Compared to Other States' Retirement Plans, TSERS is Well Funded and Its Plan Features Are Typical or Less Generous

Final Report to the Joint Legislative Program Evaluation Oversight Committee

Report Number 2011-05

September 26, 2011

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Honorable Co-Chairs:

The Joint Legislative Program Evaluation Oversight Committee's 2011-2012 Work Plan directed the Program Evaluation Division to compare North Carolina's state retirement system to national standards and to other state retirement systems. This report focused on the North Carolina Teachers' and State Employees' Retirement System because it covers the majority of current and retired government employees, the General Assembly determines the amount state agencies will contribute to the system, and national comparison data is available.

I am pleased to report the Department of State Treasurer cooperated with us fully and was at all times courteous to our evaluators during the evaluation.

Sincerely,

John W. Turcotte
Director

PROGRAM EVALUATION DIVISION
NORTH CAROLINA GENERAL ASSEMBLY

September 2011 Report No. 2011-05

Compared to Other States' Retirement Plans, TSERS is Well Funded and Its Plan Features Are Typical or Less Generous

Summary

As directed by the North Carolina General Assembly's Joint Legislative Program Evaluation Oversight Committee, this study compares North Carolina's state retirement system to other state retirement systems. This report focuses on the North Carolina Teachers' and State Employees' Retirement System (TSERS) because it covers the majority of current and former government employees. This study addresses six research questions:

1. **Who makes decisions about TSERS?** Several different entities play a key role in the operation of TSERS. The General Assembly determines the features of the retirement benefit and how much employees and the State contribute to TSERS.
2. **What are the plan features of TSERS and what other benefits are available to members of TSERS?** TSERS is a defined benefit plan that provides employees with lifetime retirement income based on a formula that accounts for years of service and salary. Members of TSERS can participate in at least two supplemental retirement plans, and they are eligible for Social Security and State Health Plan benefits in retirement.
3. **How do the plan features of TSERS compare to other state retirement systems?** There are no plan features on which TSERS is more generous than other states' plans. TSERS's employee contribution rate and normal retirement are typical and its vesting period, final average salary, and formula multiplier are less generous than other states' plans.
4. **How would altering the plan type or features of TSERS affect the system?** It is not clear there would be long-term savings from changing from a defined benefit to a defined contribution plan. The General Assembly could change plan features for future hires or those not yet vested to reduce the State's costs in providing its retirement benefit. However, lawmakers have to weigh the tradeoff between reducing the State's costs and the State's ability to recruit and retain qualified personnel to deliver essential public services.
5. **How is TSERS funded?** TSERS is funded from employee contributions, state contributions, and investment income. The General Assembly set employee contribution at 6% of compensation in 1975 and determines the state contribution each year as part of the budget process. In 2010, employees contributed $835.8 million, the State contributed $583 million, and investment income contributed $5.7 billion.
6. **How does TSERS funding status compare to other state retirement systems?** The Program Evaluation Division ranked state retirement plans for state employees and teachers using three key measures of funding status. TSERS ranked sixth out of 84 plans in 2009. Strong performance on these measures indicates the State is accumulating the assets needed to make future payments for benefits accrued to date.

Purpose and Scope

As directed by the North Carolina General Assembly's Joint Legislative Program Evaluation Oversight Committee,[1] this study compares North Carolina's state retirement system to national standards and to other state retirement systems. This report focused on the North Carolina Teachers' and State Employees' Retirement System (TSERS) because it covers the majority of current and retired government employees, the General Assembly determines the amount state agencies will contribute to the system, and national comparison data is available.

This study addresses six research questions:

1. Who makes decisions about TSERS?
2. What are the plan features of TSERS and what other benefits are available to members of TSERS?
3. How do the plan features of TSERS compare to other state retirement systems?
4. How would altering the plan type or features of TSERS affect the system?
5. How is TSERS funded?
6. How does TSERS funding status compare to other state retirement systems?

Although investment performance and the administration and management of TSERS are important functions of the Department of State Treasurer, they were beyond the scope of this report.

The Program Evaluation Division collected data from several sources, including

- Department of State Treasurer;
- North Carolina Future of Retirement Study Commission;
- Center for Retirement Research at Boston College's Public Plans Database;[2]
- Wisconsin Legislative Council;[3]
- National Association of State Retirement Administrators;
- National Conference of State Legislatures;
- Center for State and Local Government Excellence; and
- Pew Center on the States.

[1] The Joint Legislative Program Evaluation Oversight Committee establishes the Program Evaluation Division's work plan in accordance with N.C. Gen. Stat. § 120-36.13.

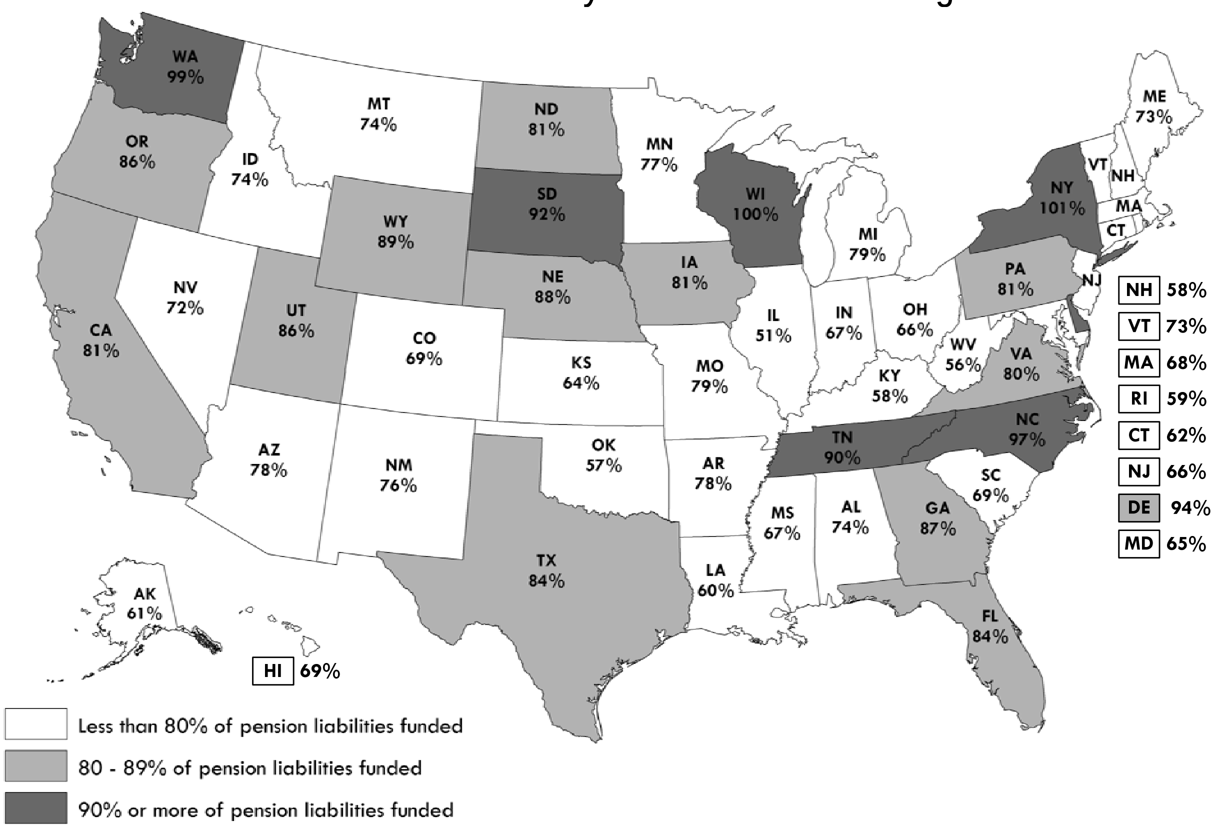
[2] The Public Plans Database contains the same type of information as the well-known Public Fund Survey but uses actuarial report data in addition to financial statements and categorizes data at the plan level.

[3] Wisconsin Legislative Council. (2009, December; revised 2010, May). *2008 Comparative Study of Major Employee Retirement Systems*. Madison, WI.

Background

Public sector retirement benefits help local and state governments recruit and retain qualified personnel and provide a reliable source of post-employment income for government workers. States vary in their commitment to funding their public sector retirement benefits on an ongoing basis. The single best indicator of a retirement plan's fiscal health is the percentage of a plan that is funded, or the ratio between the value of the plan's assets and its accrued liability. Although a funded ratio of 80% or more is generally viewed as acceptable to support future pension costs,[4] the target is a 100% funded ratio. Exhibit 1 shows North Carolina's state-sponsored defined benefit retirement plans collectively had a funded ratio of 97%—the fourth highest in the nation—in Fiscal Year 2008-09.[5]

Exhibit 1: The North Carolina Retirement System Has the Fourth Highest Funded Ratio, FY 2008-09



Source: Program Evaluation Division based on a map appearing in the Pew Center on the States's 2011 report entitled "The Widening Gap: The Great Recession's Impact on State Pension and Retiree Health Care Costs."

North Carolina's Retirement Plans. North Carolina has 10 retirement plans for state and local government employees, as shown in Exhibit 2. The Department of State Treasurer administers 7 plans, which are collectively known as the North Carolina Retirement System.[6]

[4] U.S. Government Accountability Office. (2007, September). *State and local government retiree benefits: Current status of benefit structures, protections, and fiscal outlook for funding future costs.* Report to the U.S. Senate Committee on Finance.

[5] The Pew Center on the States aggregated each state's plans to provide one set of pension numbers for each state. North Carolina's figures were based on the seven plans administered by the Department of State Treasurer.

[6] The seven plans that make up the North Carolina Retirement System include the Teachers' and State Employees' Retirement System, Consolidated Judicial Retirement System, Legislative Retirement System, Local Government Employees' Retirement System, Firemen's and Rescue Squad Workers' Pension Fund, National Guard Pension Fund, and Register of Deeds' Supplemental Pension Fund.

