



WISCONSIN LEGISLATIVE COUNCIL

2010 COMPARATIVE STUDY OF MAJOR PUBLIC EMPLOYEE RETIREMENT SYSTEMS

Prepared by:

Daniel Schmidt, Senior Analyst
Wisconsin Legislative Council

December 2011

2010 COMPARATIVE STUDY OF MAJOR PUBLIC EMPLOYEE RETIREMENT SYSTEMS

Prepared by:
Daniel Schmidt, Senior Analyst
December 2011

CONTENTS

| | <u>Page</u> |
|---|-------------|
| Introduction | 3 |
| <i>Part I - Description of Retirement Systems in Report.....</i> | 5 |
| A. Introduction | 5 |
| B. Number of Participants | 5 |
| C. Categories of Employees Included in Plans | 5 |
| D. Ratio of Active Employees to Retired Employees | 5 |
| E. Social Security Coverage | 6 |
| F. Trends..... | 6 |
| G. The Wisconsin Retirement System | 6 |
| <i>Part II - Normal and Early Retirement Provisions.....</i> | 11 |
| A. Introduction | 11 |
| B. Normal Retirement..... | 11 |
| C. Early Retirement..... | 12 |
| D. Trends | 13 |
| E. The WRS | 13 |
| <i>Part III - Contribution Rates and Vesting Requirements.....</i> | 18 |
| A. Introduction | 18 |
| B. Employee Contributions..... | 18 |
| C. Employer Contributions | 19 |
| D. Vesting..... | 19 |
| E. Trends..... | 20 |
| F. The WRS | 20 |

| | |
|--|-----------|
| Part IV - Retirement Benefit Calculations | 24 |
| A. Introduction | 24 |
| B. "Basic" Plans in Which Employees Are Not Covered by Social Security | 24 |
| C. "Coordinated" Plans in Which Employees Are Covered by Social Security | 25 |
| D. Final Average Salary..... | 25 |
| E. Limitations on Benefits | 26 |
| F. Trends | 26 |
| G. The WRS | 26 |
| | |
| Part V - Post-Retirement Annuity Increases and Taxes | 30 |
| A. Introduction | 30 |
| B. Social Security | 30 |
| C. Post-Retirement Annuity Cost-of-Living Adjustments | 31 |
| D. State Income Taxation of Annuities | 31 |
| E. Trends | 32 |
| F. The WRS..... | 32 |
| | |
| Part VI - Actuarial and Accounting Information | 37 |
| A. Introduction | 37 |
| B. Actuarial Methods | 37 |
| C. Interest Assumption | 37 |
| D. Economic Spread..... | 37 |
| E. Funding Ratio | 38 |
| F. Trends | 38 |
| G. The WRS | 38 |

INTRODUCTION

This report compares significant features of major state and local public employee retirement systems in the United States. The report compares retirement benefits provided to general employees and teachers, rather than benefits applicable only to narrower categories of employees such as police, firefighters, or elected officials. Generally, the report has been prepared every two years since 1982 by the Wisconsin Retirement Research Committee staff or the Legislative Council staff.

The 2010 Report includes data from the same 87 public employee retirement systems that have been compared in the prior report. Although this report does not cover all major public employee retirement systems, it includes at least one statewide plan from each state. The same public employee retirement systems have been covered in previous reports, revealing long-term trends in public employee retirement systems.

The methodology for preparing the 2002-10 Reports differs from that of previous reports. Through the 2000 Report, each public employee retirement system covered by the report was asked to send to the Wisconsin Retirement Research Committee or the Legislative Council all annual reports, employee handbooks, statutes, actuarial reports, and related materials. One issue with this approach was that, in many cases, the published reports, handbooks, and materials were not current with respect to the data included in the report for a given year. In addition, the large volume of material that each plan was asked to send resulted in a relatively inefficient way of gathering and storing the data necessary for the report.

For the 2002-10 Reports, the data was gathered, to the extent possible, from the web site maintained by each of the plans covered by the report. All information is based on the most recent actuarial valuation available at the time of publishing. Most of the data was gathered from the 2010 or 2011 actuarial analyses of each of the plans. Any information not available from a web site is gathered, when necessary, by addressing specific questions to plan administrators, either by e-mail or telephone. The responses by public employee pension plan administrators, who took time from their busy schedules to respond to request for data, is greatly appreciated. In addition, the wealth of information available on web sites with respect to public employee pension plans is impressive.

In many cases, the public employee retirement systems in this report have features that differ according to when an employee was initially hired or the identity of the employer. Where this situation exists, an attempt was made to describe the features of the plan applicable to the largest category of participants or to employees who are most recently hired.

One feature of the 2010 Report is that it discusses how retirement benefits and certain other features of the Wisconsin Retirement System (WRS) compare to the other plans in this report. This feature of the report is intended to be useful to Wisconsin legislators and persons interested in comparing the WRS, while maintaining the structure of prior reports for the convenience of retirement system administrators and policymakers from other states.

While every attempt was made to ensure the accuracy of the great amount of data in this report, it is inevitable that errors have occurred in both prior and current reports. Please communicate reports of any errors or comments you may have about the report to: Daniel Schmidt, Senior Analyst; Wisconsin Legislative Council Staff; Suite 401, One East Main Street; Madison, Wisconsin, 53703; or at the following e-mail address: dan.schmidt@legis.wisconsin.gov.

Any corrections that need to be made to the report will be included in the version maintained at the Wisconsin Legislative Council web site: <http://www.legis.state.wi.us/lc>.

PART I

DESCRIPTION OF RETIREMENT SYSTEMS IN REPORT

A. INTRODUCTION

Chart 1, on pages 7 and 8, provides descriptive data pertaining to the public employee retirement systems covered in this report.

B. NUMBER OF PARTICIPANTS

The 87 plans in the 2010 Report provide pension coverage for 12,200,094 active employees and 6,516,666 retirees and beneficiaries, for a total of 18,716,760 participants. This total is 3.7% greater than the 18,032,010 participants in the 2008 Report. The number of active participants has decreased between the 2008 and 2010 Reports by 1.4% while the number of retirees has grown by 7.9% in the same time period.

C. CATEGORIES OF EMPLOYEES INCLUDED IN PLANS

The column entitled "Employee Coverage" in Chart 1 shows whether the plan reported on provides pension coverage to state employees ("S"), local employees ("L"), teachers ("T"), or some combination of these categories of employees. The 87 plans are categorized as follows:

| <u>Employee Coverage</u> | <u>Number of Plans</u> |
|--|------------------------|
| State employees only | 13 |
| Teachers only | 27 |
| Local employees only | 10 |
| State and local employees | 14 |
| State employees and teachers | 3 |
| State employees, local employees, and teachers | 20 |

See Figure 1, *2010 Employee Coverage*, for a graphical representation of the categories.

D. RATIO OF ACTIVE EMPLOYEES TO RETIRED EMPLOYEES

Chart 1 also shows the ratio of active employees to retired employees in the 87 systems surveyed. The average ratio has declined over prior years. For 2010, the average ratio was 1.87 while the comparable figures for the 2008 Report, the 2006 Report, the 2004 Report, and the 2002 Report, respectively, were 2.00, 2.14, 2.24, 2.38, and 2.52 (see Figure 2, *Participant Growth 2000 to 2010*). Sixty-four of the systems (including the City of Milwaukee and Milwaukee County) had an active employees to retired employees ratio of less than two. In the 2000 Report, 17 of the systems had an active employees to retired employees ratio of less than two.

E. SOCIAL SECURITY COVERAGE

In 70 of the 87 plans, participants are also covered under the federal Social Security program. Of the 17 public employee retirement systems included in this report that do not provide Social Security coverage, 10 represent pension plans covering teachers only. The decision on whether to participate in the Social Security program was at one time elective, rather than mandatory, for public employers. However, for those employers who have elected coverage, future participation is mandatory.

F. TRENDS

Chart 1 shows a continued growth in the total number of participants in the plans surveyed. However, the number of retirees is growing at a faster rate than is the number of active employees. This is reflected in the declining ratios of active to retired participants for the plans surveyed. As compared to the 2008 Report, there has been no change in the number of plans whose participants are covered by the federal Social Security program.

G. THE WISCONSIN RETIREMENT SYSTEM

The WRS, in 2010, had 266,629 active employees and 155,775 beneficiaries and annuitants, for a total of 422,404 participants. This total is an increase of 15,185 total participants and is 3.6% greater than the 407,219 participants in the 2008 Report. The number of active employees covered by the WRS increased by 3,443 and the number of beneficiaries and annuitants covered by WRS increased by 11,742 between 2008 and 2010. The WRS covers state and local employees and teachers. The ratio of active employees to retired employees in the WRS in 2010 is 1.71, which is a reduction from the ratio of 1.83 found in the 2008 Report. The ratio of active employees to retired employees in the WRS for 2010 (1.71) is somewhat lower than the average ratio for all plans in the report (1.87). WRS employees are generally covered by Social Security.

CHART I
PUBLIC RETIREMENT SYSTEMS SURVEYED

| | <u>State</u> | <u>Fund Name</u> | <u>Employee Coverage¹</u> | <u>Active Employees</u> | <u>Beneficiaries & Annuitants</u> | <u>Ratio</u> | <u>S.S. Coverage</u> |
|----|---------------------|------------------|--------------------------------------|-------------------------|---------------------------------------|--------------|----------------------|
| 1 | Alabama | ERS | S, L | 86,108 | 36,782 | 2.34 | Yes |
| 2 | Alabama | TRS | T | 136,290 | 71,691 | 1.90 | Yes |
| 3 | Alaska | PERS | S, L | 27,565 | 25,015 | 1.10 | No |
| 4 | Alaska | TRS | T | 8,226 | 10,255 | 0.80 | No |
| 5 | Arizona | SRS | S, L, T | 220,323 | 98,670 | 2.23 | Yes |
| 6 | Arkansas | PERS | S, L | 45,380 | 25,880 | 1.75 | Yes |
| 7 | Arkansas | TRS | T | 72,208 | 30,587 | 2.36 | Yes |
| 8 | California | PERS | S, L | 1,116,044 | 513,623 | 2.17 | Yes |
| 9 | California | TRS | T | 441,544 | 243,796 | 1.81 | No |
| 10 | Colorado | PERA | S, L, T | 200,297 | 94,017 | 2.13 | No |
| 11 | Connecticut | SERS | S | 50,064 | 41,782 | 1.20 | Yes |
| 12 | Connecticut | TRS | T | 51,368 | 30,493 | 1.68 | No |
| 13 | Delaware | SEPP | S, T | 35,217 | 19,589 | 1.80 | Yes |
| 14 | Florida | FRS | S, L, T | 655,367 | 304,337 | 2.15 | Yes |
| 15 | Georgia | ERS | S | 68,566 | 38,582 | 1.78 | Yes |
| 16 | Georgia | TRS | T | 222,046 | 87,017 | 2.55 | Yes |
| 17 | Hawaii ³ | ERS | S, L, T | 66,589 | 36,260 | 1.84 | Yes |
| 18 | Idaho | PERS | S, L, T | 67,020 | 33,625 | 1.99 | Yes |
| 19 | Illinois | SRS | S | 64,143 | 58,392 | 1.10 | Yes |
| 20 | Illinois | TRS | T | 169,173 | 97,796 | 1.73 | No |
| 21 | Illinois | MRF | L | 176,179 | 97,554 | 1.81 | Yes |
| 22 | Indiana | PERF | S, L | 149,877 | 67,166 | 2.23 | Yes |
| 23 | Indiana | TRF | T | 72,872 | 45,659 | 1.60 | Yes |
| 24 | Iowa | PERS | S, L, T | 165,626 | 93,513 | 1.77 | Yes |
| 25 | Kansas | PERS | S, L, T | 157,919 | 76,498 | 2.06 | Yes |
| 26 | Kentucky | KERS | S | 51,381 | 40,780 | 1.26 | Yes |
| 27 | Kentucky | CERS | L | 94,243 | 47,106 | 2.00 | Yes |
| 28 | Kentucky | TRS | T | 76,387 | 43,184 | 1.77 | No |
| 29 | Louisiana | SERS | S | 54,930 | 41,142 | 1.34 | No |
| 30 | Louisiana | TRSL | T | 88,783 | 66,638 | 1.33 | No |
| 31 | Maine | PERS | S, L, T | 50,482 | 35,805 | 1.41 | No |
| 32 | Maryland | SRPS | S, L, T | 223,761 | 133,718 | 1.67 | Yes |
| 33 | Massachusetts | SERS | S | 86,586 | 53,627 | 1.61 | No |
| 34 | Massachusetts | TRS | T | 88,673 | 53,951 | 1.64 | No |
| 35 | Michigan | SERS | S | 25,478 | 50,462 | 0.50 | Yes |
| 36 | Michigan* | MERS | L | 35,816 | 26,930 | 1.33 | Yes |
| 37 | Michigan** | PSERS** | T | 242,568 | 187,722 | 1.29 | Yes |
| 38 | Minnesota | MSRS | S | 48,494 | 28,435 | 1.71 | Yes |
| 39 | Minnesota | PERA | L | 140,389 | 68,494 | 2.05 | Yes |
| 40 | Minnesota | TRA | T | 77,356 | 51,853 | 1.49 | Yes |
| 41 | Mississippi | PERS | S, L, T | 164,896 | 79,168 | 2.08 | Yes |
| 42 | Missouri | SERS | S | 53,478 | 33,251 | 1.61 | Yes |
| 43 | Missouri | LAGERS | L | 32,975 | 14,622 | 2.26 | Yes |
| 44 | Missouri | PSRS | T | 79,256 | 45,467 | 1.74 | No |
| 45 | Montana | PERS | S, L | 28,659 | 17,892 | 1.60 | Yes |

