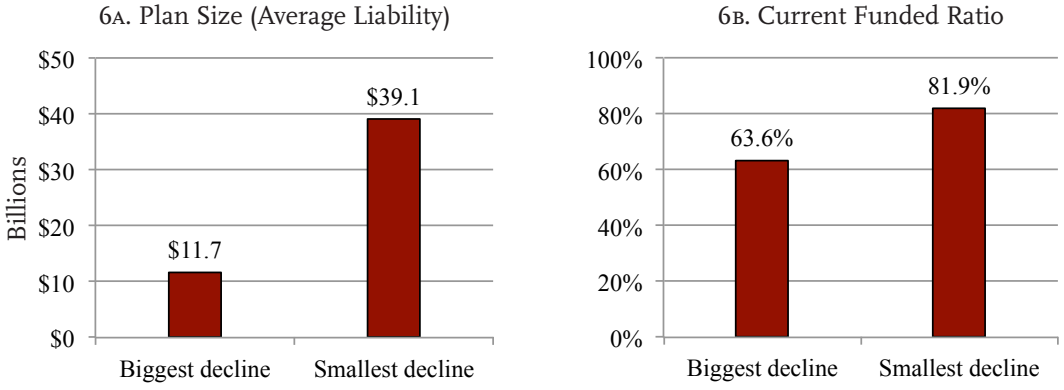
Source: Authors' calculations.

Figure 5. Average Funded Ratio by Mortality Table



Source: Authors' calculations.

Figures 6a and 6b. Plan Size and Funded Ratio for Plans with Biggest and Smallest Declines in Funded Ratio from Adopting Generational RP-2014



Source: Authors' calculations.

The results for each of the 150 plans are shown in the Appendix. Three conclusions emerge from examining the individual plan data. First, the biggest decline in funded ratios occurs among the smallest plans; large plans appear to keep their life expectancy assumptions more up to date (see Figure 6a). Second, the decline in funded status appears to be inversely related to the initial funded level – that is, the worst funded plans tend have the most outdated mortality assumptions (see Figure 6b). Finally, adopting mortality assumptions designed for private plans appears to have a roughly equal impact on the funded ratio of plans for teachers (7.3-percent decline in funded ratio), general employees (7.0-percent decline), and police and fire personnel (8.8-percent decline).

Conclusion

The question underlying this analysis is whether outdated mortality assumptions are a serious problem among state and local plans. The answer appears to be "no." It's true that if plans were to adopt the generational version of RP-2014, the aggregate funded ratio would drop from an estimated 73 percent to 67 percent; but even the private sector is not considering using such low mortality rates. Simply adopting the static RP-2014 would only reduce the funded ratio from 73 percent to 72 percent. In short, public sector plans seem to be making a serious effort to keep their life expectancy assumptions up to date. The big increase in 2013 of CalPERS' liability and decline in funding was reflective of an effort to better incorporate future mortality improvements when estimating mortality, not a sign of a serious problem.[15]

Endnotes

1 For example, the mortality rate for a 65-year-old man in the RP-2000 is 1.3 percent and the annual percentage decline in mortality based on the Scale AA is 1.4 percent, so to calculate the mortality rate in 2014 requires reducing the initial rate by 1.4 percent for 14 years – producing a 2014 mortality rate of 1.1 percent.

2 Some critics suggest that, because of the sample used, RP-2014 may be biased toward faster rates of longevity improvement. See American Academy of Actuaries Pension Committee (2014).

3 The PPD is developed and maintained through a collaboration of the Center for Retirement Research at Boston College, the Center for State and Local Government Excellence, and the National Association of State Retirement Administrators. It contains data for 150 large state and local plans – 114 state and 36 local – and accounts for 91 percent of assets and workers relative to the totals reported by the U.S. Census Bureau.

4 Plan actuaries perform periodic experience studies (every three to five years for most large plans) to ensure that assumptions used by the plan align with the plan's actual mortality experience.

5 Alternative terms for "static" and "generational" projections of life expectancy are, respectively, "period" and "cohort." An example of how the two approaches differ may be helpful. Under the basic static method, for a 65-year-old in 2015 the mortality rates at 66, 67, 68 etc. are the rates applicable to individuals *currently* at those ages in 2015. In contrast, a "generational" approach would take into account that mortality rates for individuals would likely decline in the future. Thus, for a 65-year-old in 2015, the mortality rate at 66 would be that for a 66-year-old in 2016; at 67 that for a 67-year-old in 2017, etc. Since death rates are projected to decline in the future, a static calculation significantly understates how long someone is actually likely to live.