Exhibit 2: North Carolina's Public Retirement Plans, 2009

Government Retirement Plans	Eligible Members	Number of Members	Actuarial Value of Assets	State's Financial Responsibility for Plan
Plans for State Employees				
Teachers' and State Employees' Retirement System (TSERS)	Permanent employees of state agencies, departments, universities, community colleges, and public schools	577,845	$ 55,818,099,117	Actuarially based appropriation
Consolidated Judicial Retirement System	Judges, district attorneys, public defenders, and clerks of court	1,140	$ 439,987,304	Actuarially based appropriation
Legislative Retirement System	Members of the General Assembly	522	$ 29,792,114	Actuarially based appropriation
University of North Carolina's Optional Retirement Program	University of North Carolina employees who are exempt from the State Personnel Act choose to participate in this defined contribution plan or TSERS	27,436	$ 3,287,761,066	General Assembly sets University's contribution, which has been 6.84% of compensation since 1997
Special Separation Allowance	Sworn law enforcement officers employed by state agencies and component units	891	Each employer administers separately	Appropriation
Plans for Persons Not Necessarily Considered State Employees				
Local Government Employees' Retirement System	Regular employees of participating counties, cities, towns, and other local governments	208,031	$ 17,723,253,496	Administrative responsibility only; state is not liable for future benefits
Firemen's and Rescue Squad Workers' Pension Fund	Firemen and rescue squad workers	48,339	$ 283,783,155	Actuarially based appropriation
National Guard Pension Fund	Members of the North Carolina National Guard	14,505	$ 81,371,110	Actuarially based appropriation
Register of Deeds' Supplemental Pension Fund	County registers of deeds	184	$ 38,913,032	Administrative responsibility only; state is not liable for future benefits
Sheriff's Supplemental Pension Fund	County Sheriffs participate in this defined contribution plan	91	$ 1,600,648	Administrative responsibility only; state is not liable for future benefits

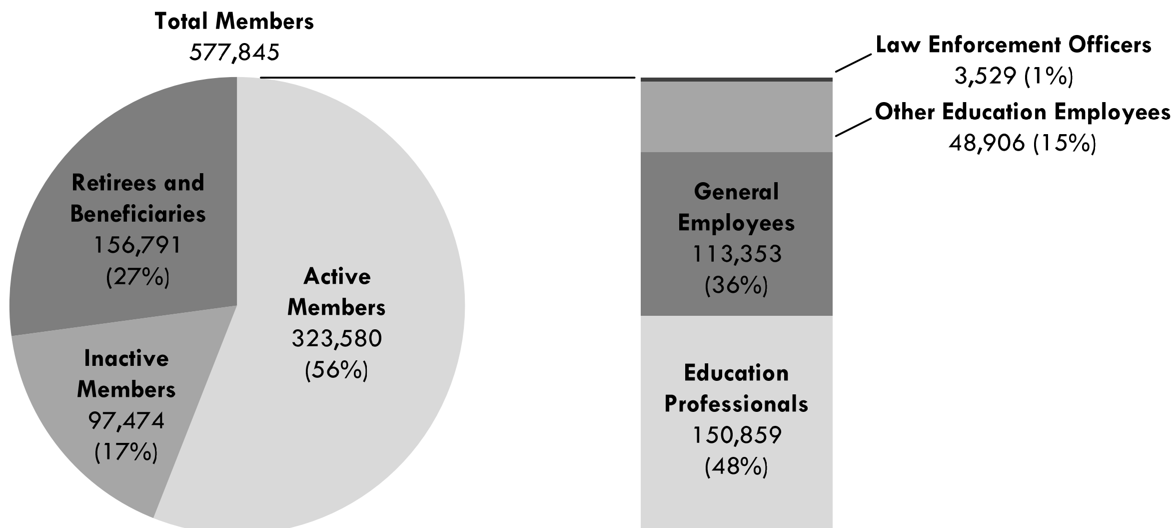
Notes: The Department of State Treasurer administers each of the above plans except the University of North Carolina's Optional Retirement Program, which is administered by its Board of Governors; the Special Separation Allowance, which has no statewide administration; and the Sheriffs' Supplemental Pension Fund, which is administered by the North Carolina Department of Justice. The data for each of the plans is from Calendar Year 2009, except the data for the Optional Retirement Program and Sheriffs' Supplemental Pension Fund is from Calendar Year 2010 and the data for the Special Separation Allowance is from Fiscal Year 2009-10. The Legislative Retirement System also includes members of the General Assembly who were vested or had maintained contributions in the Legislative Retirement Fund, which was abolished in 1974, or retirees receiving a benefit from the Legislative Retirement Fund who elect to transfer to the Legislative Retirement System. The term actuarially based appropriation means an actuary calculates what amount the State should contribute to the plan to fully fund it, and based on this information, the General Assembly decides what amount to appropriate to the plan.

Source: Program Evaluation Division based on data from plan handbooks, valuations, and reports and data from the Comprehensive Annual Financial Report.

The North Carolina Retirement System is the 11th largest public pension fund in the country, with market value of its assets for all plans totaling $69.7 billion as of September 2010. Each year the General Assembly determines how much to contribute to 7 of the 10 plans, and the State only has administrative responsibility for the remaining 3 plans.[7]

Teachers' and State Employees' Retirement System (TSERS). TSERS is North Carolina's largest public retirement plan. It was established in 1941 for the purpose of providing retirement allowances and other benefits for North Carolina's state employees and teachers.[8] Between June 2010 and May 2011, the average annual pension for TSERS retirees was $18,942. Exhibit 3 shows 56% of TSERS members were active employees classified as general employees, law enforcement officers, education professionals, or other education employees in 2009. The average salary for active members of TSERS was $44,027 that year.

Exhibit 3: Members of TSERS, 2009



Note: Inactive members are terminated employees who are entitled to benefits, because they are vested in the system, but are not yet receiving them. The 323,580 active members include 6,933 people who received disability income as members of TSERS who are not captured in the bar graph. Education professionals include professionals in grades K through 12, community colleges, and universities. Other education employees include superintendents, principals, central office staff, bus drivers, cafeteria workers, custodians, and university and community college executives, directors, and managers.

Source: Program Evaluation Division based on 67th annual valuation of TSERS.

Given that the General Assembly is integral to the continued funding of TSERS, it is important that legislators understand North Carolina's plan and how it compares to other states' plans for state employees and teachers. TSERS plan design has remained largely unchanged since 1963. In response to the growing national discussion about pensions, the TSERS Board of Trustees created a Future of Retirement Study Commission in 2009 to examine the design of the North Carolina Retirement System and

[7] The Local Government Employees' Retirement System is funded by local government employee and employer contributions, the Register of Deeds' Supplemental Pension Fund is funded by receipts collected by each county, and the Sheriff's Supplemental Pension Fund is funded by receipts collected by each county's Clerk of Superior Court. Each plan also is funded by investment gains.
[8] N.C. Gen. Stat. § 135-2.

make recommendations for changes to the system.[9] Although the General Assembly did not act upon either of the commission's two recommendations concerning TSERS, the General Assembly did enact Session Law 2011-232, which marked the first substantial reduction in benefits in the history of TSERS. This report provides the General Assembly with a comprehensive review of how TSERS plan features and funding compare to other states and can inform future decision-making regarding the State's largest retirement plan.

Questions and Answers

1. Who makes decisions about TSERS?

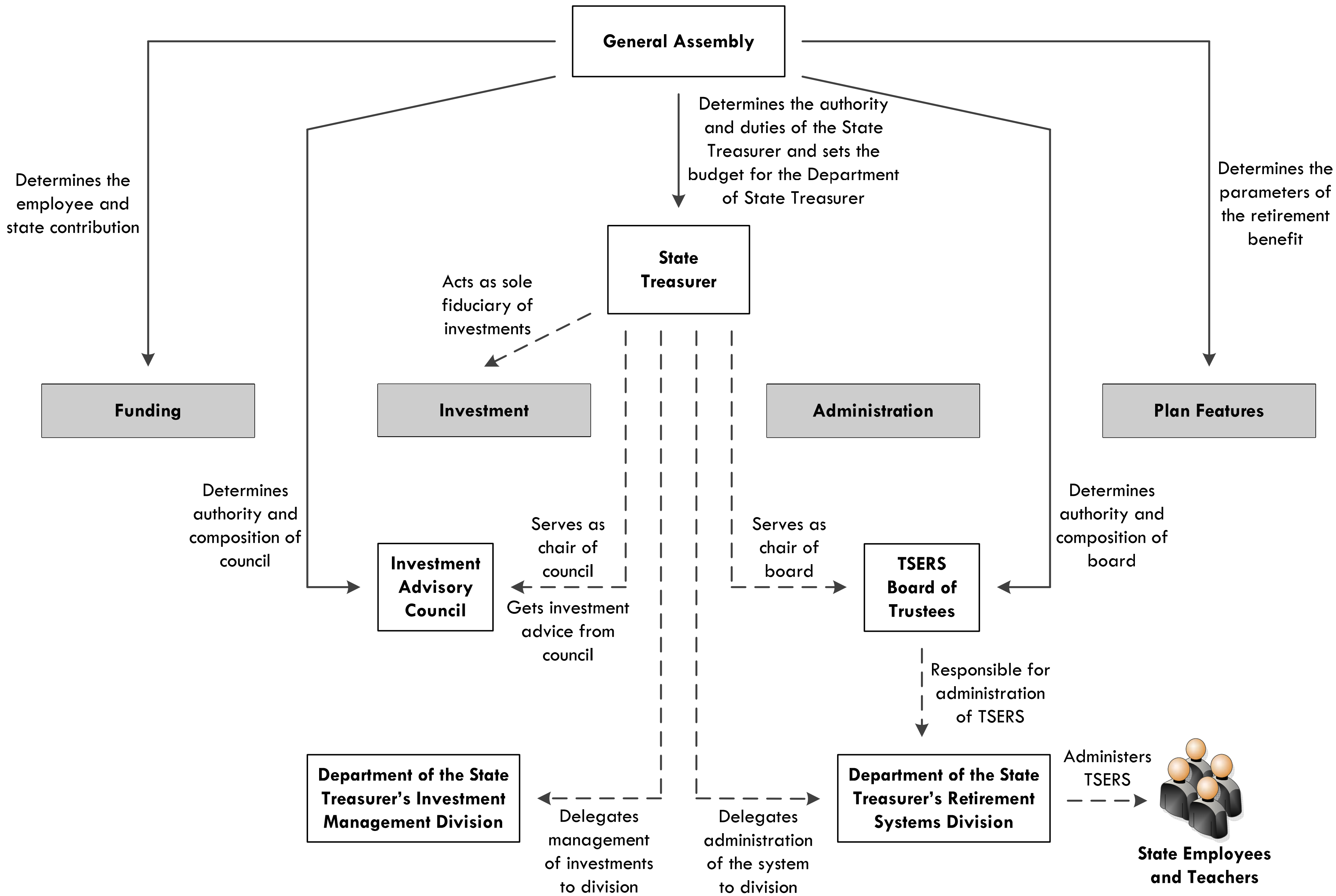
To ensure accountability for the plan, it is important to know who makes what types of decisions for the North Carolina Teachers' and State Employees' Retirement System (TSERS). Several different entities play a key role in the operation of TSERS, as shown in Exhibit 4. The General Assembly is responsible for determining the features of the retirement benefit and how much employees and the State contribute to TSERS. The General Assembly also plays a significant role in how TSERS investments are managed and how the plan is administered because it determines the authority and duties of the State Treasurer, Investment Advisory Council, and TSERS Board of Trustees.

The General Assembly made the State Treasurer the sole fiduciary of TSERS investments,[10] meaning the Treasurer has a duty to act in the best interest of all system participants and beneficiaries and to act with care, skill, prudence, and diligence. Three other states—Connecticut, Michigan, and New York—use a sole fiduciary model. In 2001, the General Assembly established the Investment Advisory Committee to advise the State Treasurer on managing investments. The State Treasurer serves as the chairperson of the seven-member committee. Two members are selected from the Board of Trustees, and four are selected from the general public and must have experience relevant to the administration of a large, diversified investment program.

The General Assembly established the TSERS Board of Trustees to oversee the administration and proper operation of TSERS.[11] The State Treasurer serves as the chairperson of the 14-member board. Like plans in most other states, TSERS has current members of the retirement system on its board. On average, boards are made up of 59% plan members; the TSERS board is made up of 64% plan members.[12]

[9] The board approved two of the Commission's recommendations concerning TSERS to be forwarded to the General Assembly: give current and new non-vested members interest on withdrawn contributions and automatic enrollment in a supplemental defined contribution plan. In the 2011 Session, Senate Bill 701 (return of contributions) and House Bill 700 (automatic enrollment in a supplemental plan) were introduced but did not pass.
[10] N.C. Gen. Stat. § 147-69.3(e); N.C. Gen. Stat. § 147-69.2.
[11] N.C. Gen. Stat. § 135-6.
[12] Calculations of board composition were based on data from the Public Plans Database.

Exhibit 4: Oversight, Management, and Administration of TSERS



Note: The General Assembly's authority is depicted with solid lines, and the authority and responsibility of other entities are depicted with dashed lines.

Source: Program Evaluation Division based on General Statutes.