| | | | | | | | |
|--------------------|----------------|-------------------|---------|------------|-----------|-------|-----|
| 46 | Montana | TRS | T | 18,484 | 12,899 | 1.43 | Yes |
| 47 | Nebraska | SEPP ² | S | 11,739 | 500 | 23.48 | Yes |
| 48 | Nebraska | CEPP ² | L | 5,645 | 223 | 25.31 | Yes |
| 49 | Nebraska | SPP | T | 39,764 | 16,912 | 2.35 | Yes |
| 50 | Nevada | PERS | S, L, T | 102,594 | 38,841 | 2.64 | No |
| 51 | New Hampshire | NHRS | S, L, T | 50,467 | 25,845 | 1.95 | Yes |
| 52 | New Jersey | PERS | S, L | 309,099 | 140,735 | 2.20 | Yes |
| 53 | New Jersey | TPAF | T | 144,492 | 72,797 | 1.98 | Yes |
| 54 | New Mexico | PERA | S, L | 59,620 | 27,972 | 2.13 | Yes |
| 55 | New Mexico | ERA | T | 63,295 | 33,747 | 1.88 | Yes |
| 56 | New York | ERS | S, L | 529,466 | 345,106 | 1.53 | Yes |
| 57 | New York | TRS | T | 280,435 | 141,633 | 1.98 | Yes |
| 58 | North Carolina | TSERS | S, T | 323,580 | 156,791 | 2.06 | Yes |
| 59 | North Carolina | LGERS | L | 123,398 | 46,557 | 2.65 | Yes |
| 60 | North Dakota | PERS | S, L | 20,372 | 7,758 | 2.63 | Yes |
| 61 | North Dakota | TRF | T | 10,004 | 6,933 | 1.44 | Yes |
| 62 | Ohio | PERS | S, L | 356,734 | 173,285 | 2.06 | No |
| 63 | Ohio | STRS | T | 175,842 | 133,103 | 1.32 | No |
| 64 | Oklahoma | PERS | S, L | 40,551 | 29,418 | 1.38 | Yes |
| 65 | Oklahoma | TRS | T | 88,085 | 50,829 | 1.73 | Yes |
| 66 | Oregon | PERS | S, L, T | 177,110 | 110,642 | 1.60 | Yes |
| 67 | Pennsylvania | SERS | S | 109,255 | 111,713 | 0.98 | Yes |
| 68 | Pennsylvania | PSERS | T | 282,041 | 184,935 | 1.53 | Yes |
| 69 | Rhode Island | ERS | S, T | 24,652 | 21,634 | 1.14 | Yes |
| 70 | South Carolina | SCRS | S, L, T | 190,239 | 106,230 | 1.79 | Yes |
| 71 | South Dakota | SRS | S, L, T | 39,014 | 20,561 | 1.90 | Yes |
| 72 | Tennessee | CRS | S, L, T | 214,950 | 107,875 | 1.99 | Yes |
| 73 | Texas | ERS | S | 142,490 | 79,311 | 1.80 | Yes |
| 74 | Texas | TRS | T | 828,919 | 312,680 | 2.65 | No |
| 75 | Texas | MRS | L | 101,240 | 41,459 | 2.44 | Yes |
| 76 | Utah | SRS | S, L, T | 92,392 | 36,139 | 2.56 | Yes |
| 77 | Vermont | SRS | S | 7,782 | 5,201 | 1.50 | Yes |
| 78 | Vermont | TRS | T | 10,123 | 7,005 | 1.45 | Yes |
| 79 | Virginia | SRS | S, L, T | 342,609 | 148,496 | 2.31 | Yes |
| 80 | Washington | PERS | S, L | 156,526 | 76,899 | 2.04 | Yes |
| 81 | Washington | TRS | T | 66,325 | 40,570 | 1.63 | Yes |
| 82 | West Virginia | PERS | S, L | 35,977 | 22,040 | 1.63 | Yes |
| 83 | West Virginia | TRS | T | 35,670 | 30,127 | 1.18 | Yes |
| 84 | Wyoming | WRS | S, L, T | 35,828 | 17,804 | 2.01 | Yes |
| 85 | Milwaukee | City | L | 11,247 | 11,568 | 0.97 | Yes |
| 86 | Milwaukee | County | L | 4,808 | 7,292 | 0.66 | Yes |
| 87 | Wisconsin | WRS | S, L, T | 266,629 | 155,775 | 1.71 | Yes |
| Totals: (87 Funds) | | | | 12,200,094 | 6,516,666 | 1.87 | |

¹Coverage: S = State; L = Local; T = Teachers

²Converted to individual cash balance plans from defined contribution plan.

³Hawaii numbers based on 2008 data, the most recent available at the time of publishing.

*Michigan employees hired after March 31, 1997 are now enrolled in the defined contribution plan.

**Michigan employees hired after July 1, 2010 are now enrolled in the pension plus plan.

Figure 1. 2010 Employee Coverage

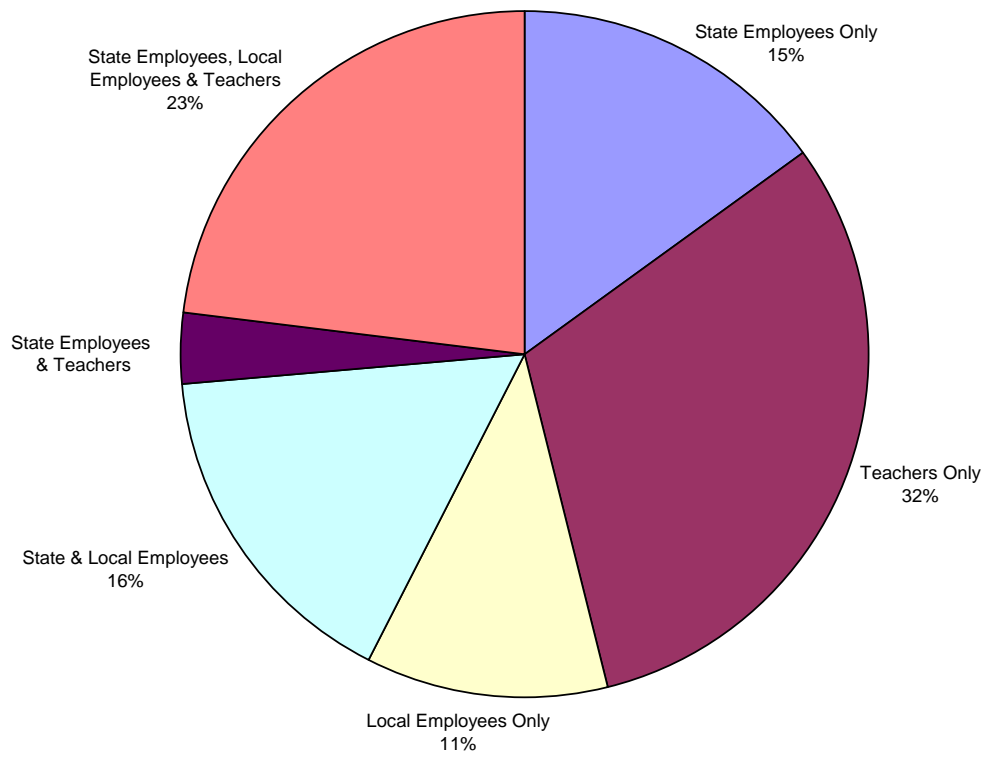
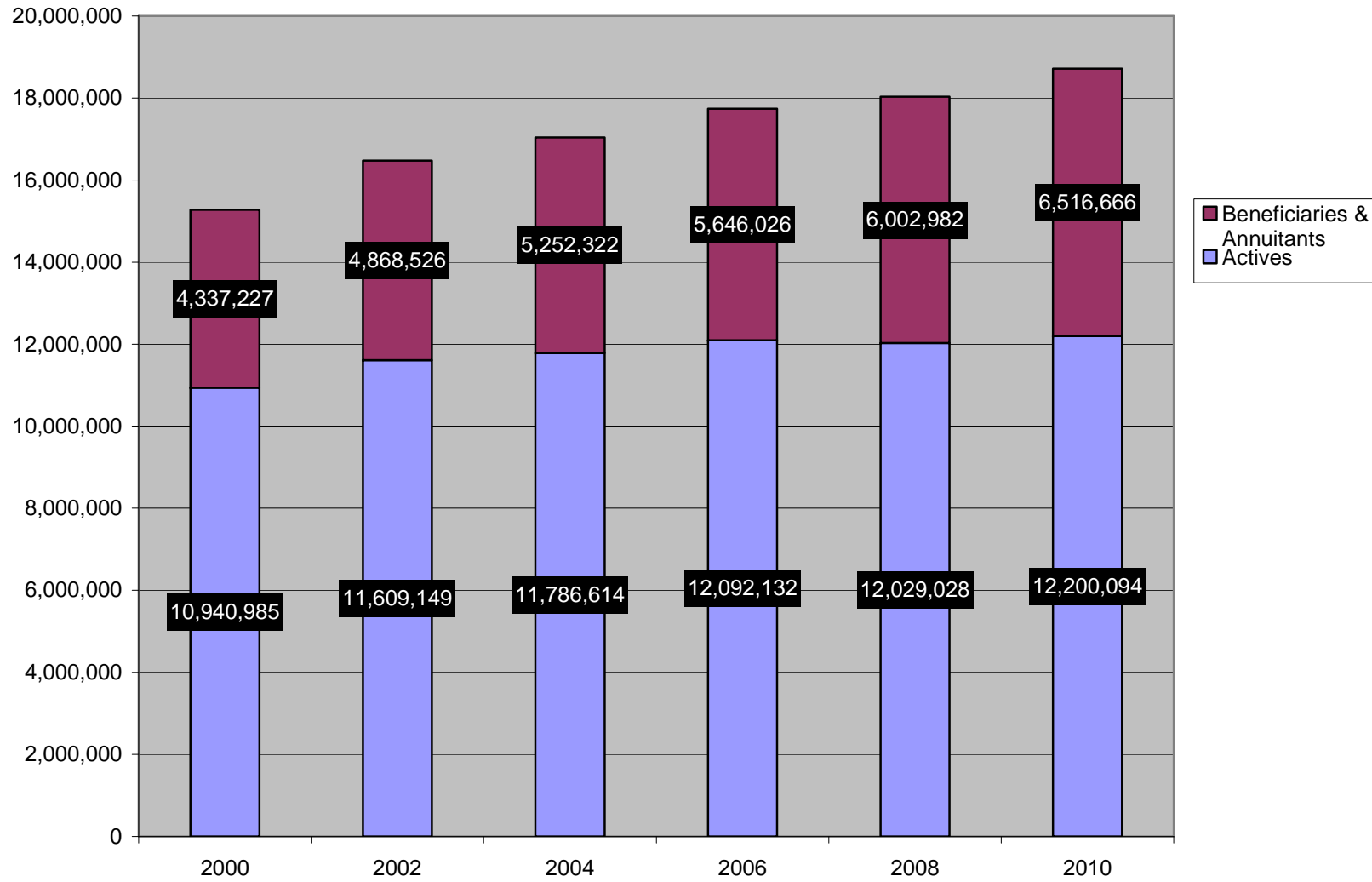


Figure 2. Participant Growth 2000-1010



PART II

NORMAL AND EARLY RETIREMENT PROVISIONS

A. INTRODUCTION

Chart 2, on pages 14 and 15, shows the normal and early retirement provisions for each of the plans covered in the report. All but four of the plans covered in this report are classified as “defined benefit plans” in which retirement benefits are calculated by a formula that takes into account years of service and final average salary. Two of the exceptions are “money purchase” plans in which retirement benefits are calculated by the amount of money in the person's account and the age of the person at the time he or she retires. Benefits are calculated as the total value of the employer and employee contributions plus investment earnings at the time of retirement. The other two exceptions are purely “defined contribution plans” that have been converted from defined benefit plans (both in Alaska). Benefits are calculated for defined contribution plans as the total value of the employer and employee contributions plus investment earnings at the time of retirement.

Note that some of the defined benefit plans may also contain elements of defined contribution or money purchase plans. These “provisions” are generally not reflected in Chart 2, which describes the features of each plan that are standard and that apply to employees generally.

B. NORMAL RETIREMENT

“Normal retirement” refers to the age, number of years of service, or both, that a person must attain in order to qualify for full retirement benefits without an actuarial reduction in his or her annuity for early retirement. Most plans in this report have adopted multiple combinations of age and service under which a person may qualify for normal retirement. These are shown in the column entitled “Normal Retirement” in Chart 2.

Some retirement plans integrate normal retirement with the age under which a person is entitled to receive retirement benefits under the Social Security system. Age 65 is the age at which a person is entitled to receive full Social Security benefits, but this age is scheduled to increase to 66 and then to 67 over time.

Age 62 is the earliest age at which a person can receive Social Security retirement benefits, although the amount of the benefits are reduced to reflect the longer payout period. Chart 2 shows that 83 of the 87 plans allow normal retirement at age 62 or earlier for persons with many years of service. In addition, Chart 2 shows that 50 of the 87 plans permit normal retirement at age 62 or earlier with 10 or less years of service. Four of the plans in this report restrict normal retirement to persons who are at least 65 (New Jersey PERS and PAF; Washington PERS and TRS).

Some plans that permit persons to retire earlier than age 62 also allow them to elect to increase their annuity prior to age 62 to reflect the amount of Social Security benefits it is estimated that they will receive at that time. The amount of the annuity paid after age 62 is then adjusted to compensate for the earlier payments.

Many of the plans in this report have adopted “**X years and out**” provisions, which allow employees to retire at any age (or at a minimum age) with normal retirement benefits after “X” years of service. The most common provision is 30 years of service combined with a minimum age of 55. The following table shows the number of plans that, in 2010, had in effect “X years and out” provisions and compares these with the number of plans that had in effect “X years and out” provisions in the 2008 Report:

| | <u>2008</u> | <u>2010</u> |
|-------------------------------------|-----------------|-----------------|
| 35 years of service/age 55 or older | 8 plans | 5 plans |
| 30 years of service/age 55 or older | 29 plans | 31 plans |
| 28 years of service/age 55 or older | 4 plans | 3 plans |
| 27 years of service/age 55 or older | 3 plans | 1 plan |
| 25 years of service/age 55 or older | 11 plans | 8 plans |
| 20 years of service/age 55 or older | 8 plans | 6 plans |
| TOTAL | 63 plans | 54 plans |

See Figure 3, *2010 Normal Retirement “X Years and Out” Provisions*, for a graphical representation of the 2010 “X years and out” provisions.

In addition to the “X years and out” provisions, some plans have adopted “**Rule of Y**” provisions under which a person can retire with normal retirement benefits when that person's number of years of service, plus his or her age, equals a specified number. The following table shows the number of plans that, in 2010, had Rule of Y provisions and compares these with the number of plans that had Rule of Y provisions in 2008:

| | <u>2008</u> | <u>2010</u> |
|--------------|-----------------|-----------------|
| Rule of 90 | 4 plans | 7 plans |
| Rule of 88 | 1 plan | 1 plan |
| Rule of 85 | 9 plans | 10 plans |
| Rule of 80 | 7 plans | 7 plans |
| Rule of 75 | 2 plans | 0 plans |
| TOTAL | 23 plans | 25 plans |

See Figure 4, *Normal Retirement “Rule of Y” Provisions (Of 23 Plans Incorporating “Rule of Y” Provisions)*, for a graphical representation.

C. EARLY RETIREMENT

Seventy-seven of the 87 plans covered in the 2010 Report permit “early retirement” before the normal age and service requirements of the plans have been met. The annuity of a person who elects early retirement is reduced from the amount that would have been received if the person had reached the normal retirement requirements. The early retirement provisions of each of the plans are shown in the column entitled “Early Retirement” in Chart 2. The most common minimum age for early retirement is age 55, with some minimum years of service. The second most common minimum age for early retirement is age 50.

Forty-eight of the 87 plans in the 2010 Report allow early retirement at a minimum age of 55 or more. Thirteen of the 87 plans in the report allow early retirement at a minimum age of less than

55. Nine of the 87 plans in the report do not allow early retirement. The remainder of the plans are either money purchase plans or allow early retirement after a certain number of years of service, without specifying any minimum age (see Figure 5, *2010 Early Retirement Provisions*).

The annuity of a person who elects to retire before reaching the minimum age and years of service required for normal retirement is subject to a reduction that is commonly referred to as an “**actuarial discount**.” The amount of the reduction for each of the plans is shown in the column entitled “Reduction for Early Retirement” in Chart 2. In many cases, the column in Chart 2 is not able to show all of the complexity of how the amount of the reduction is actually computed, because this amount is frequently different for employees at different ages or with different numbers of years of service or for various classifications of employees. However, the column does show the most common percentage reduction for each of the plans in the report.

D. TRENDS

The 2010 Report appears to indicate the reversal of a trend noted in previous reports that permitted retirement at earlier ages. Between the 2000 and 2004 Reports, the plans reduced their normal retirement provisions by reducing the minimum age or the number of years of service required, or both. Between the 2004 and 2006 Reports, only two plans did so. Between the 2006 and 2008 Reports, an additional seven plans reduced their normal retirement provisions. Between the 2008 and 2010 Reports, states increased their normal retirement provisions and one decreased its normal retirement provision.