6 Each mortality table is based on different sources of actual mortality experience. The RP-2000 is described in the text. The UP-1994 (Uninsured Pensioner) tables are based on group annuitant experience from 1985-1990, the federal Civil Service Retirement System experience, and Social Security's Actuarial Study No. 107. The 1994 GAM (Group Annuity Mortality) tables are based on the same experience as UP-94 except that the GAM-94 tables include a 7-percent margin designed for insurance reserves. The 1983 GAM tables are based on insured group annuity experience submitted by Prudential and by the Bankers Life, U.S. white population statistics for the period from 1965-1978, Canadian population statistics from 1966-1976, and mortality rates for persons covered under Medicare during 1973-1977.

7 To test for consistency between the RP-2014 and the RP-2000 rates, SOA actuaries applied both the Scale AA and the Scale MP-2014 to the RP-2000 rates and concluded that the Scale MP-2014 was more accurate.

8 The following analysis builds on a similar study by Kisser et al. (2012) for private defined benefit plans over the period 1995-2007.

9 Complete historical data are not available for every plan, so the total number of observations is 1,750.

10 Life expectancy can be derived from mortality rates in three steps: 1) compute survival rates from mortality rates – that is, a 1-percent chance of dying turns into a 99-percent chance of surviving; 2) calculate the probability of, say, a 65-year-old living to 66, to 67, to 68 and so on, where each year's rate is the product of the previous survival rates; and 3) sum the conditional survival rates to determine the number of years the 65-year-old is expected to live.

11 The dependent variable is the liability for annuitants – that is, for those already retired. The percentage increase in active worker liability will be of a similar order of magnitude.

12 Antolin (2007) computes pension liabilities for a hypothetical pension fund that is closed to new entrants and finds that an unexpected improvement in life expectancy of one year per decade could increase pension liabilities by 8-10 percent. Dushi, Friedberg, and Webb (2010) find that updating the mortality tables used to estimate the pension liabilities reported on Forms 10-K, which typically reflect mortality rates in the early 1980s, would increase life expectancy at age 60 by about three years and increase liabilities by 12 percent for the average male plan participant. Kisser et al. (2012) estimate the above equation for

private defined benefit plans and find that an additional year of life expectancy increases liabilities by about 3 percent.

13 Public plans were excluded from the mortality data used to create RP-2014 because their mortality experience differed significantly from those of private plans for which the RP-2014 table was devised. In response to comments, the SOA recommended a separate study of public plan mortality experience, with the expectation that the study would include separate tables for public safety workers, teachers, and other public entities.

14 The variation in assumptions and methodology means that some rules are required to determine how plans would respond to the imposition of RP-2014. First – for plans that currently use the static method – if a plan's current life expectancy exceeds that implied by RP-2014, we assume that the plan maintains its current life expectancy under the RP-2014 static scenario. In these cases, to project life expectancy under the generational approach, we add the difference between the RP-2014 static and generational assumptions to the plan's own static assumption. Second – for plans that currently use the generational method – we calculate a new life expectancy only under the RP-2014 generational scenario and do not include any estimate of life expectancy under the RP-2014 static scenario.

15 Specifically, CalPERS shifted from virtually no projection of future mortality improvement to a 20-year static projection (the approximate duration of CalPERS' benefit payments).

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APPENDIX

Appendix Table 1. Life Expectancy and Funded Ratio for State and Local Plans under Current and RP-2014 Mortality Assumptions

Plan name	Life expectancy			Funded ratio		
		RP-2014			RP-2014	
	Current	Static	Generational	Current	Static	Generational
Total	17.9	18.4	20.2	73%	72%	67%
Alabama ERS	15.1	18.0	19.6	66	60	56
Alabama Teachers	18.1	18.2	20.4	66	66	61
Alameda County Employee's Retirement Association	17.3	18.0	19.6	76	74	70
Alaska PERS	17.6	18.0	19.6	55	54	51
Alaska Teachers	21.2	21.2	23.3	48	48	45
Arizona Public Safety Personnel	20.0	21.5	23.4	59	56	52
Arizona SRS	18.9	18.9	20.5	75	75	71
Arizona State Corrections Officers	18.8	21.5	23.4	67	61	57
Arkansas PERS	16.9	18.0	19.6	74	72	68
Arkansas Teachers	18.9	18.9	21.1	73	73	68
Boston Retirement Board	16.9	18.0	19.6	62	60	56
California PERF	18.0	18.0	19.6	83	83	79
California Teachers	18.2	18.2	20.4	67	67	62
Chicago Municipal Employees	16.2	18.0	19.6	37	35	33
Chicago Police	19.6	21.5	23.4	30	28	26
Chicago Teachers	20.2	n/a	22.3	49	49	46
City of Austin ERS	18.7	n/a	20.3	70	70	67
Colorado Municipal	18.5	18.5	20.1	73	73	69
Colorado School	18.5	18.5	20.6	60	60	56
Colorado State	18.5	18.5	20.1	57	57	54
Connecticut Municipal	16.3	18.0	19.6	88	82	78
Connecticut SERS	18.4	18.4	20.0	41	41	39
Connecticut Teachers	19.3	19.3	21.4	57	57	53
Contra Costa County	18.6	18.6	20.2	76	76	72
Cook County Employees	18.7	n/a	20.3	57	57	54
Dallas Police and Fire	19.2	21.5	23.4	76	70	66
DC Police & Fire	20.2	21.5	23.4	110	105	99
DC Teachers	19.4	19.4	21.5	90	90	84
Delaware State Employees	17.0	n/a	19.6	91	91	83
Denver Schools	16.9	18.2	20.4	81	78	72
Duluth Teachers	19.9	n/a	22.1	54	54	50
Fairfax County Schools	19.2	19.2	21.4	75	75	70
Florida RS	17.5	18.0	19.6	85	84	79