Within the Department of State Treasurer, two divisions play a role in managing and administering TSERS. The Investment Management Division manages the TSERS investment portfolio, and its goal is to maintain the long-term strength of TSERS by providing a consistent long-term rate of return while simultaneously minimizing risk in the portfolio. The average rate of return over the last five years for the North Carolina pension fund, which includes TSERS, was 4.46%. By statute, the division must invest at least 20% of the retirement system's assets in fixed income assets and no more than 65% in public equities, 10% in real estate, and 7.5% in alternative investments.[13] Even though the General Assembly establishes broad asset allocation ratios, the Treasurer has substantial authority to pursue asset allocation strategies among high risk/high return and low risk/low return sectors.

The Retirement Systems Division carries out the policies and directives of the General Assembly, State Treasurer, and TSERS Board of Trustees. The division performs the day-to-day administration of TSERS, including processing applications for retirement, maintaining retirement accounts and data, and providing customer service to all active and retired employees.

2. What are the plan features of TSERS and what other benefits are available to members of TSERS?

Retirement plan features determine how much a retirement plan costs and affect a state's ability to recruit and retain qualified personnel. The North Carolina Teachers' and State Employees' Retirement System (TSERS) is a defined benefit plan that provides employees with lifetime retirement income based on a formula that accounts for years of service and salary. Exhibit 5 provides a description of the features commonly used to compare retirement plans and shows the corresponding TSERS provision for each feature. State employees and teachers become members of the system on their date of hire and contribute 6% of their compensation to TSERS for the duration of their employment with the State. In order for employees to receive retirement benefits, they have to "vest" in the system, meaning they need to have completed a minimum number of years of service. Session Law 2011-232 extended the vesting period for employees hired on or after August 1, 2011 from 5 years to 10 years of service.

The annual pension benefit that TSERS members receive is determined by multiplying their final average salary by their years of service by 1.82%.[14] If members qualify for normal retirement based on their age and years of service, they receive an unreduced benefit.[15] After 30 years of service, members receive about 55% of their salary. If members qualify

[13] Fixed income assets—which are generally considered more conservative investments—consist of long-term investment grade corporate securities, treasuries, agencies, and Ginnie Mae bonds; short-term investments in treasuries and agencies; and some liquid short-term corporate issues. Equity investments consist of publicly owned stock or other securities representing an ownership interest. Real estate consists of investments in a diverse array of real estate property types such as office, residential, retail, industrial, and lodging. Alternative investments consist of interests in private corporations (not listed in the stock exchange) and hedge funds, or specialized funds.

[14] The General Assembly set the benefit formula multiplier, or the percentage of their final average salary that employees will be paid in annual pension payments for each year of service, at 1.82% in 2002.

[15] In North Carolina, "normal retirement" is referred to as "service retirement" or "unreduced retirement" in the General Statutes.

for and elect to take early retirement, they receive a reduced benefit; the reduction depends on their age and years of service. During retirement, benefits may be increased based on cost-of-living adjustments, which are determined by the General Assembly on an *ad hoc* basis.

Exhibit 5: TSERS's Plan Features

Plan Feature Descriptions	TSERS Plan Provisions for Employees who Became Members on or after August 1, 2011	
Employee contribution amount employees contribute	6% of compensation	
Vesting minimum service requirement to receive retirement benefits	10 years[i]	
Benefit formula final average salary x years of service x multiplier = annual benefit	Final average salary = average of 4 highest-paid consecutive years Years of service = varies by member Multiplier = 1.82%	
Normal retirement (unreduced retirement) age and number of years of service that must be attained in order to qualify for unreduced benefits	General Employees • Any age with 30 years • Age 60 with 25 years • Age 65 with 10 years[ii]	Law Enforcement Officers • Any age with 30 years • Age 55 with 10 years[iii]
Early retirement (reduced retirement) age and number of years of service that must be attained in order to qualify for reduced benefits[iv]	General Employees • Age 50 with 20 years • Age 60 with 10 years[v]	Law Enforcement Officers • Age 50 with 15 years
Cost-of-living adjustments post-retirement benefit increases to protect against inflation	Increases made on an *ad hoc* basis by the General Assembly	

[i] All employees who became members before August 1, 2011, vest after 5 years of service.
[ii] General employees who became members before August 1, 2011, qualify for unreduced benefits at age 65 with 5 years of service.
[iii] Law Enforcement Officers who became members before August 1, 2011, qualify for unreduced benefits at age 55 after 5 years of service.
[iv] The percentage that benefits are reduced by varies based on the member's age and years of service.
[v] General employees who became members before August 1, 2011, qualify for reduced benefits at age 60 with 5 years of service.

Source: Program Evaluation Division based on TSERS handbooks and N.C. Session Law 2011-232.

Members of TSERS can participate in either or both of the State's supplemental retirement plans. The General Assembly has authorized two voluntary savings/investment programs designed to supplement state employees and teachers' replacement income in retirement.

- **Supplemental Retirement Income Plan of North Carolina (NC 401(k) Plan).** This plan allows participating state employees and teachers to voluntarily contribute a portion of their compensation, which is invested under the direction of the employee. Members of the plan may receive their benefits upon retirement, disability, termination, hardship, or death. All contributions and costs of administering the plan are the responsibility of the participants.[16] Prudential Retirement is the plan's third-party administrator.[17] In 2010, 58,434 active members of TSERS (approximately 18% of eligible members) contributed $135.7 million to the Supplemental Retirement Income Plan of North Carolina for an average annual contribution of $2,322.

[16] The State is required to contribute monthly to the individual accounts of Law Enforcement Officers in an amount equal to 5% of each officer's monthly salary.
[17] This plan is governed by the Supplemental Retirement Board of Trustees; the State Treasurer is the chairperson of the board.

- **The North Carolina Public Employee Deferred Compensation Plan (NC 457 Plan).** This plan permits participating state employees and teachers to defer a portion of their compensation until future years by having the funds invested in various instruments managed by the North Carolina Public Employee Deferred Compensation Trust Fund. The deferred compensation is available to plan members upon retirement, disability, separation from service, hardship, or death. All contributions and costs of administering the plan are the responsibility of the participants. Prudential Retirement is the plan's third-party administrator.[18] In 2010, 25,746 active members of TSERS (approximately 8% of eligible members) deferred $41.4 million of their income in the North Carolina Public Employee Deferred Compensation Plan for an average annual contribution of $1,609.

In addition to their TSERS pension, state employees and teachers are eligible for Social Security benefits. In North Carolina, state employees and teachers are required to participate in the federal Social Security Program. North Carolina withholds Social Security taxes from state employees and teachers' compensation and matches their contributions as required by the Internal Revenue Service. State employees and teachers receive full Social Security benefits when they reach the full retirement age for Social Security and reduced benefits are available as early as age 62.[19] The social security benefit, like the state retirement plan, is a percentage of an employee's earnings. The Future of Retirement Study Commission estimated Social Security would replace about 37% of pay for the average single employee or employee married to a spouse with similar income.

An individual's replacement income target is the percentage of working income that he or she needs to maintain the same standard of living in retirement. Retired state employees and teachers in North Carolina receive replacement income from at least two sources—TSERS and Social Security. In addition, if an employee chooses to participate in one of the supplemental retirement benefit plans, he or she will have additional replacement income at retirement. An employee's replacement income target depends on his or her salary. The average salary for active members of TSERS was $44,027 in 2009. According to Aon Consulting's 2008 Replacement Income Ratio Study, individuals should have replacement income targets ranging from 77% for a person earning $80,000 to 94% for a person earning $20,000. Exhibit 6 shows replacement income sources for a retired employee at age 65 who is receiving full state retirement and Social Security benefits.

[18] This plan is governed by the Supplemental Retirement Board of Trustees; the State Treasurer is the chairperson of the board.
[19] Persons born before 1938 have a full retirement age of 65. The full retirement age is gradually rising until it reaches 67 for people born in 1960 or later.

Exhibit 6

Replacement Income Sources for North Carolina's Retired State Employees and Teachers Who Have 30 Years of Service and Are Eligible for Social Security

55% of pre-retirement income replaced by TSERS pension

37% of pre-retirement income replaced by Social Security

Additional replacement income may come from participation in supplemental plans

Source: Program Evaluation Division based on data from the Future of Retirement Study Commission.

Health care is another part of the retirement package available to TSERS members. Retired state employees and teachers are eligible to enroll in the North Carolina State Health Plan; the cost of health coverage to the employee depends on when the employee was hired and which health coverage he or she selects in retirement. Under current law, North Carolina will pay for 100% of the cost of individual health coverage for state employees and teachers hired on and after October 1, 2006, who retire with 20 or more years of service.[20] The health coverage selected by the retiree affects whether he or she must pay a monthly premium. Beginning September 1, 2011, retired employees who selected the 70/30 Basic Plan did not have to pay for individual health coverage, but those who selected the 80/20 Standard Plan paid a monthly fee for coverage.[21]

North Carolina uses pay-as-you-go funding as the method to pay for its retiree health benefit coverage.[22] In 2004 the Governmental Accounting Standards Board began requiring states to report liabilities for other post-employment benefits, including retiree health coverage; states are not required to prefund those liabilities. Recognition and disclosure of the cost and accrued liabilities to support retired employee health benefits is information most relevant to major bond rating agencies that assess state creditworthiness. As of December 31, 2009, North Carolina's unfunded actuarial accrued liability for retiree health benefits was $32.8 billion with a funded ratio of 1.7%.

[20] The State will pay for 50% of the cost of individual health coverage for state employees and teachers hired on or after October 1, 2006, who retire with more than 10 but less than 20 years of service. State employees and teachers hired on or after October 1, 2006, who retire with 5 but less than 10 years of service are eligible for the retiree group coverage by paying 100% of the cost themselves. For employees and teachers hired prior to October 1, 2006, the State will pay for 100% of the cost of individual health coverage for employees and teachers who retire with five or more years of service.

[21] The monthly contribution for retirees for the individual, non-Medicare coverage under the 80/20 Plan is $21.62 for Plan Year September 2011-June 2012. Retirees with Medicare pay $10 for the 80/20 individual coverage.

[22] Pay-as-you-go is a method of financing retiree health care in which the amount contributed by employers or employees each year is approximately the amount needed to pay the premiums currently due and payable to provide for health care coverage.

Exhibit 7 shows how funding for North Carolina's retiree health benefits compares to other states with AAA bond ratings in Fiscal Year 2010-11. To control for variation in the size of state budgets, plans were compared based on their unfunded actuarial accrued liability (i.e., the difference between the actuarial value of plan assets and the actuarial accrued liability of plan benefits) as a percentage of covered payroll. This measure indicates how big a burden paying off the liability is relative to a state's budget; the target is having unfunded actuarial accrued liability be 0% of covered payroll. Considering the seven states with AAA bond ratings, North Carolina is not alone in having a high unfunded actuarial accrued liability as a percentage of covered payroll for its retiree health benefits. It is important to note that liability for retiree health plans is affected by the number and average age of employees eligible to receive retiree health coverage and the level of health coverage provided to retirees.

Exhibit 7

Unfunded Actuarial Accrued Liability as a Percentage of Covered Payroll for Retiree Health Plans in States with AAA Bond Ratings

State	Retirement Plans with Retiree Health Benefits	Unfunded Actuarial Accrued Liability as a Percentage of Covered Payroll
Virginia	Virginia Retirement System	12%
Utah	Utah Public Employees' Noncontributory Retirement System	44%
Missouri	Missouri State Employees' Retirement System Missouri Public School Retirement System	76%
Georgia	Teachers Retirement System of Georgia	102%
	Georgia Employee Retirement System	161%
North Carolina	**North Carolina Teachers' and State Employees' Retirement System**	**217%**
Delaware	Delaware State Employees' Pension Plan	321%
Maryland	Maryland Public Employee Retirement System Maryland Teachers' Retirement System	344%

Note: Missouri does not pay for post-retirement health benefits for employees who are covered by the Missouri Public Education Employee Retirement System.