In addition, between the 2000 and 2004 Reports, 10 plans reduced their early retirement provisions by reducing the minimum age or the number of years of service required, or both. Between the 2004 and 2006 Reports, only two plans did so. Between the 2006 and 2008 Reports, an additional eight plans reduced their early retirement provisions. Between the 2008 and 2010 Reports, 11 plans increased their early retirement provisions.

E. THE WRS

The normal retirement requirement for general employees in the WRS is 65 years of age. However, general employees who are at least 57 years of age and who have at least 30 years of service can retire without an actuarial discount. Also, general employees in the WRS may retire at 55 years of age with an actuarial discount. The amount of actuarial discount for early retirement for general employees in the WRS varies according to the employee’s number of years of service.

CHART II
NORMAL AND EARLY RETIREMENT REQUIREMENTS

| | <u>State</u> | <u>Fund Name</u> | <u>Coverage*</u> | <u>Normal Retirement (Age/Years)</u> | <u>Early Retirement (Age/Years)</u> | <u>Annual Reduction for Early Retirement</u> |
|----|---------------|------------------|------------------|--------------------------------------|-------------------------------------|--|
| 1 | Alabama | ERS | S, L | 60/10; any/25 | None | |
| 2 | Alabama | TRS | T | 60/10; any/25 | None | |
| 3 | Alaska | PERS | S, L | 59-1/2* | None | |
| 4 | Alaska | TRS | T | 59-1/2* | None | |
| 5 | Arizona | SRS | S, L, T | 65; 62/10; R80 | 50/5 | Table |
| 6 | Arkansas | PERS | S, L | 65/5; any/28 | 55/5; any/25 | 6% a yr |
| 7 | Arkansas | TRS | T | 60/5; any/28 | Any/25 | Lesser of 5% for each yr < 28 yrs service or for each yr prior to age 60 |
| 8 | California | PERS | S, L | 55/10 | 50/5 | Multiplier varies |
| 9 | California | TRS | T | 60/5 | 55/5; 50/30 | 3% to 6% a yr |
| 10 | Colorado | PERA | S, L, T | 65/5; 50/30; 55/R85; any/35 | 50/25; 55/20; 60/5 | Table |
| 11 | Connecticut | SERS | S | 62/10; 60/25; 70/5 | 55/10 | 2.5% a yr |
| 12 | Connecticut | TRS | T | 60/20; any/35 | Any/25; 55/20; 60/10 | 3% a yr |
| 13 | Delaware | SEPP | S, T | 62/5; 60/15; any/30 | 55/15; any/25 | 2.4% a yr |
| 14 | Florida | FRS | S, L, T | 65/8; any/33 | Any/8 | 5% a yr |
| 15 | Georgia | ERS | S | 65/10; any/30 | 60/10; any/25 | 7% a yr |
| 16 | Georgia | TRS | T | 60/10; any/30 | Any/25 | 7% a yr |
| 17 | Hawaii | ERS | S, L, T | 62/5; 55/30 | 55/20 | 5% a yr |
| 18 | Idaho | PERS | S, L, T | 65/5; R90 | 55/5 | 3% a yr for 1st 5 yrs; 5.75% a yr thereafter |
| 19 | Illinois | SRS | S | 60/8; R85 | 55/25 | 6% a yr |
| 20 | Illinois | TRS | T | 62/5; 60/10; R85 | 55/20 | 6% a yr |
| 21 | Illinois | MRF | L | 60/8; 55/35 | 55/8 | 3% a yr |
| 22 | Indiana | PERF | S, L | 65/10; 60/15; 55/R85 | 50/15 | Table |
| 23 | Indiana | TRF | T | 65/10; 60/15; 55/R85 | 50/15 | 5% a yr to 60; 1.2% a yr age 60 to 65 |
| 24 | Iowa | PERS | S, L, T | 65; 62/20; 55/R88 | 55/4 | 3% a yr |
| 25 | Kansas | PERS | S, L, T | 65/1; 65/5; 62/10; 60/30; R85 | 55/10 | 2.4%/7.2% a yr; 35% at age 60; 57.5% at age 55 |
| 26 | Kentucky | KERS | S | 65/5; R87 | 60/10 | 5%/4% a yr |
| 27 | Kentucky | CERS | L | 65/5; R87 | 60/10 | 5%/4% a yr |
| 28 | Kentucky | TRS | T | 60/5; any/27 | 55/10 | 5% a yr |
| 29 | Louisiana | SERS | S | 60/10 | Any/20 | Table |
| 30 | Louisiana | TRSL | T | 60/5; 55/25; any/30 | Any/20 | Multiplier varies |
| 31 | Maine | PERS | S, L, T | 62/5 | Any/25 | 6% a yr |
| 32 | Maryland | SRPS | S, L, T | 62/5; 63/4; 64/3; 65/2; 60/5; any/30 | 55/15 | 6% a yr; max 42% |
| 33 | Massachusetts | SERS | S, L | 55/10; any/20 | None | |
| 34 | Massachusetts | TRS | T | 55/10; any/20 | None | |
| 35 | Michigan | SERS | S | 60/10; 55/30 | 55/15 | 6% a yr |
| 36 | Michigan | MERS | L | Varies by plan | Varies by plan | Varies by plan |
| 37 | Michigan | PSERS | T | 60/5; 60/10; 55/30; any/30 | 55/15 | 6% a yr |
| 38 | Minnesota | MSRS | S | 65/3; any/30; R90 | 55/3 | 3% a yr |

| | | | | | | |
|----|----------------|--------|---------|---------------------------|-------------------------|---|
| 39 | Minnesota | PERA | L | 65/3; any/30; R90 | 55/3 | 3% a yr |
| 40 | Minnesota | TRA | T | 60; any/30 | 55 | 3% a yr |
| 41 | Mississippi | PERA | S, L, T | 60/8; any/25 | None | |
| 42 | Missouri | SERS | S | 67/10; 55/R90 | 62/10 | 6% a yr |
| 43 | Missouri | LAGERS | L | 60/5; R80 option | 55/5 | 6% a yr |
| 44 | Missouri | PSRS | T | 60/5; R80; any/30 | 55/5; any/25 | 3.6% a yr |
| 45 | Montana | PERS | S, L | 65/any; 60/5; any/30 | 50/5; any/25 | 6% a yr |
| 46 | Montana | TRS | T | 60/5; any/25 | 50/5 | 6%; 3.6% a yr |
| 47 | Nebraska | SERS | S | 55 | | Cash balance |
| 48 | Nebraska | CERS | L | 55 | | Cash balance |
| 49 | Nebraska | SPP | T | 65; 55/R85 | 60/5; any/35 | 3% a yr |
| 50 | Nevada | PERS | S, L, T | 65/5; 62/10; any/30 | Any/5 | 6% a yr |
| 51 | New Hampshire | NHRS | S, L, T | 60/any | 50/10; R70/20 | 1.5%; 3%; 4%; 6.67% a yr |
| 52 | New Jersey | PERS | S, L | 65/any | Any/30 | 3% a yr |
| 53 | New Jersey | PAF | T | 65/any | Any/30 | 3% a yr |
| 54 | New Mexico | PERA | S, L | 67/5 to R80; any/30 | None | |
| 55 | New Mexico | ERA | T | 67/5; any/30; R80 | R75 | 2.4% a yr |
| 56 | New York | ERS | S, L | 62/10 | 55/10 | Table |
| 57 | New York | TRS | T | 62/10; 57/30 | 55/10 | Table |
| 58 | North Carolina | TSERS | S, T | 65/5; 60/25; any/30 | 60/5; 50/20 | 3% a yr |
| 59 | North Carolina | LGERS | L | 65/5; 60/25; any/30 | 60/5; 50/20 | 3% a yr |
| 60 | North Dakota | PERS | S, L | 65/any; R85 | 55/3 | 6% a yr |
| 61 | North Dakota | TRF | T | 65/5; R90 | 55/5 | 6% a yr |
| 62 | Ohio | PERS | S, L | 60/5; any/30 | 55/25 | 3% a yr |
| 63 | Ohio | STRS | T | 65; any/30 | 60/5; 55/25 | 3% a yr |
| 64 | Oklahoma | PERS | S, L | 65; R90 | 55/10 | Table |
| 65 | Oklahoma | TRS | T | 62/5; R90 | 55/5; any 30 | Table |
| 66 | Oregon | PERS | S, L, T | 65/any; 58/30 | 55/5 | Full actuarial reduction |
| 67 | Pennsylvania | SERS | S | 65/3; R92 | Any/10 | 3% to 6% per yr average |
| 68 | Pennsylvania | PSERS | T | 62; 60/30; any/35; R92 | 55/25 | 3% a yr |
| 69 | Rhode Island | ERS | S, T | 65/10; any/29 | 62/20 | Table |
| 70 | South Carolina | SCRS | S, L, T | 65/5; any/28 | 55/25; 60/5 | 5% a yr for each yr under age 65; 4% a yr for each yr under age 28 |
| 71 | South Dakota | SRS | S, L, T | 65/3; 55/R85 | 55/3 | 3% a yr |
| 72 | Tennessee | CRS | S, L, T | 60/5; any/30 | 55/25 | 4.8% a yr |
| 73 | Texas | ERS | S | 65/10; R80 | 55/10; 50/12 | 5% a yr |
| 74 | Texas | TRS | T | 65/5; 60/20 | 55/5; any/30 | 5% a yr |
| 75 | Texas | MRS | L | 60/5; any/20 | None | |
| 76 | Utah | SRS | S, L, T | 65/4; any/30 | Any/25; 60/20; 62/10 | 3% a yr; full actuarial reduction for each yr before age 60 |
| 77 | Vermont | SRS | S | 65/any; R87 | 55/5 | Table |
| 78 | Vermont | TRS | T | 62/any; any/30 | 55/5 | 6% a yr |
| 79 | Virginia | SRS | S, L, T | 65/5; 50/30 | 50/10; 55/5 | 6%; 4.8% a yr |
| 80 | Washington | PERS | S, L | 65/10 | 55/10 | 3% a yr or table |
| 81 | Washington | TRS | T | 65/10 | 55/10 | 3% a yr or table |
| 82 | West Virginia | PERS | S, L | 60/5; 55/R80 | 55/20 | Full actuarial reduction |
| 83 | West Virginia | TRS | T | 60/5; 55/30; any/35 | 55/30 | Full actuarial reduction |
| 84 | Wyoming | WRS | S, L, T | 60/4; R85 | 50/4; any/25 | 5% a yr |
| 85 | Milwaukee | City | L | 60/any; 55/30 | 55/15 | Table |
| 86 | Milwaukee | County | L | 60/5; 55/30 | 55/15 | 5% a yr |
| 87 | Wisconsin | WRS | S, L, T | 65/any; 30/R87 | 55 | Varies by amt of service |

Coverage: S = State; L = Local; T = Teachers; x/y = Age/Service

*Defined contribution plan: taxes and penalties may apply if contributions are withdrawn prior to age 59-1/2

Figure 3. 2010 Normal Retirement "X Years & Out" Provisions

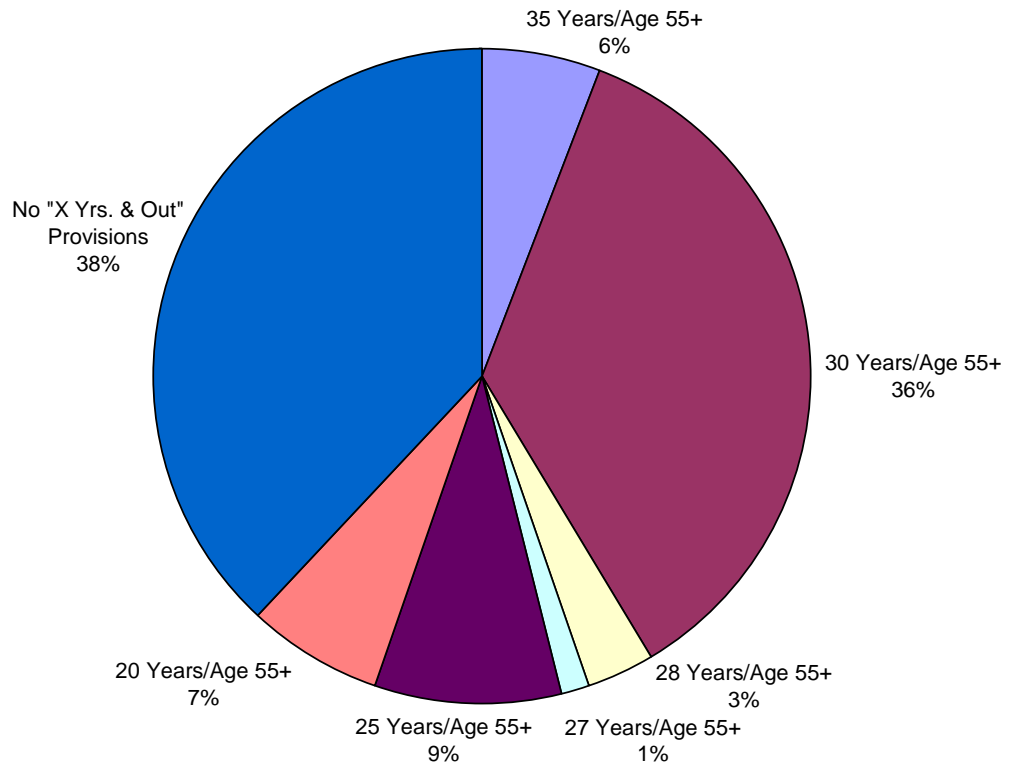


Figure 4. Normal Retirement "Rule of Y" Provisions

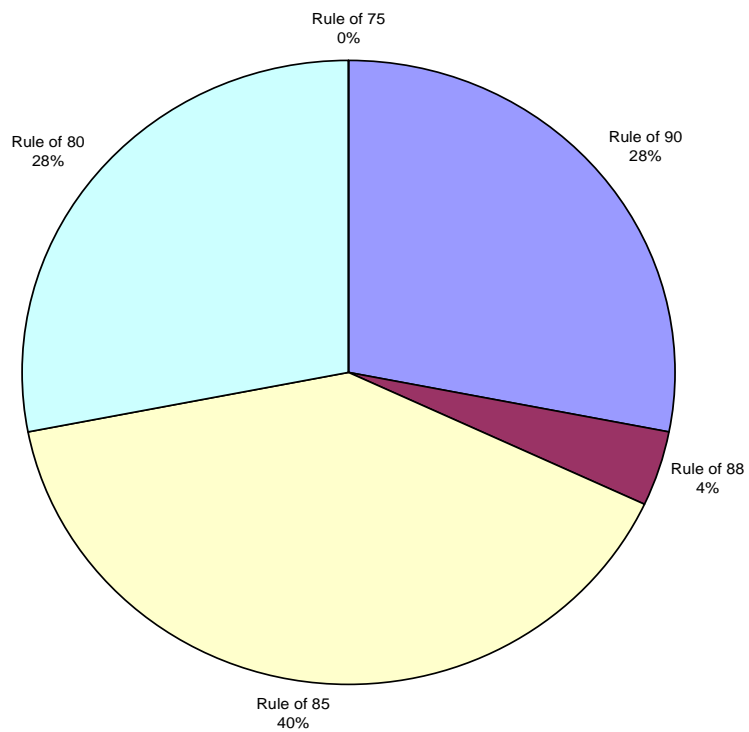
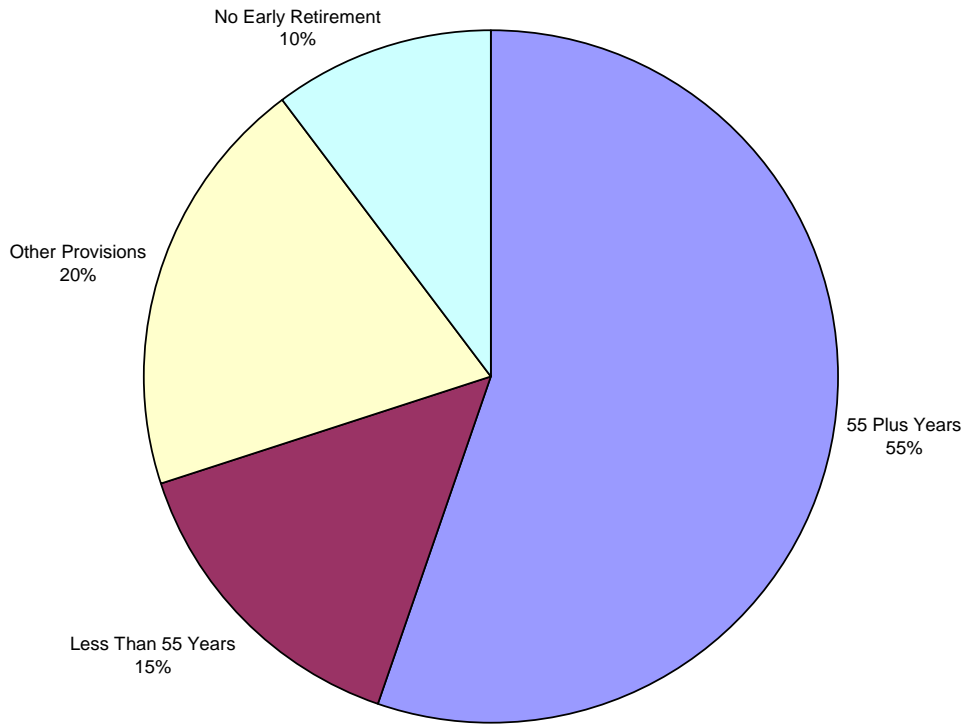