Plan name	Life expectancy			Funded ratio		
		RP-2014			RP-2014	
	Current	Static	Generational	Current	Static	Generational
Georgia ERS	15.2	18.0	19.6	71%	65%	61%
Georgia Teachers	19.0	19.0	21.1	81	81	75
Hawaii ERS	18.0	18.0	19.6	60	60	57
Houston Firefighters	20.9	21.5	23.4	87	85	80
Idaho PERS	16.8	18.0	19.6	85	82	77
Illinois Municipal	17.1	18.0	19.6	88	85	80
Illinois SERS	17.0	18.0	19.6	34	33	31
Illinois Teachers	19.1	19.1	21.3	41	41	38
Illinois Universities	18.6	18.6	20.7	41	41	39
Indiana PERF	16.4	18.0	19.6	80	76	72
Indiana Teachers	18.2	18.2	20.4	46	46	42
Iowa Municipal Fire and Police	21.5	21.5	23.4	74	74	69
Iowa PERS	16.1	18.0	19.6	81	76	72
Kansas PERS	15.5	n/a	19.6	60	60	52
Kentucky County	15.6	18.0	19.6	59	55	52
Kentucky ERS	15.6	18.0	19.6	26	24	22
Kentucky Teachers	18.4	18.4	20.5	52	52	48
Kern County Employees Retirement Association	17.4	18.0	19.6	61	60	57
LA County ERS	18.3	18.3	19.9	75	75	71
Los Angeles City Employees Retirement System	17.3	18.0	19.6	69	67	63
Los Angeles Fire and Police	20.9	21.5	23.4	83	81	76
Los Angeles Water and Power	17.3	18.0	19.6	79	77	73
Louisiana Municipal Police	20.1	21.5	23.4	64	61	57
Louisiana Schools	16.2	18.0	19.6	62	58	55
Louisiana SERS	16.2	18.0	19.6	60	56	53
Louisiana State Parochial Employees	16.5	18.0	19.6	93	88	83
Louisiana Teachers	18.0	18.2	20.4	56	56	52
Maine Local	17.0	18.0	19.6	88	85	81
Maine State and Teacher	18.2	18.2	20.4	78	78	72
Maryland PERS	15.6	18.0	19.6	63	58	55
Maryland Teachers	18.8	18.8	20.9	67	67	62
Massachusetts SRS	17.0	18.0	19.6	69	67	63
Massachusetts Teachers	17.5	18.2	20.4	56	54	51
Michigan Municipal	16.9	18.0	19.6	72	69	65

Plan name	Life expectancy			Funded ratio		
		RP-2014			RP-2014	
	Current	Static	Generational	Current	Static	Generational
Michigan Public Schools	17.0	18.2	20.4	60%	57%	53%
Michigan SERS	16.2	18.0	19.6	60	57	54
Milwaukee City ERS	18.0	n/a	19.6	95	95	90
Minneapolis ERF	17.4	18.0	19.6	74	73	69
Minnesota GERF	19.6	n/a	21.2	73	73	69
Minnesota Police and Fire Retirement Fund	22.6	n/a	24.6	81	81	76
Minnesota State Employees	18.8	n/a	20.4	82	82	78
Minnesota Teachers	20.4	n/a	22.5	72	72	67
Mississippi PERS	16.8	18.0	19.6	58	55	52
Missouri DOT and Highway Patrol	16.9	21.5	23.4	46	40	37
Missouri Local	16.5	18.0	19.6	87	82	78
Missouri PEERS	17.3	18.0	19.6	82	80	75
Missouri State Employees	17.1	18.0	19.6	73	70	67
Missouri Teachers	18.3	18.3	20.5	80	80	74
Montana PERS	17.0	18.0	19.6	80	77	73
Montana Teachers	18.9	18.9	21.0	67	67	62
Nebraska Schools	18.9	18.9	21.0	77	77	72
Nevada Police Officer and Firefighter	19.4	21.5	23.4	71	66	62
Nevada Regular Employees	17.0	18.0	19.6	69	67	63
New Hampshire Retirement System	18.6	18.6	20.2	57	57	54
New Jersey PERS	16.9	18.0	19.6	62	60	57
New Jersey Police & Fire	21.1	n/a	23.4	73	73	67
New Jersey Teachers	18.2	n/a	20.4	57	57	53
New Mexico PERA	17.3	18.0	19.6	73	71	67
New Mexico Teachers	18.7	18.7	20.9	60	60	56
New York City ERS	18.0	18.0	19.6	68	68	65
New York City Fire	21.5	21.5	23.4	54	54	51
New York City Police	21.5	21.5	23.4	67	67	63
New York City Teachers	18.2	18.2	20.4	58	58	54
New York State Teachers	18.2	18.2	20.4	88	88	81
North Carolina Local Government	15.4	18.0	19.6	100	91	86
North Carolina Teachers and State Employees	18.0	18.0	19.6	94	94	89
North Dakota PERS	18.5	18.5	20.1	62	62	59