Source: Program Evaluation Division based on data from each state's Comprehensive Annual Financial Report.

3. How do the plan features of TSERS compare to other state retirement systems?

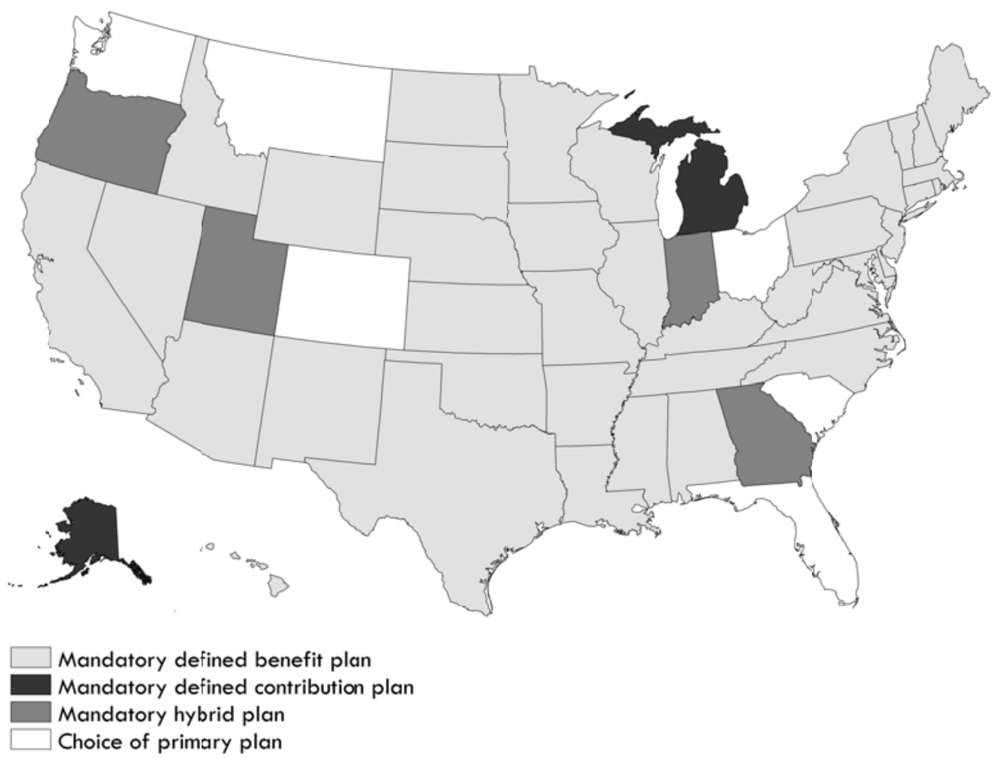
States offer several general types of government retirement plans.

- **Defined benefit plans.** Defined benefit plans specify the compensation for participants at retirement based on a formula of time of service and salary, and they may require employee contributions. The risk associated with investment of funds in most defined benefit plans lies with the employer of the plan, the state. The North Carolina Teachers' and State Employees' Retirement System (TSERS) is a defined benefit plan. As seen in Exhibit 8, the majority of states have defined benefit plans for government employees.

- **Defined contribution plans.** Employees and employers contribute to defined contribution plans like a savings account, and the employee makes choices for investing the funds. The risk of investment performance is typically on the employee. Retirement compensation is based on the balance of the employee's account at the time of retirement. Only two states—Michigan and Alaska—require all new hires to participate solely in a defined contribution plan.
- **Hybrid plans.** In states with hybrid plans, employees are required to participate in both a defined benefit and a defined contribution plan. Four states—Georgia, Indiana, Oregon, and Utah—have hybrid plans.
- **Choice plans.** In states with choice plans, employees choose between participating in the defined benefit plan or the defined contribution plan. Six states—Colorado, Florida, Montana, Ohio, South Carolina, and Washington—have choice plans.

Exhibit 8

Retirement Plan Type by States, 2011



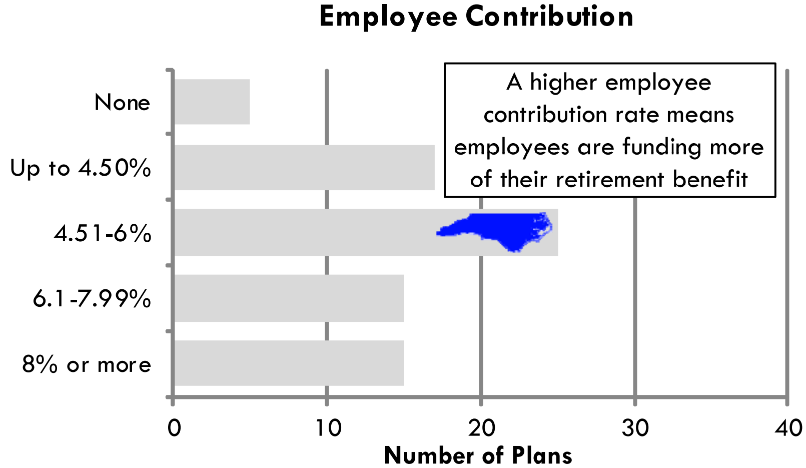
Source: Program Evaluation Division based on a map appearing in the Center for Retirement Research's 2011 report entitled "A Role for Defined Contribution Plans in the Public Sector."

Plan features of defined benefit plans vary. Many states have multiple plans with different features for different types of employees. Due to this variation, features are discussed for each of the plans and not each of the states. Seventy-seven major state retirement plans that cover state employees and teachers were reviewed to compare plan features with TSERS.

Most public retirement plans require employees to contribute a certain percentage of their salary to the plan (see Exhibit 9). Members of TSERS contribute 6% of their salary to the plan.

Exhibit 9

TSERS Employee Contribution Rate is Typical of Plans in Other States



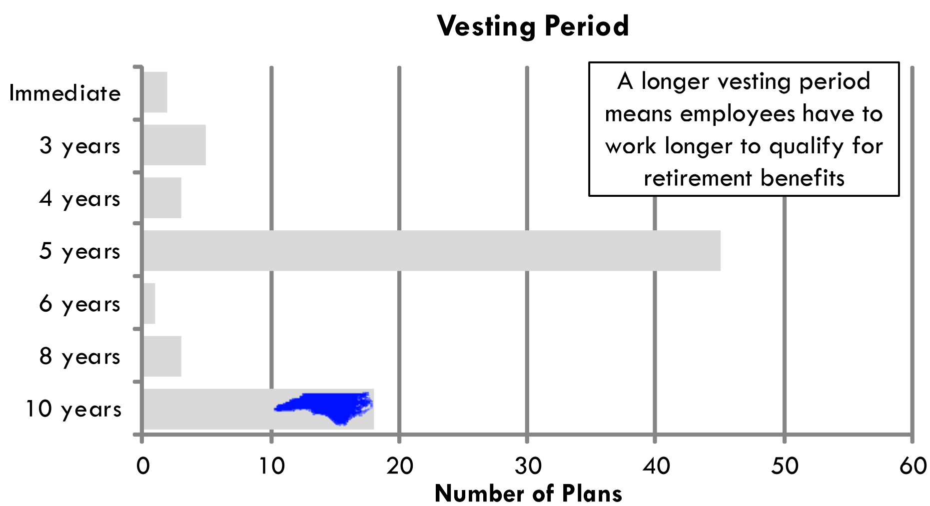
Note: Of the 77 plans, 60 plans—including TSERS—participate in Social Security; employee contribution rates for those plans ranged from none to 9.5%, with 39 of the 60 plans having employee contribution rates less than the 6% required of TSERS members.

Source: Program Evaluation Division based on data from the 2008 Comparative Study of Major Public Employee Retirement Systems by the Wisconsin Legislative Council.

The vesting period for retirement plans is the minimum service required to qualify for benefits from the plan, regardless of whether the employee remains employed until retirement. All but 2 of the 77 plans require at least three years of service to be eligible for retirement benefits, and the overwhelming majority require five or more years of service (see Exhibit 10). TSERS now requires a minimum of 10 years of service.

Exhibit 10

TSERS Vesting Period is Less Generous Than Most Plans



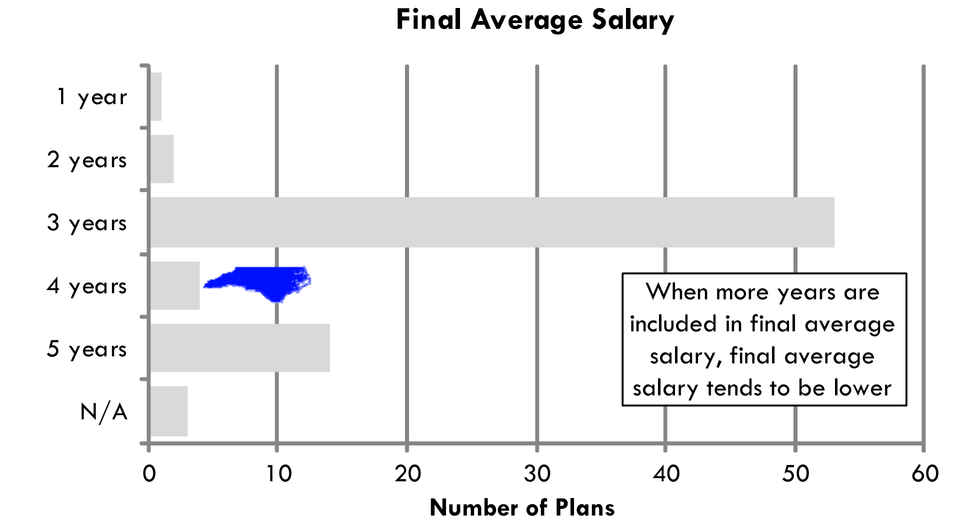
Note: N.C. Session Law 2011-232 extended the vesting period for TSERS from 5 to 10 years of service for employees hired on or after August 1, 2011.

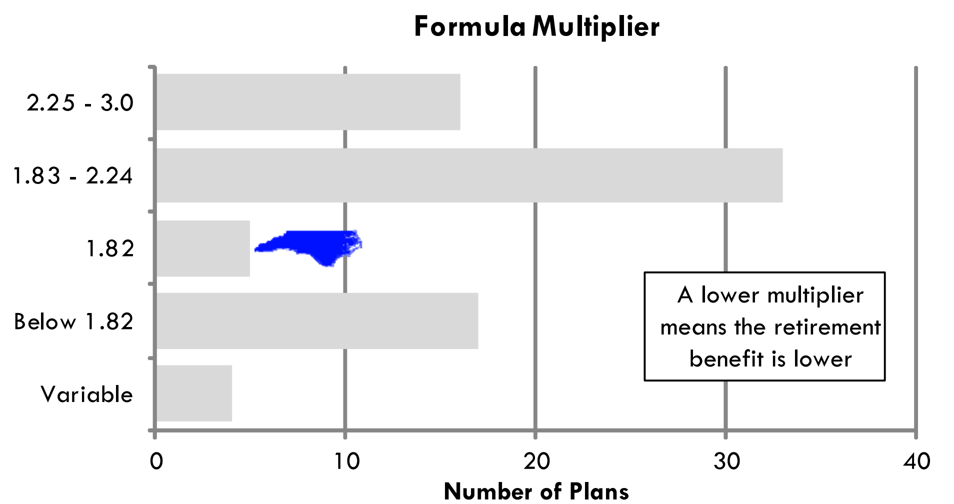
Source: Program Evaluation Division based on data from the 2008 Comparative Study of Major Public Employee Retirement Systems by the Wisconsin Legislative Council and N.C. Session Law 2011-232.