Figure 5. 2010 Early Retirement Provisions



| |
|--|
| <p>PART III</p> <p>CONTRIBUTION RATES AND VESTING REQUIREMENTS</p> |
|--|

A. INTRODUCTION

Chart 3, on pages 21 and 22, shows the employee contribution rate, the employer contribution rate, and the vesting period for each of the 87 plans in the report. The contribution rates are shown as a percentage of salary.

B. EMPLOYEE CONTRIBUTIONS

Large private sector corporations that provide defined benefit pension plans frequently do not require employee contributions to the primary plan, but frequently also provide supplemental profit-sharing or savings plans that allow employees to contribute to the plan and receive an employer “match” to some or all of the contribution. Conversely, most public employee pension plans at least nominally require employees to contribute a certain percentage of their salary to the plan, although some public employee pension plans provide for employer “pick-up” of the employee contribution. In addition, secondary savings plans for public employees, such as Section 457 deferred compensation plans, are funded totally from employee contributions with no employer match.

In many plans, amounts designated as employee contributions for accounting purposes may be paid by the employer. There are financial advantages to both the employer and the employee if, instead of granting compensation increases, an employer pays the employee contribution to the retirement plan. Compensation payments are subject to old age, survivors and disability insurance payments (Social Security), and Medicare payments while contributions to a retirement plan are not. In addition, the practice may be attractive to employers because employer pick-up of retirement contributions is not added into employee base wages, limiting future percentage-based salary increases.

The column in Chart 3 entitled “Employee Contribution” shows the employee contribution rates, expressed as a percentage of payroll, for the 87 plans covered in the report. These requirements are compared with employee contributions in the 2008 Report in the following table:

| <u>Employee Contribution Rates</u> | <u>2008</u> | <u>2010</u> |
|---|-----------------|-----------------|
| 5% or less | 30 plans | 31 plans |
| More than 5% | 46 plans | 48 plans |
| Rate varies (usually by age or employee classification) | 5 plans | 4 plans |
| Plan is noncontributory | 6 plans | 4 plans |
| TOTAL | 87 plans | 87 plans |

See Figure 6, *2010 Employee Contribution Rates*, for a graphical representation.

C. EMPLOYER CONTRIBUTIONS

As has been noted in previous reports, the employer contribution information in Chart 3 provides less reliability than other information found in this report. Employer contributions often vary between categories of employees and change significantly from year to year, particularly if investment returns from pension funds are volatile. In addition, employer costs are often designated under several categories reflecting normal costs, amortization, administrative costs, and unfunded post-retirement increases and the designation of these costs may vary from plan to plan. The employer contribution rates shown in Chart 3 are derived from actuarial reports and, where these were not available, by information received from plan administrators. Where possible, the normal cost rate or the statutory rate is stated. Medical and other nonpension costs are generally not included in “employer contributions.”

In addition, the employer contributions reported in Chart 3 are intended to reflect actual contributions made by the employer. In some plans covered by the report, employers may have paid contributions to the retirement plans at rates less than those that were determined by actuarial valuation as necessary to fully fund the pension plan.

D. VESTING

The term “vesting” refers to an employee’s right, after satisfying some minimum service requirement, to receive some pension benefits regardless of whether the employee remains in a job covered by the pension plan. Vesting requirements for the plans included in the 2008 Report are displayed in the last column of Chart 3. The following table shows the changes that have occurred since 2000 in the plans covered by the report:

| | <u>2008</u> | <u>2010</u> |
|------------------------|-----------------|-----------------|
| Immediate vesting | 2 plans | 2 plans |
| Vesting after 3 years | 7 plans | 7 plans |
| Vesting after 4 years | 4 plans | 4 plans |
| Vesting after 5 years | 51 plans | 45 plans |
| Vesting after 6 years | 1 plan | 3 plans |
| Vesting after 8 years | 4 plans | 3 plans |
| Vesting after 10 years | 17 plans | 21 plans |
| Graded or varying | 1 plan | 2 plans |
| TOTAL | 87 plans | 87 plans |

In 2010, a total of 58 plans, or 66.7% of the 87 plans in the report, require five or less years of service to vest. This is a decrease of six plans since the 2008 Report and 15 plans since the 2000 Report. The recent trend appears to be towards vesting periods of greater than five years. The number of plans in 2010 that require 10 years of service to vest has increased by four plans between 2008 and 2010. See Figure 7, *2010 Vesting Rates*, for a graphical representation.

E. TRENDS

The long-term trend in public employee pension plan vesting is generally toward vesting periods of five years or less than five years; however, it is noteworthy that there has been a recent increase in longer vesting periods as referenced in the prior paragraph. Twenty-seven of the 87 plans covered in the 2010 Report had vesting requirements that were greater than five years. Employee contribution rates were increased in 22 plans between the 2008 and 2010 Reports. Employer contribution rates increased for 47 plans between 2008 and 2010. There were 19 employer contribution rates that decreased between 2008 and 2010.

F. THE WRS

No vesting period was required for employees in the WRS in 2010. Employees beginning work on or after July 1, 2011 must accrue five years of creditable service to be vested in the WRS. The employee contribution rate for general employees for 2010 was 5% but, for the reasons discussed above, in practice, almost all contributions to the WRS were paid by employers. The employer contribution rate for 2010 was 4.8%, plus an additional 1.2% benefit adjustment contribution credited to the employer accumulation account. Beginning in 2011, the employer and employee contributions will be split evenly between the two and the employer may not make the employee contribution for most classes of employees.

CHART III
CONTRIBUTION AND VESTING REQUIREMENTS

| | <u>State</u> | <u>Fund Name</u> | <u>Social Security</u> | <u>Employee Contribution</u> | <u>Employer Normal Cost or Statutory Contribution</u> | <u>Vesting Period</u> |
|----|---------------|------------------|------------------------|---------------------------------|---|-----------------------|
| 1 | Alabama | ERS | Yes | 5.00% | 4.99% | 10 years |
| 2 | Alabama | TRS | Yes | 5.00% | 6.42% | 10 years |
| 3 | Alaska | PERS | No | 8.00% | 5.00% | 5 years |
| 4 | Alaska | TRS | No | 8.00% | 7.00% | 5 years |
| 5 | Arizona | SRS | Yes | 11.39% | 10.10% | Immediate |
| 6 | Arkansas | PERS | Yes | 5.00% | 13.47% | 5 years |
| 7 | Arkansas | TRS | Yes | 6.00% | 14.00% | 5 years |
| 8 | California | PERS | Yes | 5.00% | 10.73% | 5 years |
| 9 | California | TRS | No | 8.00% | 8.25% | 5 years |
| 10 | Colorado | PERA | No | 8.00% | 10.15% | 5 years |
| 11 | Connecticut | SERS | Yes | 2.00% | 9.00% | 5 years |
| 12 | Connecticut | TRS | No | 6.00% | 10.11% | 10 years |
| 13 | Delaware | SEPP | Yes | 3.00% above \$6,000 | 6.85% | 5 years |
| 14 | Florida | FRS | Yes | 3.00% | 4.91% | 6 years |
| 15 | Georgia | ERS | Yes | 1.25% | 6.32% | 10 years |
| 16 | Georgia | TRS | Yes | 5.53% | 5.30% | 10 years |
| 17 | Hawaii | ERS | Yes | 6.00% | 6.54% | 5 years |
| 18 | Idaho | PERS | Yes | 6.23% | 10.39% | 5 years |
| 19 | Illinois | SRS | Yes | 4.00% | 32.25% | 8 years |
| 20 | Illinois | TRS | No | 9.40% | 25.49% | 5 years |
| 21 | Illinois | MRF | Yes | 4.50% | 12.42% | 8 years |
| 22 | Indiana | PERF | Yes | 3.00% | 8.60% | 10 years |
| 23 | Indiana | TRF | Yes | 3.00% | 5.85% | 10 years |
| 24 | Iowa | PERS | Yes | 5.38% | 8.33% | 4 years |
| 25 | Kansas | PERS | Yes | 4.00/6.00% | 7.72% | 5 years |
| 26 | Kentucky | KERS | Yes | 5.00% | 11.61% | 5 years |
| 27 | Kentucky | CRS | Yes | 5.00% | 16.16% | 5 years |
| 28 | Kentucky | TRS | No | 9.11% | 17.21% | 5 years |
| 29 | Louisiana | SERS | No | 8.00% | 6.78% | 5 years |
| 30 | Louisiana | TRSL | No | 8.00% | 15.50% | 5 years |
| 31 | Maine | SRS | No | 7.65% | 14.35-53.32% | 5 or 10 years |
| 32 | Maryland | SRS | Yes | 2.00% | 6.47% | 5 years |
| 33 | Massachusetts | SERS | No | 9.00% | 3.16% | 10 years |
| 34 | Massachusetts | TRS | No | 11.00% | 1.62% | 10 years |
| 35 | Michigan | SERS | Yes | Non-contributory | 8.30% | 10 years |
| 36 | Michigan | MERS | Yes | Varies by plan (0 to 10.00%) | Varies by plan | 6, 8, or 10 yrs |
| 37 | Michigan | PSERS | Yes | 3.00 to 4.30% | 10.10% | 10 years |
| 38 | Minnesota | MSRS | Yes | 5.00% | 5.00% | 3 years |
| 39 | Minnesota | PERA | Yes | 9.10% | 11.78% | 3 years |
| 40 | Minnesota | TRA | Yes | 9.00% | 13.14% | 3 years |
| 41 | Mississippi | PERS | Yes | 9.00% | 2.18% | 8 years |
| 42 | Missouri | SERS | Yes | 4.00% | 4.51% | 5 years |
| 43 | Missouri | LAGERS | Yes | 0 to 4.00% | Varies by plan | 5 years |
| 44 | Missouri | PSRS | No | 14.00% | 14.00% | 5 years |
| 45 | Montana | PERS | Yes | 6.90% | 7.17% | 5 years |

| | | | | | | |
|----|----------------|--------|-----|------------------------|--------------------------|-----------|
| 46 | Montana | TRS | Yes | 7.15% | 2.49% | 5 years |
| 47 | Nebraska | SERS | Yes | 4.80% | 156% of mbr contr | 3 years |
| 48 | Nebraska | CERS | Yes | 4.50% | 150% of mbr contr | 3 years |
| 49 | Nebraska | SPP | Yes | 8.28% | 101% of mbr contr | 5 years |
| 50 | Nevada | PERS | No | 11.88% | 11.88% | 5 years |
| 51 | New Hampshire | NHRS | Yes | 7.00% | 11.04% | 10 years |
| 52 | New Jersey | PERS | Yes | 6.50% | 4.70% state; 3.49% local | 10 years |
| 53 | New Jersey | TPAF | Yes | 6.50% | 14.3% | 10 years |
| 54 | New Mexico | PERA | Yes | Varies | Varies | 5 years |
| 55 | New Mexico | ERB | Yes | 7.90% | 13.90% | 5 years |
| 56 | New York | ERS | Yes | 3.00% | 9.40%* | 10 years |
| 57 | New York | TRS | Yes | 3.50% | 8.62% | 10 years |
| 58 | North Carolina | TSERS | Yes | 6.00% | 5.12% | 5 years |
| 59 | North Carolina | LGERS | Yes | 6.00% | 6.88% | 5 years |
| 60 | North Dakota | PERS | Yes | 4.00% | 4.12% | 3 years |
| 61 | North Dakota | TRF | Yes | 8.75% | 8.75% | 5 years |
| 62 | Ohio | PERS | No | 10.00% | 14.00% | 5 years |
| 63 | Ohio | STRS | No | 10.00% | 14.00% | 5 years |
| 64 | Oklahoma | PERS | Yes | 3.50% | 16.50% | 6 years |
| 65 | Oklahoma | TRS | Yes | 7.00% | 9.50% | 5 years |
| 66 | Oregon | PERS | Yes | 6.00% | 5.73% | 5 years |
| 67 | Pennsylvania | SERS | Yes | 6.25% | 8.01% | 10 years |
| 68 | Pennsylvania | PSERS | Yes | 7.37% (average) | 8.65% | 5 years |
| 69 | Rhode Island | ERS | Yes | 8.75% (9.50% teachers) | 22.98% (22.32% teachers) | 10 years |
| 70 | South Carolina | SCRS | Yes | 6.50% | 9.68% | 5 years |
| 71 | South Dakota | SRS | Yes | 6.00% | 6.00% | 3 years |
| 72 | Tennessee | CRS | Yes | Non-contributory | 13.02% | 5 years |
| 73 | Texas | ERS | Yes | 6.50% | 6.95% | 10 years |
| 74 | Texas | TRS | No | 6.40% | 6.40% | 5 years |
| 75 | Texas | MRS | Yes | 5.00, 6.00, or 7.00% | 9.86%* | 5 years |
| 76 | Utah | SRS | Yes | Non-contributory | 16.32% | 4 years |
| 77 | Vermont | SRS | Yes | 5.10% | 4.81% | 5 years |
| 78 | Vermont | TRS | Yes | 5.00% | 1.80% | 5 years |
| 79 | Virginia | SRS | Yes | 5.00% | 6.26% | 5 years |
| 80 | Washington | PERS | Yes | 4.91% | 8.41% | 10 years |
| 81 | Washington | TRS | Yes | 4.80% | 9.18% | 10 years |
| 82 | West Virginia | PERS | Yes | 4.50% | 12.50% | 5 years |
| 83 | West Virginia | TRS | Yes | 6.00% | 29.20% | 5 years |
| 84 | Wyoming | WRS | Yes | 7.00% | 7.12% | 4 years |
| 85 | Milwaukee | City | Yes | 5.50% | 0.00%** | 4 years |
| 86 | Milwaukee | County | Yes | Non-contributory | \$29,529,322 | 5 years |
| 87 | Wisconsin | WRS | Yes | 5.00% | 4.80% | Immediate |