Plan name	Life expectancy			Funded ratio		
		RP-2014			RP-2014	
	Current	Static	Generational	Current	Static	Generational
North Dakota Teachers	18.8	18.8	20.9	59%	59%	55%
NY State & Local ERS	18.0	n/a	19.6	89	89	84
NY State & Local Police & Fire	21.5	n/a	23.4	90	90	84
Ohio PERS	17.1	18.0	19.6	82	80	76
Ohio Police & Fire	19.1	n/a	23.4	67	67	58
Ohio School Employees	17.7	18.0	19.6	65	65	61
Ohio Teachers	18.7	18.7	20.9	66	66	62
Oklahoma PERS	16.7	18.0	19.6	82	78	74
Oklahoma Police Pension and Retirement System	20.2	21.5	23.4	89	85	80
Oklahoma Teachers	19.2	19.2	21.3	57	57	53
Orange County ERS	18.5	18.5	20.1	66	66	62
Oregon PERS	18.0	n/a	19.6	91	91	86
Pennsylvania Municipal Retirement System	16.2	18.0	19.6	99	93	88
Pennsylvania School Employees	18.5	18.5	20.6	64	64	59
Pennsylvania State ERS	16.2	18.0	19.6	59	56	53
Philadelphia Municipal Retirement System	14.7	18.0	19.6	47	42	40
Phoenix ERS	16.2	18.0	19.6	64	60	57
Rhode Island ERS	17.0	18.0	19.6	57	55	53
Rhode Island Municipal	17.0	18.0	19.6	82	79	75
Sacramento County ERS	17.7	18.0	19.6	83	82	78
San Diego City ERS	16.2	18.0	19.6	70	66	63
San Diego County	17.7	18.0	19.6	79	78	74
San Francisco City & County	17.3	18.0	19.6	81	79	74
South Carolina Police	18.3	21.5	23.4	69	62	58
South Carolina RS	16.8	18.0	19.6	63	60	57
South Dakota RS	17.3	18.0	19.6	100	97	92
St. Louis School Employees	16.2	18.2	20.4	84	79	73
St. Paul Teachers	19.8	19.8	22.0	60	60	56
Texas County & District	17.2	n/a	19.6	89	89	82
Texas ERS	18.2	n/a	19.8	80	80	75
Texas LECOS	18.2	n/a	23.4	73	73	61
Texas Municipal	18.3	n/a	19.9	84	84	80
Texas Teachers	19.6	19.6	21.7	81	81	75
TN Political Subdivisions	18.0	18.0	19.6	95	95	90
TN State and Teachers	18.0	18.0	19.6	93	93	88

Plan name	Life expectancy			Funded ratio		
		RP-2014			RP-2014	
	Current	Static	Generational	Current	Static	Generational
University of California	19.1	19.1	21.3	76%	76%	71%
Utah Noncontributory	17.3	18.0	19.6	82	80	76
Utah Public Safety	21.5	21.5	23.4	73	73	68
Vermont State Employees	16.7	18.0	19.6	77	73	70
Vermont Teachers	19.2	19.2	21.4	60	60	56
Virginia Retirement System	17.7	18.0	19.6	66	65	62
Washington LEOFF Plan 2	20.2	n/a	23.4	115	115	103
Washington PERS 2/3	20.2	n/a	21.8	102	102	97
Washington School Employees Plan 2/3	20.2	n/a	21.8	102	102	96
Washington Teachers Plan 2/3	21.9	n/a	24.0	105	105	98
West Virginia PERS	16.0	18.0	19.6	80	74	70
West Virginia Teachers	16.8	18.2	20.4	58	55	51
Wisconsin Retirement System	18.0	18.0	19.6	100	100	95

Source: Authors' calculations based on various actuarial valuations.

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