Each defined benefit retirement plan uses a formula to calculate the participant benefit based on the number of years of service, final average salary, and a formula multiplier. The number of years used to calculate the final average salary varies across states, but the most common is three years (see Exhibit 11); TSERS averages four years of the highest consecutive salary. The formula multiplier, or the percentage of their final average salary that employees will be paid in annual pension payments for each year of service, is the final element in the benefit calculation. The multiplier for TSERS is 1.82%. This multiplier produces a replacement rate of 55% for a career employee (1.82% x 30 years of service). On average, the replacement rate for career employees in other states' plans is 58%.

Exhibit 11

TSERS Final Average Salary and Benefit Formula Multiplier Are Less Generous Than Most Plans





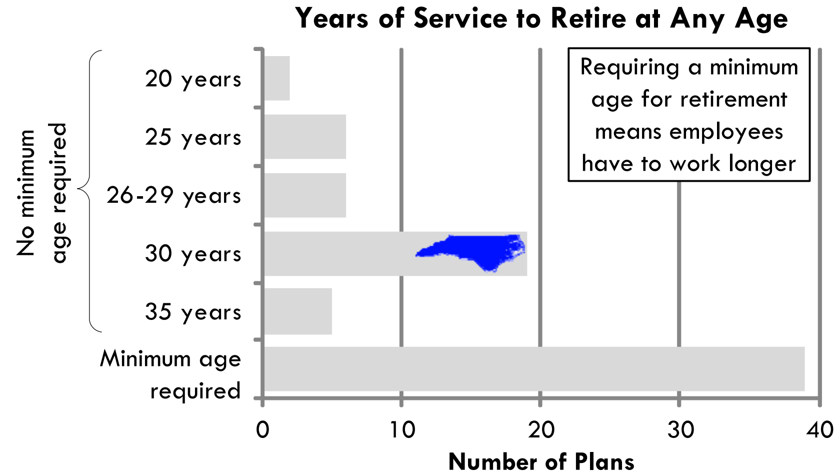
Note: Two plans were not included because they do not have a formula multiplier. Of the 75 remaining plans, 60 plans—including TSERS—participate in Social Security; multipliers for those plans ranged from 1.33 to 3 (except four plans that have variable multipliers), with 34 plans having multipliers greater than the 1.82 for TSERS.

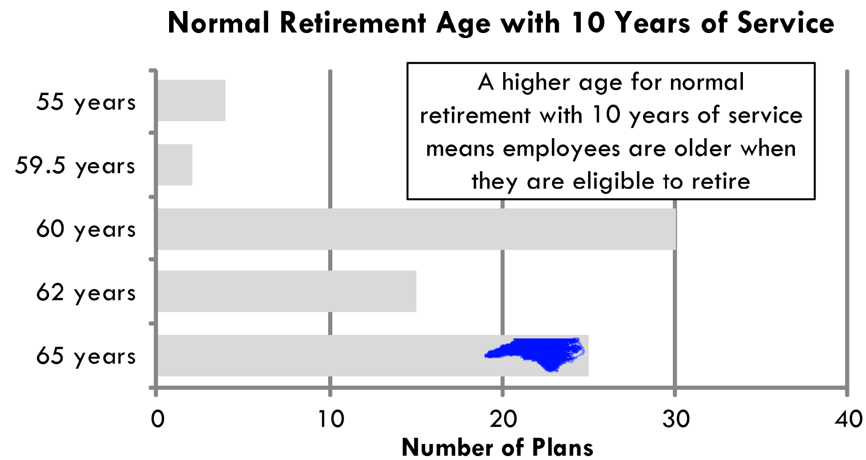
Source: Program Evaluation Division based on data from the 2008 Comparative Study of Major Public Employee Retirement Systems by the Wisconsin Legislative Council.

Normal retirement is the age and number of years of service that must be attained in order to qualify for unreduced benefits, and most plans have multiple combinations of age and years of service that qualify.[23] TSERS has three different combinations: any age with 30 years, age 60 with 25 years, and age 65 with 10 years. Exhibit 12 presents two comparisons of this plan feature: years of service to retire at any age and normal retirement age for someone retiring with exactly 10 years of service. Nearly half of plans offer normal retirement benefits to participants based solely on years of service. The service required ranges from 20 to 35 years. TSERS offers normal retirement, regardless of age, after 30 years of service. Most plans have a feature that specifies normal retirement eligibility as a combination of age and years of service. The most common normal retirement age with 10 years of service is 60. TSERS now has a normal retirement age of 65 with 10 years of service, along with 24 other plans.

Exhibit 12

TSERS Years of Service for Normal Retirement Is Typical of Other Plans and TSERS Age for Normal Retirement is Less Generous Than Other Plans





Note: One plan does not have an unreduced retirement with 10 years of service. N.C. Session Law 2011-232 increased the years of service to qualify for normal retirement at age 65 from 5 to 10 years.

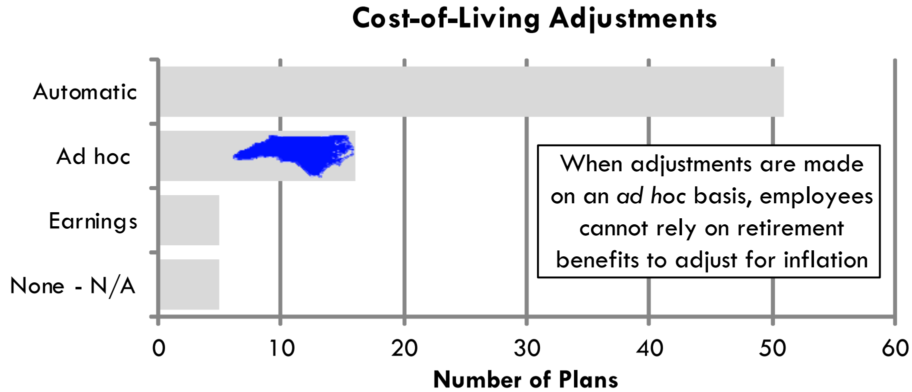
Source: Program Evaluation Division based on data from the 2008 Comparative Study of Major Public Employee Retirement Systems by the Wisconsin Legislative Council.

[23] The majority of plans, including TSERS, have different requirements for early retirement, or the age and number of years of service that must be attained in order to qualify for reduced benefits. However, there were so many age and years of service combinations that early retirement could not be compared succinctly across plans.

Most plans include a feature for post-retirement increases, which are referred to as cost-of-living adjustments. The majority of plans make automatic increases, such as a standard percentage increase each year or increases tied to the Consumer Price Index (see Exhibit 13). TSERS and 15 other plans provide an increase on an *ad hoc* basis.

Exhibit 13

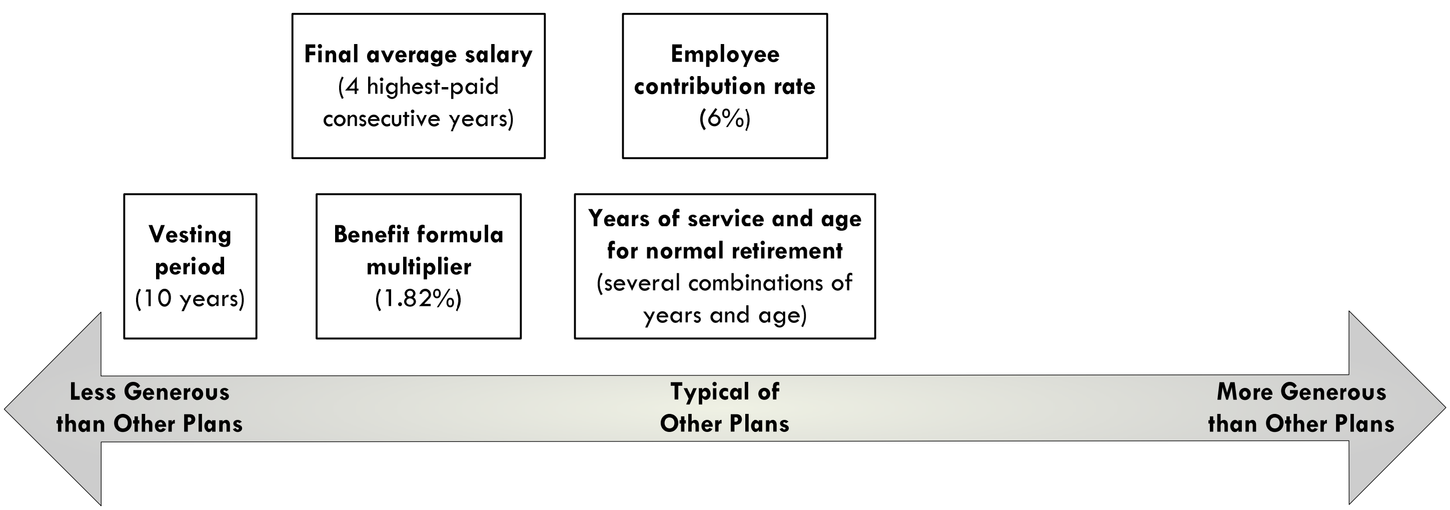
TSERS Cost-of-Living Adjustments Are Less Certain Than Most Plans



Source: Program Evaluation Division based on data from the 2008 Comparative Study of Major Public Employee Retirement Systems by the Wisconsin Legislative Council.

Overall, TSERS plan features are either typical or less generous than other states' retirement plans. Exhibit 14 shows how TSERS compares to other states' plans on several plan features. There are no features on which TSERS is more generous than other plans. TSERS's employee contribution rate and normal retirement is typical of other states' plans, and its vesting period, final average salary, and benefit formula multiplier are less generous than other states' plans.

Exhibit 14: TSERS Plan Features Compared to Other States' Plan Features



Note: Cost-of-living adjustments were not included in this exhibit because the General Assembly grants them on an *ad hoc* basis.

Source: Program Evaluation Division based on N.C. Session Law 2011-232 and data from the 2008 Comparative Study of Major Public Employee Retirement Systems by the Wisconsin Legislative Council.

4. How would altering the plan type or features of TSERS affect the system?

Most states have contemplated changes to their retirement systems in the past few years. Lawmakers have to weigh the trade-off between reducing the state's costs in providing its retirement benefit and the state's ability to recruit and retain qualified personnel to deliver essential public services. Whereas changes to plan design, such as switching from a defined benefit plan to a defined contribution plan, have been less common, a number of states have changed the plan features of their pension benefit.

The majority of states have kept their traditional defined benefit plans for public employees and teachers. Defined contribution plans shift the risk of poor investments, high inflation, and retirees living longer from taxpayers and service users to the employees themselves. However, there are immediate and on-going costs to consider.

- **States have to fund both the old defined benefit plan and the new defined contribution plan.** When a state closes its defined benefit plan to new employees, the pension obligations to existing employees and retirees remain. The State could have to administer its closed defined benefit plan for another 50 to 60 years.
- **Defined contribution plans cost slightly more to operate on a daily basis.** Because defined contribution plans involve individual accounts that are typically updated daily, they have slightly higher administrative expenses than defined benefit plans.
- **Defined contribution plans may cost more to fund in the long run.** The cost of a defined contribution plan is more predictable because the state contribution rate is fixed, and to keep costs down, legislatures can set a low rate. However, to recruit and retain qualified personnel, the General Assembly may need to offer a competitive contribution rate, such as the 6.84% the University of North Carolina contributes or the 6-7% that private employers contribute to their defined contribution plans. In the long run, this fixed contribution rate might turn out to be higher than the annual required contribution, which fluctuates based on investment returns and has averaged out to 6.74% over the last 30 years.[24]

The majority of states have changed plan features in an attempt to shore up their retirement systems. Across the nation, state legislatures have enacted legislation to reduce the cost of state retirement plans. The Program Evaluation Division compiled legislative changes to state retirement plans from 2005 through June 2011 and found 42 state legislatures had enacted one or more changes to their retirement plans that would result in cost reductions.[25] Appendix A documents which states changed which plan features during this time period.