*Average rate for 2012 contribution

**No employer contribution was necessary as expected assets equaled expected actuarial accrued liability at the time of the most recent actuarial study

Figure 6. 2010 Employee Contribution Rates

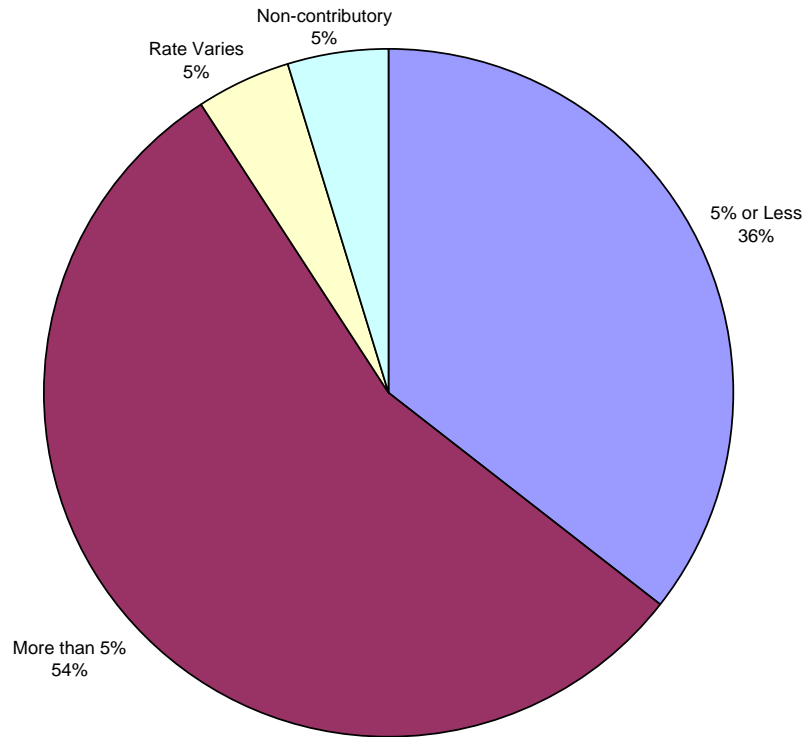
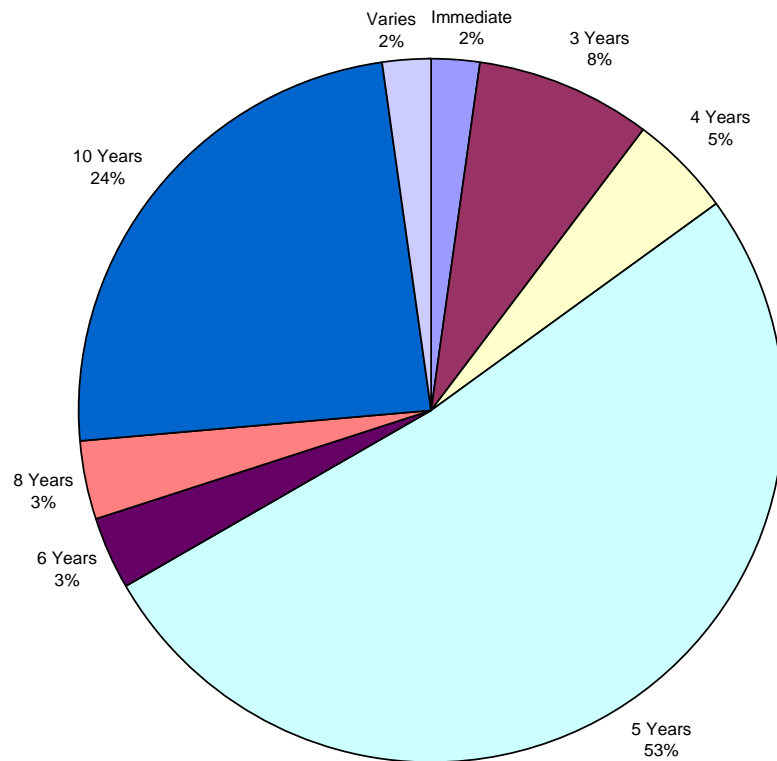


Figure 7. 2010 Vesting Rates



PART IV

RETIREMENT BENEFIT CALCULATIONS

A. INTRODUCTION

Chart 4, on pages 27 and 28, shows the retirement benefit formulas in effect for 2010 for each of the plans. The formulas are those used to calculate the benefits of general employees and teachers and may not apply to other categories of employees. For example, elected officials and employees who are classified as “protective employees” generally have higher formula benefit multipliers and earlier normal retirement dates.

In addition, many of the plans in the report have different “tiers” of formula benefits that apply to employees depending upon when they were hired. In Chart 4, an attempt was made to present the data for each plan that is applicable to the largest category of employees and to employees who newly entered public service.

As is shown in Chart 4, 83 of the 87 plans in the report are “defined benefit plans” in which an employee’s retirement benefits are generally calculated by multiplying the employee’s number of years of service times a “formula multiplier” and multiplying the product of this calculation by the employee’s final average salary:

$$\text{Years of Service} \times \text{Formula Multiplier} \times \text{Final Average Salary} = \text{Retirement Annuity}$$

In effect, the formula multiplier is the percentage of the final average salary that an employee earns as a retirement annuity for each year of service.

As previously noted, two of the 87 plans in the report are “money purchase” plans in which an employee’s retirement benefits are calculated by the amount of money in the employee’s retirement account. Some of the defined benefit plans in the report also include “money purchase” elements. The other two plans are defined contribution plans where the value of contributions plus interest equals the retirement benefit.

B. “BASIC” PLANS IN WHICH EMPLOYEES ARE NOT COVERED BY SOCIAL SECURITY

Employees of 17 of the 87 plans are not covered by Social Security. The plans in which employees are not covered by Social Security frequently have a higher formula multiplier to compensate for the lack of Social Security coverage.

The 17 plans in which employees are not covered by Social Security have formula multipliers ranging between 2% and 2.5% for each year of service. The average formula multiplier for these 17 plans is approximately 2.2% for each year of service.

C. "COORDINATED" PLANS IN WHICH EMPLOYEES ARE COVERED BY SOCIAL SECURITY

Seventy of the 87 plans in this report are "coordinated" with the Social Security system, meaning that employees earn Social Security benefits for their employment. There are a wide range of formula multipliers in effect for these 70 plans, which sometimes vary by number of years of service, by date of employment, or by age at retirement. For 2010, the average formula multiplier for the coordinated plans that are not money purchase plans, defined contribution plans, or plans in which the employer determines the formula multiplier is approximately 1.95%. This number may be somewhat misleadingly low because a number of plans increase their multiplier rates following a certain number of years of service; generally 15, 25, or 30 years.

The formula benefits for 2010, as shown in Chart 4, are summarized and compared with the data found in the 2008 Report in the following table:

| <u>Formula Multiplier</u> | <u>2008</u> | <u>2010</u> |
|--|-----------------|-----------------|
| 1.1% to 1.3% | 0 plans | 2 plans |
| Over 1.3% to 1.5% | 2 plans | 5 plans |
| Over 1.5% to 1.7% | 15 plans | 17 plans |
| Over 1.7% to 1.9% | 13 plans | 7 plans |
| Over 1.9% to 2.1% | 25 plans | 21 plans |
| Over 2.1% | 6 plans | 10 plans |
| Employer determines formula multiplier | 2 plans | 3 plans |
| Formula benefit plus money purchase | 3 plans | 2 plans |
| Money purchase plan | 2 plans | 3 plans |
| TOTAL | 70 plans | 70 plans |

See Figure 8, *2010 Formula Multipliers*, for a graphical representation.

D. FINAL AVERAGE SALARY

Defined benefit plans base the amount of a retirement annuity on the employee's "final average salary." The final average salary is generally the employee's highest earnings over a specified number of years or months, which are sometimes required to be consecutive years or months. Generally, an employee's highest salary will be the amount of salary he or she earned immediately prior to retirement.

Since the 2008 Report, eight plans have increased the number of years required to calculate final average salary. The most common method is to use a three-year average, which may be required to be consecutive years or may be required to be years that fall within a given period. (For example, the three highest years within a 10-year period.) Forty-eight of the 87 plans in the report use a three-year final average salary. The next most prevalent calculation of final average salary is a five-year period--22 of the 87 plans used a five-year period in 2010. See Figure 9, *2010 Final Average Salary Period*, for a graphical representation.

E. LIMITATIONS ON BENEFITS

The last column of Chart 4 shows the plans that have established a limit on the amount of pension benefits that may be received by a retiree. This limitation may be expressed as a maximum percentage of final average salary, as a maximum number of years that may be credited, or as a maximum percentage of highest salary. The majority of plans surveyed in the report impose no maximum benefit limitation. They are followed by those with a limit of 100% of final average salary.

F. TRENDS

The trend noted in previous reports to increase formula multipliers has slowed significantly and some states have even lowered their multipliers. Four (including both “basic” and “coordinated” plans) of the 87 plans increased their formula multipliers between 2006 and 2008. Thirty-two of 85 plans increased their formula multipliers between 1996 and 2000. Between 2008 and 2010, nine plans decreased their formula multipliers and three plans increased their multipliers. As noted in subsection D., there has been an increase in the number of years required to calculate final average salary figures. Plan caps have not changed significantly.

G. THE WRS

The WRS is primarily a defined benefit plan. However, it also has a “money purchase” feature that computes an employee’s retirement benefits by the amount of an annuity that can be purchased with moneys in the employee’s retirement account. The employee receives the higher of either the formula-based defined benefit annuity or the money purchase annuity.

The formula multiplier for general employees in the WRS is 1.6%, which is lower than the 1.95% average formula multiplier for the plans in the report that are coordinated with the Social Security system. 1999 Wisconsin Act 11 added an additional 0.165 to the formula multiplier for creditable service on or before January 1, 2000. However, for creditable service earned after January 1, 2000, the formula multiplier for general employees returned to 1.6%.

Final average salary under the WRS is an average of the three highest years of an employee’s salary. Annuities for general employees are capped at 70% of final average salary.

CHART IV
FINAL AVERAGE SALARY PERIODS-FORMULAS-LIMITATIONS

| | <u>State</u> | <u>Fund Name</u> | <u>FAS Period</u> | <u>Formula Multiplier</u> | <u>Limitation</u> |
|----|---------------|------------------|-------------------|---|--|
| 1 | Alabama | ERS | 3 H/10 | 2.0125% | None |
| 2 | Alabama | TRS | 3 H/10 | 2.0125% | None |
| 3 | Alaska | PERS | N/A | N/A; defined contribution plan | None |
| 4 | Alaska | TRS | N/A | N/A; defined contribution plan | None |
| 5 | Arizona | SRS | 3 HC | 2.1% (1st 20 yrs); 2.15% (next 5 yrs); 2.2% (next 5 yrs); 2.3% over 30 yrs | 80% FAS |
| 6 | Arkansas | PERS | 3 H | 2% + .5% for yrs of service over 28 yrs | 100% FAS |
| 7 | Arkansas | TRS | 3 H | 2.15% | None |
| 8 | California | PERS | 3 H | 2% at 55; 2.5% at 63 or older | 65 yrs max |
| 9 | California | TRS | 1 H | 2% at 60; 2.4% at 63 | 100% FAS |
| 10 | Colorado | PERA | 4 H | 2.5% | 100% FAS |
| 11 | Connecticut | SERS | 3 H (130% cap) | 1.33% + .5% over \$48,800; 1.625% yrs over 35 | None |
| 12 | Connecticut | TRS | 3 H | 2% | 75% FAS |
| 13 | Delaware | SEPP | 3 H | 1.85% | None |
| 14 | Florida | FRS | 8 H | 1.6% to 1.68% (age and yrs of service) | 100% FAS |
| 15 | Georgia | ERS | 2 HC | 2% | 90% high yr |
| 16 | Georgia | TRS | 2 HC | 2% | 40 yrs max |
| 17 | Hawaii | ERS | 3 H | 2% | None |
| 18 | Idaho | PERS | 3 1/2 HC | 2% | 100% FAS |
| 19 | Illinois | SRS | 8 HC/10 | 1.67% | 75% FAS |
| 20 | Illinois | TRS | 4 HC/10 | 2.2% | 75% FAS |
| 21 | Illinois | MRF | 4 HC/10 | 1.67% (1st 15 yrs); 2% (added yrs) | 75% FAS |
| 22 | Indiana | PERF | 5 H | 1.1% + money purchase annuity | None |
| 23 | Indiana | TRF | 5 H | 1.1% + money purchase annuity | None |
| 24 | Iowa | PERS | 3 H | 2% (1st 30 yrs); 1% (next 5 yrs) | 65% FAS |
| 25 | Kansas | PERS | 3 H/5 H | 1.75% | None |
| 26 | Kentucky | KERS | Last 5 | 1.1-1.75% depending on yrs service | None |
| 27 | Kentucky | CERS | 5 H | 1.1-1.75% depending on yrs service | None |
| 28 | Kentucky | TRS | 5 H/3 H | 1.7-3% depending on yrs service | 100% FAS |
| 29 | Louisiana | SERS | 3 HC | 2.5% | 100% FAS |
| 30 | Louisiana | TRSL | 3 HC | 2.5% | 100% FAS |
| 31 | Maine | SRS | 3 H | 2% | None |
| 32 | Maryland | SRS | 3 HC | 1.4% | 100% FAS |
| 33 | Massachusetts | SERS | 3 HC | .5% to 2.5% (age-related) | 80% FAS |
| 34 | Massachusetts | TRS | 3 HC | .5% to 2.5% (age-related) + 2% for each yr over 24 | 80% FAS |
| 35 | Michigan | SERS | 3 HC | 1.5% | None |
| 36 | Michigan | MERS | 5/3 HC | 1.3% to 2.5% (employer option) | 80% FAS for multipliers of 2.25% and over |
| 37 | Michigan | PSERS | 5/3 HC | 1.5% | None |
| 38 | Minnesota | MSRS | 5 H | 1.7% | None |
| 39 | Minnesota | PERA | 5 HC | 2.7% | None |
| 40 | Minnesota | TRA | 5 HC | 2.5% | None |
| 41 | Mississippi | PERS | 25 + yr avg | 2% (1st 25 yrs); 2.5% (added yrs) | None |
| 42 | Missouri | SERS | 3 HC | 1.7% (and .8% to age 62 if R90 met) | None |
| 43 | Missouri | LAGERS | 5/3 HC | 1-2.5% (varies by employer option) | None |
| 44 | Missouri | PSRS | 3 HC | 2.5%; 2.55% with 31 or more yrs of service | 100% FAS |
| 45 | Montana | PERS | 3 HC | 1.785%; 2% with at least 25 yrs of service | None |