Exhibit 15 shows how many states have altered their retirement benefits to reduce their costs of providing them. Increasing the employee contribution and the normal age and/or service requirements and decreasing the final

[24] The Department of State Treasurer estimates it would have cost an additional $385 million per year had the State contributed 7% percent of compensation to TSERS rather than meeting the annual required contribution.
[25] The Program Evaluation Division reviewed information compiled by the National Conference of State Legislatures.

average salary were the most common cost reduction measures enacted by state legislatures, and most of these changes were made since 2008. The North Carolina General Assembly joined other state legislatures in 2011 when it enacted changes to the North Carolina Teachers' and State Employees' Retirement System (TSERS) to increase the number of years for vesting from 5 to 10 years, which also increased the years of service to qualify for normal retirement at age 65 from 5 to 10 years. The estimated savings from this change will be $9.9 million annually, but it will not be realized until about 30 years from now when the majority of state employees and teachers will have been hired on or after August 1, 2011.

Exhibit 15

Number of States Making Legislative Changes To Retirement Benefits To Lower Costs, 2005-2011

Source: Program Evaluation Division based on data from the National Conference of State Legislatures.

The General Assembly could change TSERS plan features for future hires or those not yet vested to reduce the State's costs in providing its retirement benefit, but TSERS would become one of the least generous public retirement plans in the country. North Carolina courts have ruled state employees and teachers have a contractual right to the terms of the state retirement benefit at the time they vest.[26] Therefore, the General Assembly can change benefits for employees that have not yet vested in the system. Nevertheless, as seen in Session Law 2011-232, the General Assembly has tended to make changes to pension benefits payable to future employees.

To reduce the cost of providing TSERS benefits, the General Assembly could take a number of actions:

- increase the employee contribution rate;
- increase the vesting period;

[26] Faulkenbury v. Teachers' & State Employees' Ret. Sys., 483 S.E.2d 422 (1997); Bailey v. State, 500 S.E.2d 54 (1998); Whisnant v. Teachers' and State Employees' Retirement System of North Carolina, 662 S.E.2d 573 (2008).

- decrease final average salaries by extending the number of years included in the calculation;
- decrease the benefit formula multiplier; and/or
- increase the years of service and/or age for normal and/or early retirement.

Because TSERS plan features are either typical or less generous than other states' retirement plans (see Exhibit 14), TSERS would become one of the least generous public retirement plans in the country if the General Assembly were to change plan features to reduce the State's cost in providing its retirement benefit for state employees and teachers.

5. How is TSERS funded?

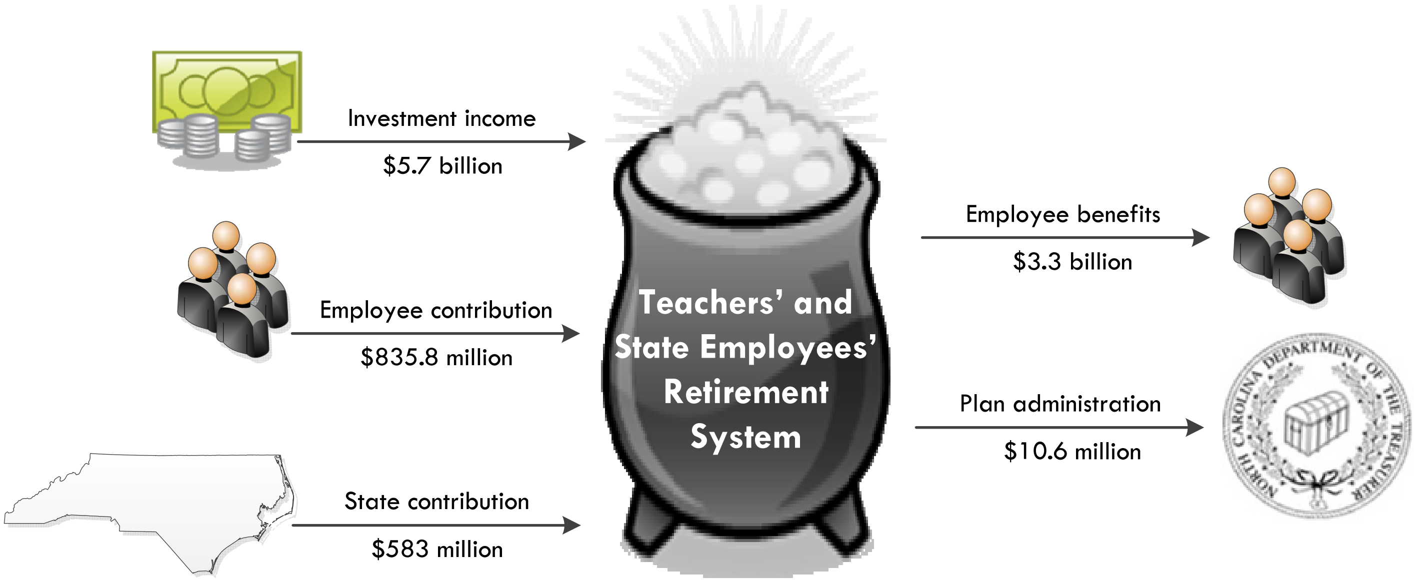
Employees, the State, and investment earnings pay the cost of providing retirement benefits to members of the North Carolina Teachers' and State Employees' Retirement System (TSERS). Not all states require employee contributions, but those that do share the cost and responsibility of funding their pension plans with employees. As a defined benefit plan, TSERS provides employees with lifetime retirement income based on a formula that accounts for years of service and salary. Defined benefit plans strive to make contributions during an employee's working career so that when the employee retires those contributions along with investment income will be sufficient to pay for the entire cost of the employee's retirement benefits. The basic equation for funding the system is

Investment Income + Employee Contributions + State Contributions = Current and Future Pension Benefits + Plan Administration Expenses

Over time, TSERS must ensure the benefits it pays out plus the cost of administering the system equals the contributions it takes in plus the returns it makes on its investments. Exhibit 16 shows the amounts for each equation variable for TSERS in 2010.

- The largest contributor to TSERS was the income generated by the fund's investments, which totaled $5.7 billion.
- Employees automatically contribute 6% of their compensation each pay period, which amounted to $835.8 million.
- State employers contributed $583 million to TSERS.
- TSERS paid out $3.3 billion in employee benefits.
- It cost $10.6 million to administer TSERS.

Exhibit 16: Sources and Applications of TSERS Funds, 2010



Notes: State contributions go into the Pension Accumulation Fund, which pays out employees' pensions. Employee contributions go into the Annuity Savings Fund and are transferred to the Pension Accumulation Fund when employees retire.

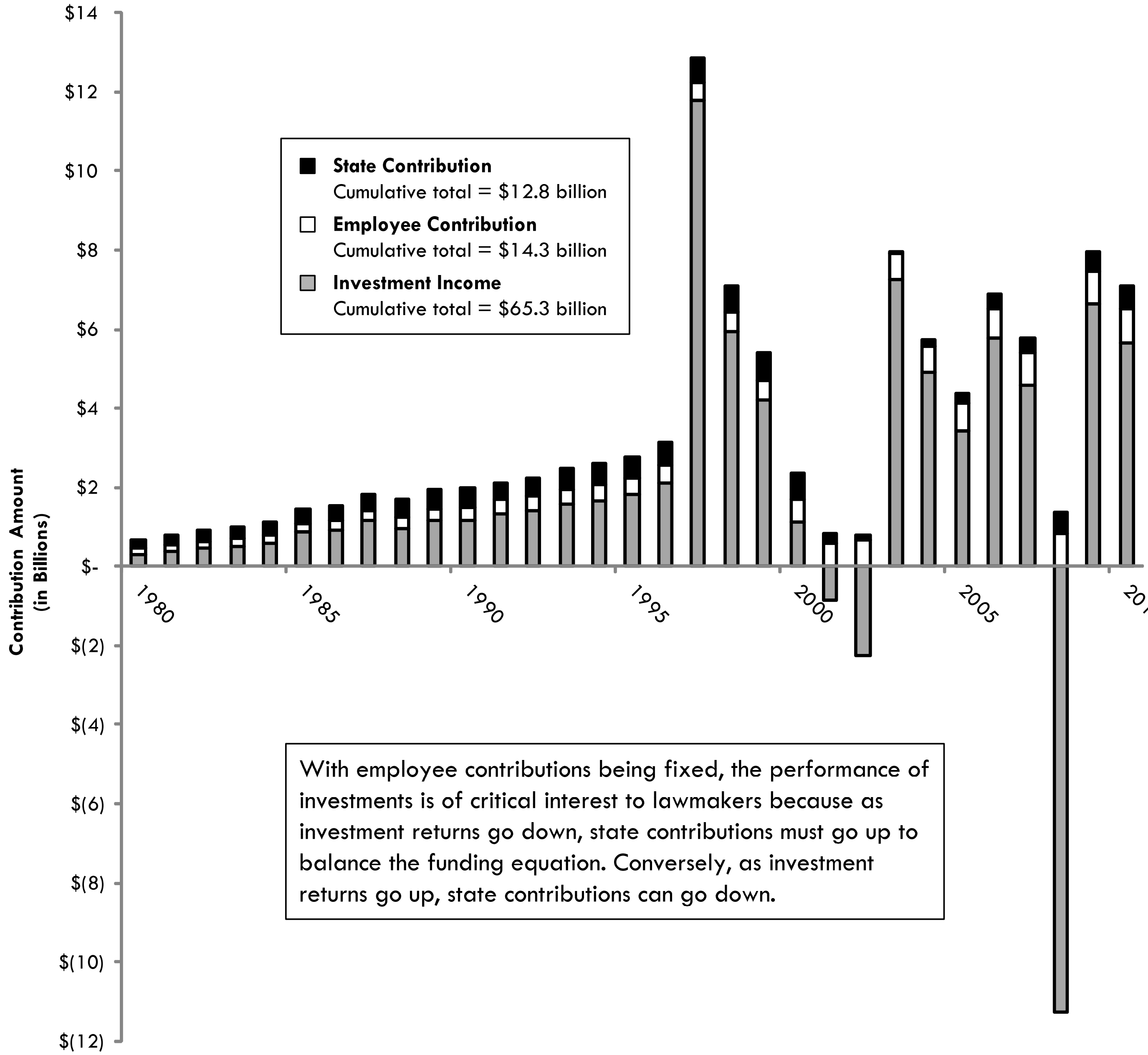
Source: Program Evaluation Division based on data from the Department of State Treasurer.

Exhibit 17 shows annual contributions from investment income, employees, and the State over the past 30 years. TSERS was well funded by employee and state contributions in its early years. As a result, most of its additional plan assets each year come from investment returns of assets that have been set aside over decades (see the gray portion of the annual contribution in Exhibit 17) for a cumulative total of $65.3 billion.