| | | | | | |
|----|----------------|--------|----------------|---|--------------|
| 46 | Montana | TRS | 3 HC | 1.67% | None |
| 47 | Nebraska | SERS | | Cash balance | None |
| 48 | Nebraska | CERS | | Cash balance | None |
| 49 | Nebraska | SPP | 3 H | 2% | None |
| 50 | Nevada | PERS | 3 HC | 2.5% | 75% FAS |
| 51 | New Hampshire | NHRS | 3 H (cap) | 1.67% to 65; 1.515% after 65 | \$120,000 |
| 52 | New Jersey | PERS | 5 H | 1.67% | None |
| 53 | New Jersey | TPAF | 5 H | 1.67% | None |
| 54 | New Mexico | PERS | 3 HC | Varies | 80% FAS |
| 55 | New Mexico | ERA | 5 HC | 2.35% | None |
| 56 | New York | ERS | 3 HC (10% cap) | 1.67% (under 20 yrs); 2% (over 20 yrs); 3.5% (over 30 yrs) | None |
| 57 | New York | TRS | 3 HC | 1.67% (under 25 yrs) | None |
| 58 | North Carolina | TSERS | 4 HC | 1.82%; 2% (over 25 yrs); 3.5% (over 30 yrs) | None |
| 59 | North Carolina | LGERS | 4 HC | 1.85% | None |
| 60 | North Dakota | PERS | 3 H/10 | 2% | None |
| 61 | North Dakota | TRF | 5H | 2% | None |
| 62 | Ohio | PERS | 3 H | 2.2% (1st 30 yrs); 2.5% (added yrs) | 100% FAS |
| 63 | Ohio | STRS | 3 H | 2.2% (1st 35 yrs); 2.5% (35 or more yrs) | 100% FAS |
| 64 | Oklahoma | PERS | 3 H/10 | 2% | None |
| 65 | Oklahoma | TRS | 5 H | 2% | None |
| 66 | Oregon | PERS | 3 H | 1.5% | None |
| 67 | Pennsylvania | SERS | 3 H | 2-2.5% | 100% high yr |
| 68 | Pennsylvania | PSERS | 3 H | 2-2.5% | None |
| 69 | Rhode Island | ERS | 5 HC | 1.6% (1st 10 yrs); 1.8% (2nd 10 yrs); 2% (21-25 yrs); 2.25% (26-30 yrs); 2.5% (31-37 yrs); 2.25% (38 yrs) | 80% FAS |
| 70 | South Carolina | SCRS | 3 HC | 2.25% | None |
| 71 | South Dakota | SRS | 3 HC/10 | 1.7% | None |
| 72 | Tennessee | CRS | 5 HC | 1.5% + .25% FAS over SSIL | 90% FAS |
| 73 | Texas | ERS | 4 H | 2.3% | 100% AMC* |
| 74 | Texas | TRS | 5 H | 2.3% | None |
| 75 | Texas | MRS | Last 3 yrs** | Money purchase options | None |
| 76 | Utah | SRS | 3 H | 2% | None |
| 77 | Vermont | SRS | 3 HC | 1.67% | 60% FAS |
| 78 | Vermont | TRS | 3 HC | 1.67% | 53.34% FAS |
| 79 | Virginia | SRS | 3 HC | 1.7% | 100% FAS |
| 80 | Washington | PERS | 5 HC | 1% + .25% per yr after 20 yrs (non-contributory) | None |
| 81 | Washington | TRS | 5 HC | 1% + .25% per yr after 20 yrs (non-contributory) | None |
| 82 | West Virginia | PERS | 3 HC/10 | 2% | None |
| 83 | West Virginia | TRS | 5 H/15 | 2% | None |
| 84 | Wyoming | WRS | 3 H | 2.125% (1st 15 yrs); 2.25% (added yrs) | None |
| 85 | Milwaukee | City | 3 H | 2% | 70% FAS |
| 86 | Milwaukee | County | 3 HC | 2% | 80% FAS |
| 87 | Wisconsin | WRS | 3 H | 1.6% | 70% FAS |

*Average monthly compensation

**36 months ending 13 months before calculation

Figure 8. 2010 Formula Multipliers

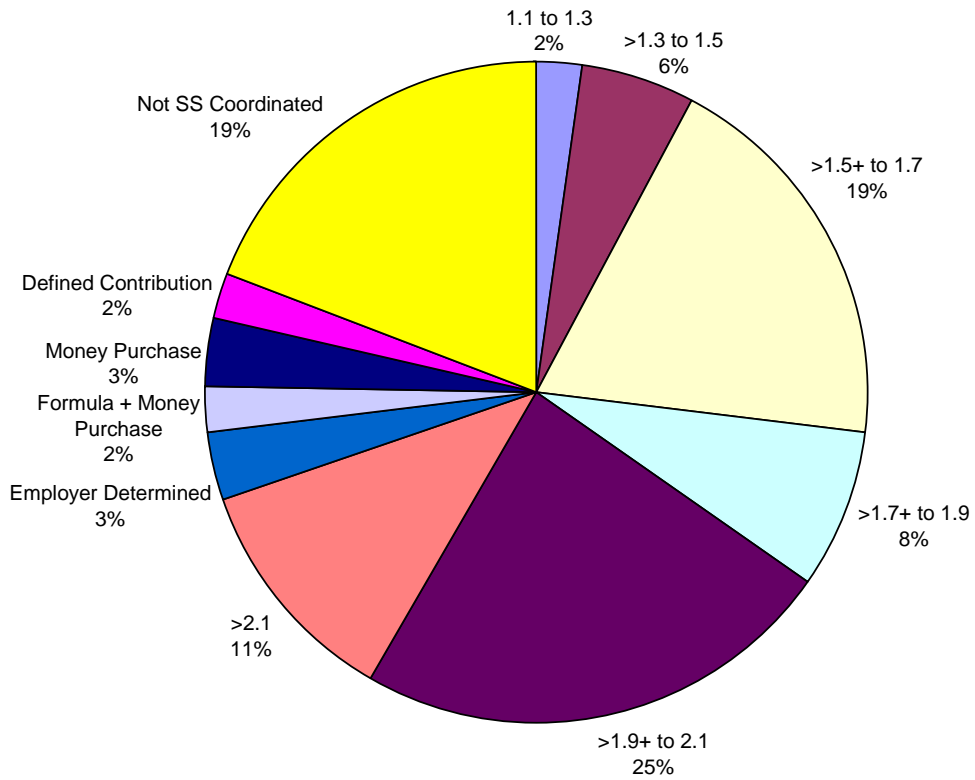
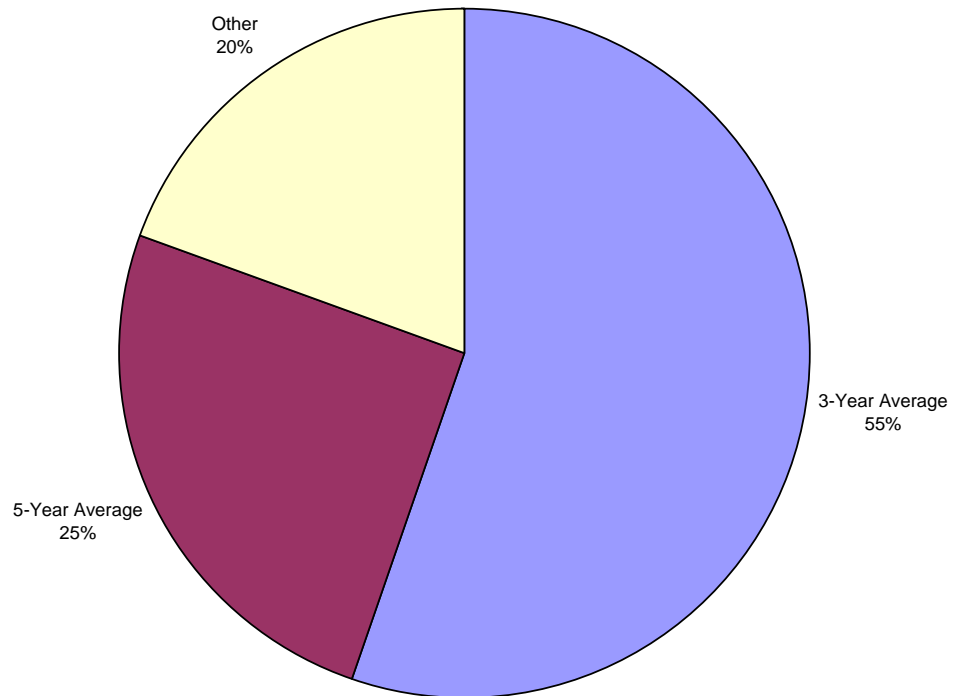


Figure 9. 2010 Final Average Salary Period



PART V

POST-RETIREMENT ANNUITY INCREASES AND TAXES

A. INTRODUCTION

Chart 5, on pages 33 and 34, shows the provisions of each plan for increasing retirement annuities after an employee has retired. Chart 5 also shows how annuity payments from each plan are treated under that state's income tax laws. In addition, benefit adjustments in the Social Security program over the last 10 years and income taxation of Social Security benefits are also discussed in this part.

B. SOCIAL SECURITY

Pension designers are concerned with the adequacy of benefits at the time of retirement and also with the continuing purchasing power of those benefits during retirement as affected by inflation. Since 1975, Social Security benefits have been automatically adjusted each year by the percentage increase in the consumer price index (CPI). The increases in Social Security benefits for each of the last 10 years are shown below and displayed in Figure 10, *Social Security CPI % Adjustments 2000 to 2011*:

| <u>CPI Year</u> | <u>Date on Which First Payable</u> | <u>Percentage Increase</u> |
|-----------------|------------------------------------|----------------------------|
| 2000 | 1/1/2001 | 3.5% |
| 2001 | 1/1/2002 | 2.6% |
| 2002 | 1/1/2003 | 1.4% |
| 2003 | 1/1/2004 | 2.1% |
| 2004 | 1/1/2005 | 2.7% |
| 2005 | 1/1/2006 | 4.1% |
| 2006 | 1/1/2007 | 3.3% |
| 2007 | 1/1/2008 | 2.3% |
| 2008 | 1/1/2009 | 5.8% |
| 2009 | 1/1/2010 | 0.0% |
| 2010 | 1/1/2011 | 0.0% |
| 2011 | 1/1/2012 | 3.6% |

For those employees in the 70 of the 87 plans in this report (80%) that are also covered by the Social Security program, at least that portion of their total retirement income that is received from Social Security automatically keeps pace with inflation.

Under federal law, up to 50% of Social Security benefits are subject to income taxation if the taxpayer's adjusted gross income is between \$25,000 and \$34,000 for single taxpayers or between \$32,000 and \$44,000 for married taxpayers filing a joint income tax return. If a taxpayer's income exceeds these levels, then 85% of his or her Social Security benefits are subject to federal income taxation.

State income taxation of Social Security benefits varies. Twenty-eight states completely exempt Social Security benefits from income taxation. Thirteen states impose income taxes on all or a portion of Social Security benefits and nine states have no personal income tax or a very limited personal income tax that does not affect Social Security payments.

C. POST-RETIREMENT ANNUITY COST-OF-LIVING ADJUSTMENTS

Most of the plans in this report have provisions for post-retirement annuity adjustments to protect the purchasing power of annuities against inflation. The provisions of each of the plans are described in the fourth column of Chart 5. The following table summarizes and compares the post-retirement annuity adjustment provisions found in the 2008 Report against those found in the 2010 Report:

| | <u>2008</u> | <u>2010</u> |
|--|-----------------|-----------------|
| Adjustments indexed to CPI | 35 plans | 28 plans |
| Automatic percentage increase | 26 plans | 29 plans |
| Investment surplus | 5 plans | 5 plans |
| Ad hoc (any increase must be authorized by Legislature or a decision-making board) or money purchase | 19 plans | 19 plans |
| No increase | 2 plans | 6 plans |
| TOTAL | 87 plans | 87 plans |

Note that, as shown in Chart 5, many of the plans in which post-retirement annuity increases are indexed to the CPI also include a cap on the total percentage adjustment that may be made within any given year. Also, many of the plans in which post-retirement annuity increases are indexed to the CPI or are automatic also include provisions for additional annuity adjustments if there are investment surpluses in the retirement fund. Nineteen of the 87 plans are either money purchase plans or provide post-retirement annuity increases only on an “ad hoc” basis, where either the Legislature or a decision-making board determines whether, and when, a post-retirement annuity increase is granted. See Figure 11, *2010 Cost of Living Adjustments (COLA)*, for a graphical representation.

D. STATE INCOME TAXATION OF ANNUITIES

The last column of Chart 5 shows the treatment of pension benefits under each of the plans by the state income tax laws in effect in that state. In 21 of the 87 plans, pension benefits are subject to state income taxation and no specific amount of retirement benefits is tax exempt. Also, in 21 of the 87 plans, pension benefits are totally exempt from state income taxation. Eleven of the plans are in states with no income taxation.

Caution must be used in interpreting the information in the last column of Chart 5. In many of the states in which pension income is fully taxable, other provisions of state income tax laws may ameliorate or completely eliminate the effect of the state income tax laws on retirees. For example, some state income tax laws have a level of exemptions, deductions, or tax credits that substantially reduce or eliminate state income taxation for persons at certain income levels. Also, in addition, some of these exemptions, deductions, or tax credits may be increased for taxpayers who have reached a certain age. In these states, the level of income taxation on retirees may be

equal to or less than that in states where public employee pension income is exempt from state income taxation.

E. TRENDS

Most of the plans in this report have adopted provisions in which retirement annuities are annually increased, either by a set percentage or in response to changes in the CPI. These provisions were mostly adopted in the 1970s and 1980s, in response to the high inflation that occurred in those years.

F. THE WRS

Retirees in the WRS whose annuities are paid from the “core” fund receive annual annuity adjustments tied to whether reserve surpluses in the fund, as adjusted by a formula, are sufficient to generate an increase. In addition, the annual adjustment may result in a reduction of annuities if investment losses are severe, particularly if investment losses occur over a number of consecutive years. However, annuities paid from the “core” fund may not be reduced below the level initially paid to a retiree. For annuities paid in 2010, the annuity adjustment in the core fund was -1.2%.

WRS retirement benefits are subject to state income taxation except for certain payments made with respect to persons who were employees prior to 1964 or who had retired prior to 1964. Income from Social Security is exempt from Wisconsin income taxes. In addition, up to \$5,000 per year of income from qualified retirement plans is exempt from Wisconsin income taxes for taxpayers with an adjusted gross income of \$15,000 or less (\$30,000 for married joint filers) who are 65 or older.