Because investment income has become the largest driver of how well funded TSERS is, the fund balance is influenced by the state of the economy. Relative to other states, TSERS has a moderate projected rate of return of 7.25%. Because TSERS experienced higher than expected investment returns in the late 1990s, the state contribution in the early and mid 2000s fell below the employee contribution rate. However in 2008, when the stock market experienced its worst performance since 1931, TSERS returned -20%. Unless the stock market quickly recovers, the state contribution may have to be higher in future years to make up for what amounted to a $16 billion loss. The contribution increase is spread over time due to asset smoothing.[27]

[27] Asset smoothing is a mechanism that spreads out annual investment returns over a designated period of time in order to minimize volatility of the system's investment performance. TSERS has a five-year smoothing period such that only one-fifth of a given annual return is recognized during the year in which it occurs. To keep the actuarial value of assets from being too far from the market value of assets, the actuarial value is not allowed to be lower than 80% of market value or higher than 120%.

Exhibit 17: Largest Contributor to TSERS Is Investment Income, 1980-2010



Note: Contribution amounts became less steady after 1996 because the Governmental Accounting Standards Board began requiring states to disclose the market value rather than the book value of assets.

Source: Program Evaluation Division based on data from the Department of State Treasurer.

The General Assembly determines the contribution rate for state employers as part of the budget process.[28] Prior to the General Assembly's determination, an actuarial firm calculates the amount the State needs to contribute to TSERS for its benefits to be fully funded in the long run, which is known as the annual required contribution (ARC).[29] Despite the use of the

[28] In the Appropriations Bill, the General Assembly stipulates the state contribution will amount to a certain percentage of employees' salaries for the upcoming fiscal year. Each state employer takes that percentage from each of its fund sources and contributes that amount to TSERS.

[29] The TSERS Board of Trustees has contracted with the actuarial firm Buck Consultants since 1941 to calculate the ARC.

word "required," governments can choose to pay more or less than this amount. A technical description of the process for determining the ARC appears in Appendix B.

If the actuarial calculations are accurate, the state contribution each year, when combined with employee contributions and investment income, should fully prefund the benefits that active members are expected to earn upon retirement. When a government consistently pays the ARC, the benefits accrued by employees are paid for by the taxpayers who receive those employees' services. When the ARC is not paid in full each year, the responsibility for the costs of benefits that accrued to employees in the past will fall to future taxpayers.

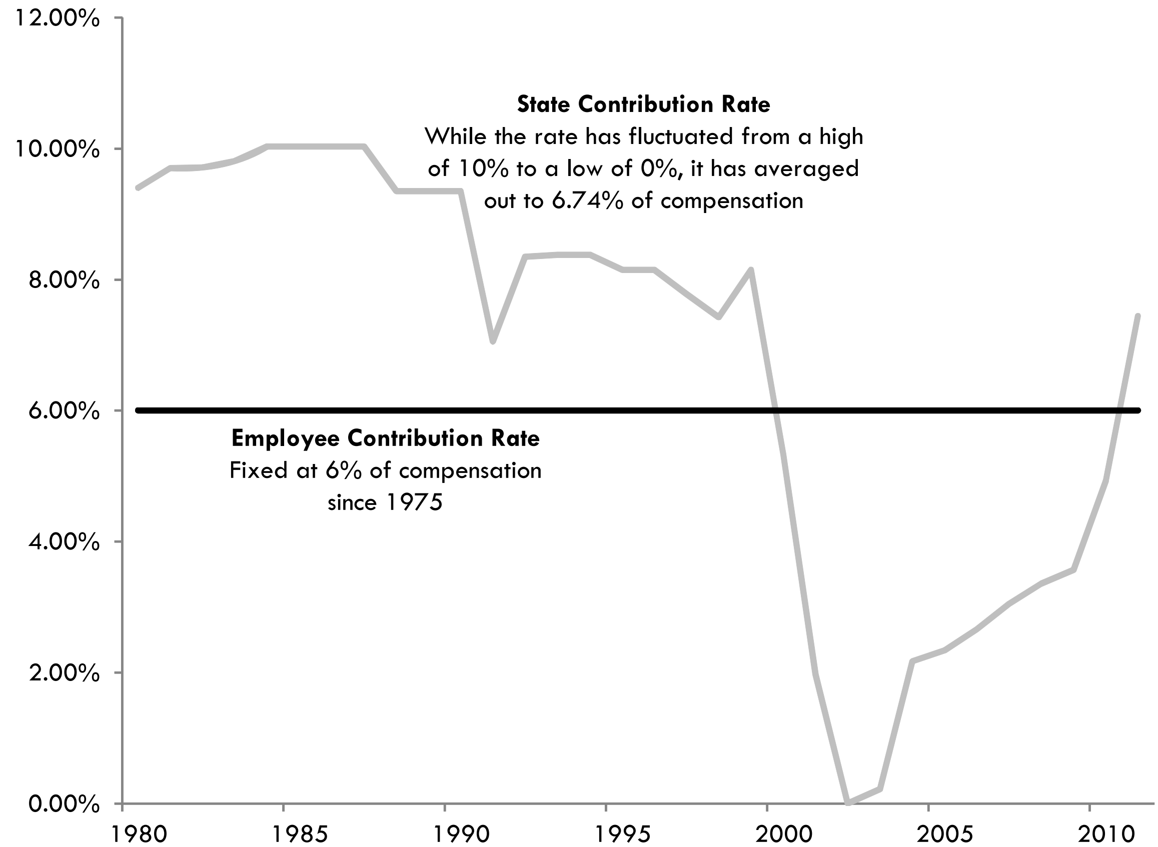
Exhibit 18 shows the state contribution as a percentage of employee compensation since 1980. The employee contribution rate has been fixed at 6% since 1975.[30] The state contribution fluctuates each year depending on the ARC and how much of the ARC the General Assembly decides to meet. Until Fiscal Year 2010-11, the General Assembly had met the ARC each year.[31] For Fiscal Year 2010-11, the actuary calculated the ARC as 6.71% of payroll, but the General Assembly set the state contribution rate for TSERS at 4.93%, or $176 million short of the ARC. For Fiscal Year 2011-12, the actuary calculated the ARC as 7.94% of payroll, and the General Assembly set the state contribution rate for TSERS at 7.44%. Although the contribution rate was decreased from the ARC calculated by the actuary, the General Assembly met the ARC by extending the amortization period from 9 to 12 years.[32] The state contribution in Fiscal Year 2011-12 from all sources (General Fund, Highway Trust Fund, and receipts) is approximately $1.1 billion.

[30] N.C. Gen. Stat. 135-8(b)(1).

[31] Once the state contribution is deposited into the Pension Accumulation Fund, it is protected by Article 5, Section 6 of the North Carolina State Constitution. There have been times when governors have reduced the state contribution appropriated by the General Assembly before it was deposited in the fund. In 1991 the Governor reduced the contribution by $57.4 million; in 2001 the Governor reduced the contribution by $129.9 million, which was repaid in subsequent years through lump sum appropriations.

[32] The amortization period is the span of time the plan has to fully pay its unfunded actuarial accrued liabilities. The Government Accounting Standards Board's Statement 27 requires governments to report their pension obligations using a period of 30 years or less; however, draft amendments to the statement require an amortization period that is no longer than the average remaining working years of a state's workforce for some purposes. The current average remaining working career of North Carolina state employees and teachers is approximately 12 years.

Exhibit 18: State Contribution as a Percentage of Employee Compensation, 1980-2011



Source: Program Evaluation Division based on data from the Department of State Treasurer.

6. How does TSERS funding status compare to other state retirement systems?

The best way to compare the financial health of retirement plans is to look at three key measures. Any single measure at a point in time may give a dimension of a plan's funded status, but it does not give a complete picture. Instead, the measures should be reviewed collectively over time to understand how the funded status is improving or worsening. Strong performance on these measures indicates that the government is accumulating the assets needed to make future payments for benefits accrued to date, whereas poor performance raises concerns that the government will not have the assets set aside to pay for benefits it is obligated to provide.

- **Funded ratio.** The ratio between the actuarial value of assets and the actuarial accrued liability indicates the extent to which a plan has enough funds set aside to pay for accrued benefits. The closer a plan's funded ratio is to 100%, the more assets the plan has to pay for its accrued liability. According to the U.S. Government Accountability Office, a funded ratio of 80% or higher is generally viewed as acceptable to support future pension costs. Nevertheless, the target is a 100% funded ratio.

- **Percentage of annual required contribution paid.** The annual required contribution, or ARC, is the amount of money that an actuary calculates the employer needs to contribute to the plan during the current year for benefits to be fully funded by the end of the amortization period. In most states, including North Carolina, the legislature determines how much of the ARC it is going to meet. If a state meets the ARC, the state contributed 100% of the ARC. If a state did not meet the ARC, the closer its percentage is to 100% on this measure, the closer its contribution is to meeting the plan's obligations.
- **Unfunded actuarial accrued liability as a percentage of covered payroll.** Unfunded actuarial accrued liability is the difference between the actuarial value of plan assets and the actuarial accrued liability of plan benefits. Considering this unfunded liability as a percentage of covered payroll—which acts as a proxy for the General Fund for this measure—indicates how big a burden paying off the liability is relative to a state's budget. The funded status of a system is deemed to improve as the amount of unfunded actuarial accrued liability as a percentage of covered payroll declines; the target is having unfunded actuarial accrued liability be 0% of covered payroll.

The Program Evaluation Division ranked state retirement plans for state employees and teachers using these three key measures of funding status.[33] As shown in Exhibit 19, the North Carolina Teachers' and State Employees' Retirement System (TSERS) ranked sixth out of 84 plans in 2009. In 2009 the actuarial value of TSERS's assets was $55.8 billion, its accrued liability was $58.2 billion, and its unfunded liability was $2.4 billion. TSERS had a funded ratio of 96%, the ARC was funded at 100%, and its unfunded actuarial accrued liability was 18% of covered payroll.

[33] The plans were first ranked on each measure individually. Each plan then received an overall rank based on the sum of their ranks for each measure.

Exhibit 19: Funding Status of Public Retirement Plans, 2009

Rank	Retirement Plan	Funded Ratio	Percentage of Annual Required Contribution Paid	Unfunded Actuarial Accrued Liability as a Percentage of Covered Payroll
1	Washington Public Employee Retirement System 2/3	100%	119%	0%
2	New York State Teachers' Retirement System	100%	100%	0%
2	New York State & Local Employee Retirement System	100%	100%	0%
4	Wisconsin Retirement System	100%	100%	2%
5	Delaware State Employees' Pension Plan	99%	100%	5%
6	**North Carolina Teachers' and State Employees' Retirement System**	**96%**	**100%**	**18%**
7	South Dakota Public Employee Retirement System	92%	100%	42%
8	Tennessee Consolidated Retirement System	91%	100%	45%
8	Florida Retirement System	87%	111%	66%
10	Nebraska School Employees Retirement System	87%	100%	73%
11	Teacher Retirement System of Texas	83%	108%	62%
11	Teachers Retirement System of Georgia	87%	100%	76%
13	Washington School Employees Plan 2/3	100%	89%	0%
13	Utah Public Employees' Noncontributory Retirement System	86%	100%	71%
15	Washington Teachers Plan 2/3	100%	86%	0%
15	Georgia Employee Retirement System	86%	100%	85%
17	Missouri State Employees' Retirement System	83%	100%	81%
18	Oregon Public Employee Retirement System	84%	100%	105%
19	Arizona State Retirement System	79%	100%	73%
20	New Mexico Public Employee Retirement Fund	84%	100%	113%
21	California Public Employee Retirement Fund	83%	100%	109%
22	Arkansas Public Employee Retirement System	78%	100%	106%
23	Idaho Public Employee Retirement System	74%	123%	115%
23	Michigan Public School Employees Retirement System	79%	101%	121%
25	Missouri Public Education Employee Retirement System	81%	89%	47%
26	Alabama Teachers' Retirement System	75%	100%	112%
27	Texas Employee Retirement System	90%	68%	46%
28	Alabama Employee Retirement System	71%	100%	109%
29	North Dakota Public Employee Retirement System	85%	67%	41%
29	Arkansas Teacher Retirement System	76%	104%	147%
31	Iowa Public Employee Retirement System	81%	88%	76%
32	Wyoming Public Employees' Pension System	87%	61%	48%
33	Montana Public Employee Retirement System	84%	79%	79%
34	Ohio Public Employee Retirement System	75%	100%	151%
35	Vermont State Employees' Retirement System	79%	87%	81%
36	Minnesota State Retirement System	86%	60%	64%
37	Virginia Retirement System	80%	81%	88%
38	South Carolina Retirement System	68%	100%	154%
39	West Virginia Public Employee Retirement System	66%	100%	132%
40	School Employees Retirement System of Ohio	68%	100%	161%
41	Hawaii Employee Retirement System	65%	110%	155%
42	North Dakota Teachers' Fund for Retirement	78%	89%	124%
43	Mississippi Public Employee Retirement System	67%	100%	171%
44	Pennsylvania State Employee Retirement System	84%	39%	94%