CHART V
POST-RETIREMENT INCREASES AND STATE TAX PROVISIONS

| <u>State</u> | <u>Fund Name</u> | <u>Social Security</u> | <u>Annual Post-Retirement Increases</u> | <u>State Taxation of PERS Benefits</u> |
|------------------|------------------|------------------------|--|--|
| 1 Alabama | ERS | Yes | Ad hoc only | Benefits exempt |
| 2 Alabama | TRS | Yes | Ad hoc only | Benefits exempt |
| 3 Alaska | PERS | No | N/A: acct balance + invest earnings | No income tax |
| 4 Alaska | TRS | No | N/A: acct balance + invest earnings | No income tax |
| 5 Arizona | SRS | Yes | Excess earnings - 4% cap | Exempt to \$2,500 |
| 6 Arkansas | PERS | Yes | 3% | Exempt to \$6,000 |
| 7 Arkansas | TRS | Yes | 3% | Exempt to \$6,000 |
| 8 California | PERS | Yes | 2% max based on CPI | Benefits taxable |
| 9 California | TRS | No | 2% | Benefits taxable |
| 10 Colorado | PERA | No | Lesser of 2% or CPI-W | Exempt to \$20,000/\$24,000 |
| 11 Connecticut | SERS | Yes | 60% of CPI up to 6%, 2.5% minimum | Benefits taxable |
| 12 Connecticut | TRS | No | 2% | Benefits taxable |
| 13 Delaware | SEPP | Yes | Ad hoc only | Exempt to \$12,500 |
| 14 Florida | FRS | Yes | 3% | No income tax |
| 15 Georgia | ERS | Yes | Ad hoc-based on CPI | Exempt to \$40,000 |
| 16 Georgia | TRS | Yes | Ad hoc-based on CPI | Exempt to \$40,000 |
| 17 Hawaii | ERS | Yes | 2.5% | Benefits exempt |
| 18 Idaho | PERS | Yes | CPI - 1% minimum to 6% max (conditional) | Benefits taxable |
| 19 Illinois | SRS | Yes | 3% or 1/2 of CPI | Benefits exempt |
| 20 Illinois | TRS | No | 3% | Benefits exempt |
| 21 Illinois | MRF | Yes | 3% | Benefits exempt |
| 22 Indiana | PERF | Yes | Ad hoc only (1.5% presumed) | Benefits taxable |
| 23 Indiana | TRF | Yes | Ad hoc only (1% presumed) | Benefits taxable |
| 24 Iowa | PERS | Yes | Excess earnings - CPI; 3% cap | Exempt to \$6,000, \$12,000 married |
| 25 Kansas | PERS | Yes | 2% | Benefits exempt |
| 26 Kentucky | KERS | Yes | 1.5% | Exempt to \$41,110 |
| 27 Kentucky | CERS | Yes | 1.5% | Exempt to \$41,110 |
| 28 Kentucky | TRS | No | 1.5% | Exempt to \$41,110 |
| 29 Louisiana | SERS | No | Excess earnings; CPI; 3% cap | Benefits exempt |
| 30 Louisiana | TRSL | No | Excess earnings | Benefits exempt |
| 31 Maine | SRS | No | CPI - 4% cap | Exempt to \$6,000 |
| 32 Maryland | SRS | Yes | CPI - 3% cap | Exempt to \$23,600 |
| 33 Massachusetts | SERS | No | CPI - on 1st \$12,000-conditional, 3% cap | Benefits exempt |
| 34 Massachusetts | TRS | No | CPI - on 1st \$12,000-conditional, 3% cap | Benefits exempt |
| 35 Michigan | SERS | Yes | 3% (\$300 annual cap) | Benefits exempt |
| 36 Michigan | MERS | Yes | 3 plans - depending on employer agreement (generally 2.5%) | Benefits exempt |
| 37 Michigan | PSERS | Yes | 3% | Benefits exempt |
| 38 Minnesota | MSRS | Yes | 2.5% | Benefits taxable |
| 39 Minnesota | PERA | Yes | 1% | Benefits taxable |
| 40 Minnesota | TRA | Yes | 2% | Benefits taxable |
| 41 Mississippi | PERS | Yes | 3% | Benefits exempt |
| 42 Missouri | SERS | Yes | 80% CPI - 5% cap | Exempt to \$33,703 |

| | | | | | |
|----|----------------|--------|-----|---|--|
| 43 | Missouri | LAGERS | Yes | CPI - 4% cap | Exempt to \$33,703 |
| 44 | Missouri | PSRS | No | CPI - 5% cap; 80% of original benefits lifetime cap | Exempt to \$33,703 |
| 45 | Montana | PERS | Yes | 1.5% | Exempt to \$3,600 |
| 46 | Montana | TRS | Yes | 1.5% | Exempt to \$3,600 |
| 47 | Nebraska | SERS | Yes | 2.5% | Benefits taxable |
| 48 | Nebraska | CERS | Yes | 2.5% | Benefits taxable |
| 49 | Nebraska | SPP | Yes | CPI - 2.5% cap | Benefits taxable |
| 50 | Nevada | PERS | No | 2 to 5% | No income tax |
| 51 | New Hampshire | NHRS | Yes | Ad hoc | Benefits exempt |
| 52 | New Jersey | PERS | Yes | Suspended | Exempt to \$15,000/\$20,000 |
| 53 | New Jersey | TPAF | Yes | Suspended | Exempt to \$15,000/\$20,000 |
| 54 | New Mexico | PERA | Yes | 3% | \$2,500 exempt |
| 55 | New Mexico | ERA | Yes | 50% of CPI - 2% min; 4% cap | \$2,500 exempt |
| 56 | New York | ERS | Yes | 50% of CPI, max 3% on 1st \$18,000 | Benefits exempt |
| 57 | New York | TRS | Yes | 50% of CPI, max 3% on 1st \$18,000 | Benefits exempt |
| 58 | North Carolina | TSERS | Yes | Ad hoc | Exempt to \$4,000/\$8,000 |
| 59 | North Carolina | LGERS | Yes | Ad hoc | Exempt to \$4,000/\$8,000 |
| 60 | North Dakota | PERS | Yes | Ad hoc | Benefits taxable |
| 61 | North Dakota | TRF | Yes | Ad hoc | Benefits taxable |
| 62 | Ohio | PERS | No | 3% | Benefits taxable |
| 63 | Ohio | STRS | No | 3% | Benefits taxable |
| 64 | Oklahoma | PERS | Yes | Ad hoc | Exempt to \$10,000 |
| 65 | Oklahoma | TRS | Yes | Ad hoc | Exempt to \$10,000 |
| 66 | Oregon | PERS | Yes | CPI - 2% cap | Benefits taxable |
| 67 | Pennsylvania | SERS | Yes | Ad hoc | Benefits exempt |
| 68 | Pennsylvania | PSERS | Yes | Ad hoc | Benefits exempt |
| 69 | Rhode Island | ERS | Yes | CPI - 3% cap | Benefits taxable |
| 70 | South Carolina | SCRS | Yes | CPI - 2% cap | \$15,000 deduction |
| 71 | South Dakota | SRS | Yes | 3.1% (sliding scale) | No income tax |
| 72 | Tennessee | CRS | Yes | CPI - 3% cap | Benefits exempt for income under \$16,200/\$27,000 |
| 73 | Texas | ERS | Yes | Ad hoc | No income tax |
| 74 | Texas | TRS | No | Ad hoc | No income tax |
| 75 | Texas | MRS | Yes | Up to 70% of CPI (ad hoc) | No income tax |
| 76 | Utah | SRS | Yes | CPI - 4% cap | Exempt to \$7,500/\$15,000 |
| 77 | Vermont | SRS | Yes | 50% of CPI - 5% cap | Benefits taxable |
| 78 | Vermont | TRS | Yes | 50% of CPI - 5% cap | Benefits taxable |
| 79 | Virginia | SRS | Yes | CPI - 5% cap | Deduction up to \$12,000 |
| 80 | Washington | PERS | Yes | CPI - 3% cap | No income tax |
| 81 | Washington | TRS | Yes | CPI - 3% cap | No income tax |
| 82 | West Virginia | PERS | Yes | No | Exempt to \$2,000 |
| 83 | West Virginia | TRS | Yes | No | Exempt to \$2,000 |
| 84 | Wyoming | WRS | Yes | CPI - 3% cap | No income tax |
| 85 | Milwaukee | City | Yes | CPI - 3% cap | Limited exemptions |
| 86 | Milwaukee | County | Yes | 2% | Limited exemptions |
| 87 | Wisconsin | WRS | Yes | Investment earnings; reductions possible | Limited exemptions |

Figure 10. Social Security CPI % Adjustments 2000 to 2011

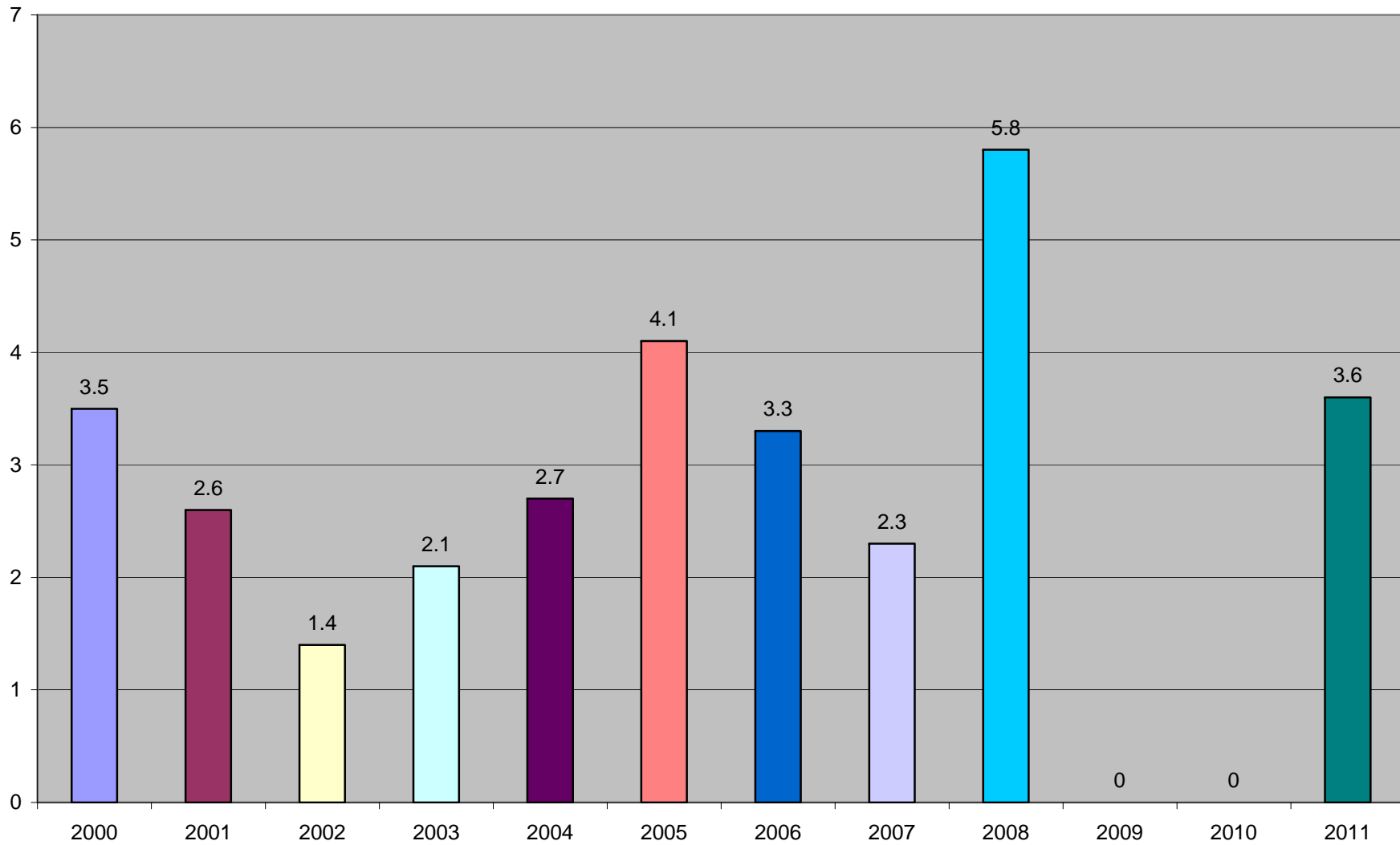
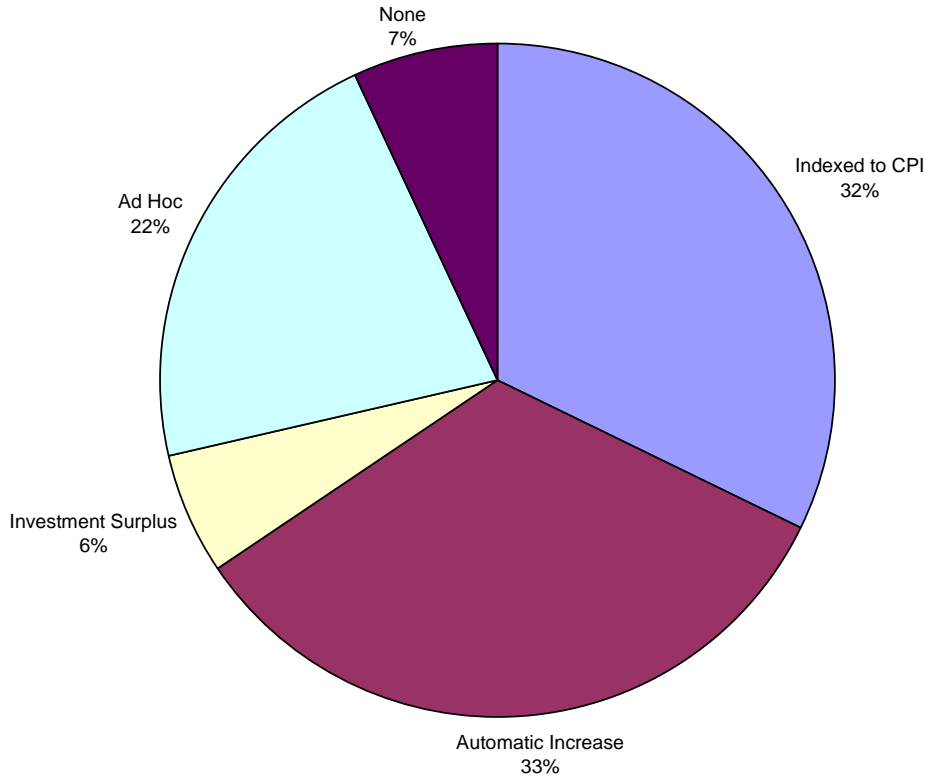


Figure 11. 2010 Cost of Living Adjustments



| |
|---|
| PART VI ACTUARIAL AND ACCOUNTING INFORMATION |
|---|

A. INTRODUCTION

Chart 6, on pages 40 and 41, provides selected actuarial and accounting information about each of the plans in the report. This part of the report discusses the actuarial method used by each of the plans, provides the interest assumption, wage inflation assumption, and economic spread for each of the plans, and provides the Governmental Accounting Standards Board (GASB) 25 funding ratio for each of the plans in 2010.

B. ACTUARIAL METHODS

The third column in Chart 6 lists the actuarial methods used by each of the 87 plans. An actuarial method is a procedure for determining the present value of pension benefits that will be paid in the future and allocating that value and the cost of the benefits to specific time periods. There are a number of accepted actuarial methods that presumably will reach the goal of fully funding all pension obligations as they become due, but they allocate costs in different ways during the period of employment of participants in the plan.

Sixty-nine, or 79%, of the 87 plans use the entry age actuarial method; 12, or 14%, of the 87 plans use the unit credit method; four, or 5%, of the 87 plans use the aggregate cost method or other methods.