44	Montana Teachers' Retirement System	67%	100%	207%
46	Maine State and Teacher's Retirement Program	68%	100%	238%
47	Public Employees' Retirement System of Nevada	73%	93%	139%
47	Michigan State Employees Retirement System	78%	98%	180%
47	Alaska Public Employee Retirement System	63%	116%	227%
50	Minnesota Public Employee Retirement Fund	70%	86%	118%
51	Missouri Public School Retirement System	80%	84%	163%
52	Louisiana State Employees' Retirement System	61%	103%	214%
53	Teachers Retirement System of Louisiana	59%	113%	239%
54	Vermont State Teachers' Retirement System	65%	94%	130%
55	Massachusetts State Employee Retirement System	76%	65%	124%
56	Minnesota Teachers Retirement Association	77%	68%	139%
57	Pennsylvania Public School Employees Retirement System	79%	29%	126%
57	Alaska Teachers' Retirement System	57%	139%	422%
59	California State Teachers' Retirement System	78%	63%	148%
60	Indiana Teachers' Retirement Fund	42%	104%	257%
61	Rhode Island Employee Retirement System	58%	100%	297%
62	Maryland Teachers' Retirement System	66%	89%	165%
63	Kansas Public Employee Retirement System	64%	72%	118%
64	New Mexico Educational Employees' Retirement Plan	67%	86%	175%
65	Oklahoma Public Employee Retirement System	67%	75%	178%
66	New Jersey Public Employee Retirement System	65%	49%	130%
67	New Hampshire Retirement System	58%	75%	144%
68	Colorado School Employee Retirement System	69%	65%	239%
69	Maryland Public Employee Retirement System	61%	71%	180%
70	State Teachers Retirement System of Ohio	60%	89%	338%
71	Massachusetts Teachers' Retirement System	63%	74%	226%
72	Oklahoma Teachers Retirement System	50%	87%	250%
72	West Virginia State Teachers' Retirement System	41%	94%	337%
74	Colorado State Employee Retirement System	67%	61%	277%
75	Washington Teachers Plan 1	75%	46%	688%
76	Kentucky Teachers' Retirement System	64%	67%	262%
77	Washington Public Employee Retirement System 1	70%	52%	725%
78	New Jersey Teachers' Pension and Annuity Fund	64%	6%	203%
79	Illinois State Employee Retirement System	43%	77%	355%
80	Teachers' Retirement System of the State of Illinois	52%	65%	391%
81	Kentucky Employee Retirement System	47%	41%	318%
NR	Indiana Public Employee Retirement Fund	93%	102%	
NR	Connecticut Teachers' Retirement System		100%	
NR	Connecticut State Employee Retirement System		93%	

Notes: Washington has split its systems into multiple plans and funded them separately; thus, it has some of the best funded plans and some of the worst. Indiana and Connecticut's plans were not ranked (NR) because they did not have data on all measures. Alaska's Public Employee Retirement System and Teachers' Retirement System closed to new members in 2006. Michigan Public School Employees Retirement System closed to new members in 1997. Washington's Public Employee Retirement System 1 and Teachers Plan 1 closed to new members in 1977.

Source: Program Evaluation Division based on the Center for State and Local Government Excellence's Public Plans Database.

Even when a more conservative methodology is used to estimate unfunded liabilities, TSERS still ranks as a well-funded plan in comparison to other states' retirement plans. Academics have recently argued for using a more conservative approach based on financial economics to calculate retirement plan assets and liabilities.[34] Using this approach, TSERS's accrued liability was roughly $65.6 billion with an unfunded liability of $15.2 billion and a funded ratio of 77% in 2009. Even though this approach yields a higher unfunded liability and a funded ratio that is considerably lower than reported in Exhibit 8, TSERS still compares favorably to other states' plans because other states use similar actuarial methods to those used by TSERS and are thus similarly affected by this alternative approach.

Conclusion

In summary, the General Assembly historically has met the annual required contribution for TSERS, and as a result, TSERS is one of the most well-funded public retirement systems in the country. The General Assembly determines the plan features of TSERS, and the features are either typical or less generous than other states' plans. If the General Assembly were to change these features to reduce the State's cost in providing its retirement benefit for state employees and teachers, TSERS would become one of the least generous public retirement plans in the country. Lawmakers have to weigh the tradeoff between reducing the State's costs and the State's ability to recruit and retain qualified personnel to deliver essential public services.

Appendices

Appendix A: State Changes to Reduce the Costs of Providing Retirement Plans, 2005-2011

Appendix B: Process for Determining the State Contribution

Agency Response

A draft of this report was submitted to the Department of State Treasurer to review and respond. Its response is provided following the appendices.

Program Evaluation Division Contact and Acknowledgments

For more information on this report, please contact the lead evaluator, Kiernan McGorty, at kiernan.mcgorty@ncleg.net.

Staff members who made key contributions to this report include Michelle Beck, Carol Shaw, and Pamela L. Taylor. Fiscal Research staff members Marshall Barnes, Stanley Moore, and David Vanderweide also contributed. John W. Turcotte is the director of the Program Evaluation Division.

[34] Novy-Marx, R., & Rauh, J.D. (2011). Policy options for state pension systems and their impact on plan liabilities. *Journal of Pension Economics and Finance, 10*(2), 173-194.

Appendix A: State Changes to Reduce the Costs of Providing Retirement Plans, 2005-2011

State	Increase employee contribution	Increase number of years for vesting	Increase normal retirement age and/or service requirements	Decrease final average salary	Decrease benefit formula multiplier	Decrease automatic cost-of-living adjustments
Alabama	✓					
Alaska						
Arizona	✓	✓	✓	✓		
Arkansas	✓				✓	
California				✓	✓	
Colorado	✓		✓	✓		✓
Connecticut						
Delaware	✓	✓	✓			
Florida	✓	✓	✓	✓		✓
Georgia						✓
Hawaii	✓	✓		✓	✓	✓
Idaho						
Illinois			✓	✓		✓
Indiana						
Iowa	✓	✓		✓		
Kansas			✓	✓		
Kentucky	✓		✓	✓	✓	
Louisiana	✓		✓	✓	✓	✓
Maine			✓			✓
Maryland	✓	✓	✓	✓	✓	✓
Massachusetts						
Michigan			✓	✓		✓
Minnesota	✓	✓				✓
Mississippi	✓	✓	✓		✓	✓
Missouri	✓	✓	✓	✓		
Montana	✓		✓	✓	✓	
Nebraska	✓			✓		
Nevada	✓		✓	✓	✓	✓
New Hampshire	✓		✓	✓	✓	
New Jersey	✓		✓	✓	✓	✓
New Mexico	✓		✓			
New York		✓	✓			
North Carolina		✓	✓			
North Dakota	✓	✓	✓	✓		
Ohio						
Oklahoma			✓			
Oregon						
Pennsylvania	✓	✓	✓	✓	✓	
Rhode Island			✓		✓	✓
South Carolina	✓					
South Dakota						✓
Tennessee						
Texas	✓		✓	✓		
Utah				✓		
Vermont	✓		✓	✓		
Virginia	✓			✓		✓
Washington	✓					✓
West Virginia			✓	✓		
Wisconsin	✓	✓				
Wyoming	✓					
States with changes	**29**	**14**	**27**	**25**	**13**	**17**

Note: States received checkmarks for any changes during the time period that clearly reduced the costs of providing their plans.

Source: Program Evaluation Division based on data from the National Conference of State Legislatures.

Appendix B: Process for Determining the State Contribution

1. Actuary determines present value of benefits

Components of the Present Value of Benefits

Accumulated value of past normal costs (also known as actuarial accrued liability)	Current year normal cost	Present value of future normal costs

2. Actuary determines unfunded actuarial accrued liability

Actuarial accrued liability - Actuarial value of assets  = Unfunded actuarial accrued liability 

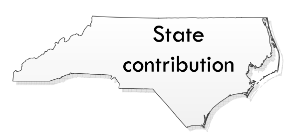
3. Actuary determines the state's annual required contribution

Current year normal cost +  Amortized portion of unfunded actuarial accured liability = **ARC**

4. Considering the annual required contribution, the General Assembly sets the contribution rate for all state employers in the Appropriations Bill

General Assembly

→



Source: Program Evaluation Division.

Helpful Terms

Present value of benefits – total cost of benefits accrued throughout an employee's career, including benefits projected to be earned in the future, expressed in today's dollars

Normal cost – portion of the present value of benefits that actuaries allocate to each year of service, both past and future

Actuarial accrued liability – value of benefits owed to current and retired employees based on past years of service

Actuarial value of assets – value of plan investments smoothed over a period of years to minimize market volatility; TSERS has a five-year asset smoothing period such that only one-fifth of a given annual return is recognized during the year in which it occurs

Unfunded actuarial accrued liability – the difference when the actuarial accrued liability exceeds the actuarial value of assets

Annual required contribution (ARC) – current year normal cost plus the amount needed for benefits to be fully funded by the end of the amortization period, which is 12 years for TSERS

NORTH CAROLINA

OFFICE OF THE TREASURER

JANET COWELL, TREASURER

August 15, 2011

Mr. John Turcotte, Director
Program Evaluation Division
300 North Salisbury Street, Suite 100
Raleigh, NC 27603-5925

Dear Mr. Turcotte:

Thank you for the opportunity to review your division's report on the Teachers' and State Employees' Retirement System (TSERS) titled, *"Compared to Other States' Retirement Plans, TSERS is Well Funded and Its Plan Features Are Typical or Less Generous."* We welcome the report's reliance on facts and believe that it will objectively inform the General Assembly's deliberations in a manner conducive to effective decision making. As a result, we agree with the major conclusions it contains.

Your report's ranking of TSERS as the sixth strongest state plan in the nation in terms of funding status is a testament to the conservative management and efficient operation of our plan and echoes the findings in a report issued by the National Institute on Retirement Security in June of this year. The Institute selected TSERS and pension plans of five other states that had successfully weathered the financial storms of recent years. The report also identified features of these plans that can be instructive to other states as they seek to build retirement systems that can remain affordable and sustainable over the long term. One vital feature of successful public pension plans is consistent funding, at the 100% level, of the Annual Required Contribution.

The Department of State Treasurer is very proud of TSERS as a national model. But ultimately, the true value of the system to most citizens is as a tool to help the state recruit and retain qualified personnel to deliver essential government services. As you note in your report, this policy goal is a tradeoff with the state's cost of providing the plan. In addition to this well-designed system, we need to continue to administer the management of these funds at a cost as low as possible. We are also proud of this success and remain committed to continuing this tradition of excellence.

Again, we appreciate being asked to comment on your report.

Sincerely,

Janet Cowell

Janet Cowell

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