C. INTEREST ASSUMPTION

The interest assumption, which is also sometimes referred to as the “earnings assumption,” is one of the key economic assumptions in determining the level of contribution rates. The fourth column in Chart 6 provides the interest assumption for each of the 87 plans in the report. This information is compared with previous reports in the following table:

| <u>Interest Assumption</u> | <u>2000</u> | <u>2004</u> | <u>2006</u> | <u>2008</u> | <u>2010</u> |
|----------------------------------|-------------|-------------|-------------|-------------|-------------|
| From 5% to 7% | 1 plan | 1 plan | 1 plan | 1 plan | 4 plans |
| Over 7% to 8% | 56 plans | 59 plans | 61 plans | 63 plans | 65 plans |
| Over 8% | 27 plans | 24 plans | 23 plans | 21 plans | 16 plans |
| Not determined or not applicable | 1 plan | 1 plan | 0 plans | 2 plans | 2 plans |
| TOTAL | 85 plans | 85 plans | 85 plans | 87 plans | 87 plans |

See Figure 12, *2010 Plan Interest Assumptions*, for a graphical representation of current data.

D. ECONOMIC SPREAD

Another key economic assumption in pension planning is the assumption of the wage inflation rate or general salary increases in excess of those provided for merit or seniority. The difference between the wage inflation assumption and the interest assumption is often referred to as the

“economic spread,” which is the assumed real rate of return on invested assets above the wage inflation rate. The fifth and sixth columns of Chart 6 show the wage inflation assumptions and the resultant economic spread for each of the plans in the report.

E. FUNDING RATIO

Until 1995, the GASB required public pension plans to disclose the “pension benefit obligation,” which is a measure of the present value of pension benefits, adjusted for the affects of projected salary increases. The pension benefits were estimated only on service earned by employees up to the date of the estimate.

GASB 25, issued in November 1994, requires that for funding disclosures beginning with periods after June 15, 1996, the funding disclosures be based upon regular actuarial valuations. Included in the requirements under GASB 25 is a “schedule funding progress that reports the actuarial value of assets, the actuarial accrued liability and the relationship between the two over time....”

The following table summarizes the funding ratios for each of the plans in the 2010 Report and compares them with the 2008, 2006, 2004, and 2000 Reports.

| <u>Funding Ratio</u> | <u>2000</u> | <u>2004</u> | <u>2006</u> | <u>2008</u> | <u>2010</u> |
|------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| More than 100% | 33 plans | 9 plans | 7 plans | 10 plans | 4 plans |
| 90% to 100% | 22 plans | 28 plans | 21 plans | 19 plans | 11 plans |
| 80%, but less than 90% | 14 plans | 19 plans | 20 plans | 18 plans | 23 plans |
| 70%, but less than 80% | 5 plans | 15 plans | 17 plans | 24 plans | 16 plans |
| 60%, but less than 70% | 1 plan | 7 plans | 11 plans | 6 plans | 17 plans |
| 50%, but less than 60% | 1 plan | 3 plans | 3 plans | 6 plans | 7 plans |
| Less than 50% | 3 plans | 2 plans | 3 plans | 2 plans | 7 plans |
| Not determined | 6 plans | 2 plans | 3 plans | 2 plans | 2 plans |
| TOTAL | 85 plans | 85 plans | 85 plans | 87 plans | 87 plans |

See Figure 13, *2010 Plan Funding Ratios*, for a graphical representation of current data.

F. TRENDS

Funding ratios of more than 100% have decreased substantially since the 2000 Report, reflecting the general decline in earnings that occurred during the period, including a significant decrease between 2008 and 2010. Thirty-three plans had funding ratios in excess of 100% in 2000, but only four plans had funding ratios in excess of 100% in 2010. Overall funding has also decreased significantly, only 17% of the plans studied had funding ratios of 90% or more in 2010. The average funding ratio in 2010 fell from 81% in 2008 to 73.4% in 2010. There was a significant increase in plans that are less than 50% funded (5) as well.

The entry age method is still the predominant method used by the plans studied.

G. THE WRS

The actuarial method used by the WRS is entry age. The interest assumption for 2010 was lowered to 7.2% from the former 7.8% and the “economic spread” is currently 3.2%.

For 2010, the funding ratio for the WRS was 99.8%, which was significantly higher than the average funding ratio of 73.4% for all plans studied.

CHART VI
ACTUARIAL AND ACCOUNTING PROVISIONS

| | <u>State</u> | <u>Fund Name</u> | <u>Actuarial Method</u> | <u>Interest Assumption</u> | <u>Wage Inflation</u> | <u>Economic Spread</u> | <u>Funded Ratio</u> |
|----|---------------|------------------|-------------------------|----------------------------|-----------------------|------------------------|---------------------|
| 1 | Alabama | ERS | Entry age | 8.00% | 4.50% | 3.50% | 68.20% |
| 2 | Alabama | TRS | Entry age | 8.00% | 4.50% | 3.50% | 71.10% |
| 3 | Alaska | PERS | N/A | N/A | N/A | N/A | N.D. |
| 4 | Alaska | TRS | N/A | N/A | N/A | N/A | N.D. |
| 5 | Arizona | SRS | Unit credit | 8.00% | 3.75% | 4.25% | 76.70% |
| 6 | Arkansas | PERS | Entry age | 8.00% | 4.00% | 4.00% | 74.00% |
| 7 | Arkansas | TRS | Entry age | 8.00% | 4.00% | 4.00% | 73.80% |
| 8 | California | PERS | Entry age | 7.75% | 3.00% | 4.75% | 60.80% |
| 9 | California | TRS | Entry age | 8.00% | 3.25% | 4.75% | 78.00% |
| 10 | Colorado | PERA | Entry age | 8.00% | 3.75% | 4.25% | 64.70% |
| 11 | Connecticut | SERS | Unit credit | 8.25% | 4.00% | 4.25% | 44.40% |
| 12 | Connecticut | TRS | Entry age | 8.50% | 4.00% | 4.50% | 61.42% |
| 13 | Delaware | SEPP | Entry age | 8.00% | 3.75% | 4.25% | 96.00% |
| 14 | Florida | FRS | Entry age | 7.75% | 3.00% | 4.75% | 86.59% |
| 15 | Georgia | ERS | Entry age | 7.50% | 3.00% | 4.50% | 80.10% |
| 16 | Georgia | TRS | Entry age | 7.50% | 3.75% | 3.75% | 87.20% |
| 17 | Hawaii | ERS | Entry age | 8.00% | 4.00% | 4.00% | 68.80% |
| 18 | Idaho | PERS | Entry age | 7.75% | 3.50% | 4.25% | 78.90% |
| 19 | Illinois | SRS | Unit credit | 7.75% | 3.00% | 4.75% | 37.40% |
| 20 | Illinois | TRS | Unit credit | 8.50% | 3.50% | 5.00% | 48.40% |
| 21 | Illinois | MRF | Entry age | 7.50% | 3.00% | 4.50% | 86.30% |
| 22 | Indiana | PERF | Entry age | 7.00% | 3.00% | 4.00% | 85.20% |
| 23 | Indiana | TRF | Entry age | 7.00% | 3.00% | 4.00% | 44.30% |
| 24 | Iowa | PERS | Entry age | 7.50% | 4.00% | 3.50% | 80.80% |
| 25 | Kansas | PERS | Entry age | 8.00% | 3.25% | 4.75% | 60.00% |
| 26 | Kentucky | KERS | Entry age | 7.75% | 4.50% | 3.25% | 38.30% |
| 27 | Kentucky | CERS | Entry age | 7.75% | 4.50% | 3.25% | 56.84% |
| 28 | Kentucky | TRS | Unit credit | 7.50% | 4.00% | 3.50% | 61.00% |
| 29 | Louisiana | SERS | Unit credit | 8.25% | N.D. | N.D. | 57.60% |
| 30 | Louisiana | TRSL | Unit credit | 8.25% | 3.00% | 5.25% | 54.40% |
| 31 | Maine | SRS | Entry age | 7.75% | 4.75% | 3.00% | 65.90% |
| 32 | Maryland | SRS | Entry age | 7.75% | 3.50% | 4.25% | 64.10% |
| 33 | Massachusetts | SERS | Entry age | 8.25% | N.D. | N.D. | 81.00% |
| 34 | Massachusetts | TRS | Entry age | 8.25% | N.D. | N.D. | 63.00% |
| 35 | Michigan | SERS | Entry age | 8.00% | 3.50% | 4.50% | 78.00% |
| 36 | Michigan | MERS | Entry age | 8.00% | 4.50% | 3.50% | 74.50% |
| 37 | Michigan | PSERS | Entry age | 8.00% | 3.50% | 4.50% | 78.90% |
| 38 | Minnesota | MSRS | Entry age | 8.50% | 4.50% | 4.00% | 90.69% |
| 39 | Minnesota | PERA | Entry age | 8.50% | 4.00% | 4.50% | 80.31% |
| 40 | Minnesota | TRA | Entry age | 8.50% | 4.50% | 4.00% | 81.87% |
| 41 | Mississippi | PERS | Entry age | 8.00% | 4.25% | 3.75% | 64.20% |
| 42 | Missouri | SERS | Entry age | 8.50% | 4.00% | 4.50% | 80.40% |
| 43 | Missouri | LAGERS | Entry age | 7.50% | 4.00% | 3.50% | 81.00% |
| 44 | Missouri | PSRS | Entry age | 8.00% | 5.00% | 3.00% | 77.70% |
| 45 | Montana | PERS | Entry age | 7.75% | 4.00% | 3.75% | 70.25% |
| 46 | Montana | TRS | Entry age | 7.75% | 4.50% | 3.25% | 61.53% |
| 47 | Nebraska | SERS | Entry age | 7.75% | 3.50% | 4.25% | 95.90% |
| 48 | Nebraska | CERS | Entry age | 7.75% | 3.50% | 4.25% | 94.70% |

| | | | | | | | |
|----|----------------|--------|----------------|------------|-------|---------|---------|
| 49 | Nebraska | SPP | Entry age | 8.00% | 3.50% | 4.50% | 88.90% |
| 50 | Nevada | PERS | Entry age | 8.00% | 3.50% | 4.50% | 70.50% |
| 51 | New Hampshire | NHRS | Entry age | 8.50% | 4.50% | 4.00% | 58.50% |
| 52 | New Jersey | PERS | Unit credit | 8.25% | 5.45% | 2.80% | 52.80% |
| 53 | New Jersey | TPAF | Unit credit | 8.25% | 4.00% | 4.25% | 68.40% |
| 54 | New Mexico | PERA | Entry age | 8.00% | 4.00% | 4.00% | 78.48% |
| 55 | New Mexico | ERB | Entry age | 8.00% | 3.00% | 5.00% | 65.70% |
| 56 | New York | ERS | Aggregate | 8.00% | 3.00% | 5.00% | 93.90% |
| 57 | New York | TRS | Aggregate | 8.00% | 3.00% | 5.00% | 100.30% |
| 58 | North Carolina | TSERS | Entry age | 7.25% | N.D. | N.D. | 95.90% |
| 59 | North Carolina | LGERS | Entry age | 7.25% | N.D. | N.D. | 99.50% |
| 60 | North Dakota | PERS | Entry age | 8.00% | 4.50% | 3.50% | 73.40% |
| 61 | North Dakota | TRF | Entry age | 8.00% | 3.00% | 5.00% | 66.30% |
| 62 | Ohio | PERS | Entry age | 8.00% | 4.00% | 4.00% | 75.30% |
| 63 | Ohio | STRS | Entry age | 8.00% | 3.50% | 4.50% | 59.10% |
| 64 | Oklahoma | PERS | Entry age | 7.50% | 4.00% | 3.50% | 80.70% |
| 65 | Oklahoma | TRS | Entry age | 8.00% | 3.00% | 5.00% | 56.70% |
| 66 | Oregon | PERS | Unit credit | 8.00% | 2.75% | 5.25% | 85.80% |
| 67 | Pennsylvania | SERS | Entry age | 8.00% | 2.75% | 5.25% | 84.40% |
| 68 | Pennsylvania | PSERS | Entry age | 8.00% | 3.25% | 4.75% | 75.10% |
| 69 | Rhode Island | ERS | Entry age | 7.50% | 2.75% | 4.75% | 48.40% |
| 70 | South Carolina | SCRS | Entry age | 8.00% | 3.00% | 5.00% | 65.50% |
| 71 | South Dakota | SRS | Entry age | 7.75% | 2.80% | 4.95% | 96.30% |
| 72 | Tennessee | CRS | Entry age-FIL* | 7.50% | 3.00% | 4.50% | 90.60% |
| 73 | Texas | ERS | Entry age | 8.00% | 3.50% | 4.50% | 83.20% |
| 74 | Texas | TRS | Entry age | 8.00% | 3.00% | 5.00% | 82.70% |
| 75 | Texas | MRS | Unit credit | 7.00% | 3.00% | 4.00% | 82.90% |
| 76 | Utah | SRS | Entry age | 7.75% | 3.00% | 4.75% | 82.00% |
| 77 | Vermont | SRS | Entry age | 8.25% | 3.00% | 5.25% | 81.20% |
| 78 | Vermont | TRS | Entry age | 6.25-9.00% | 3.00% | 3.25-6% | 63.80% |
| 79 | Virginia | SRS | Entry age | 7.50% | 2.50% | 5.00% | 80.20% |
| 80 | Washington | PERS | Hybrid | 8.00% | 3.50% | 4.50% | 113.00% |
| 81 | Washington | TRS | Hybrid | 8.00% | 3.50% | 4.50% | 116.00% |
| 82 | West Virginia | PERS | Entry age | 7.50% | 3.00% | 4.50% | 74.60% |
| 83 | West Virginia | TRS | Entry age | 7.50% | 3.00% | 4.50% | 46.50% |
| 84 | Wyoming | WRS | Entry age | 8.00% | 3.50% | 4.50% | 84.60% |
| 85 | Milwaukee | City | Unit credit | 8.50% | 3.00% | 5.50% | 104.40% |
| 86 | Milwaukee | County | Entry age | 8.00% | 3.00% | 5.00% | 93.30% |
| 87 | Wisconsin | WRS | Entry age-FIL* | 7.20% | 3.20% | 4.00% | 99.80% |

*FIL = Frozen initial liability method

Figure 12. 2010 Plan Interest Assumptions

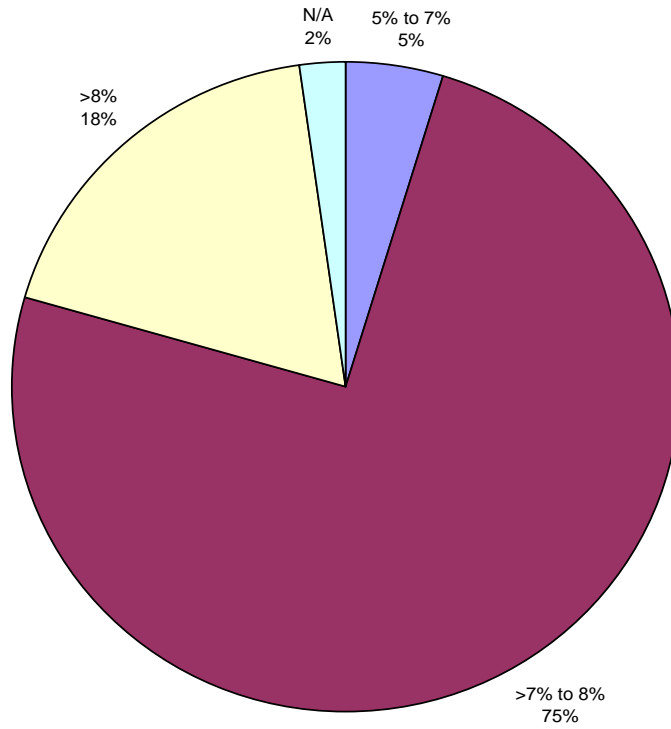


Figure 13. 2010 Plan Funding Ratios

