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Demystifying the State Pension System

OVERVIEW

The Massachusetts State Board of Retirement, which administers the Massachusetts State Employees' Retirement System (MERS), was established in 1911 as the second-oldest public pension system in the country. It began first as a pension plan for the state's teachers and over time, it grew to include other state public sector employees. The state currently provides both pension and other postemployment benefits for retired state employees and teachers.

As with all other state spending, the impact of public pensions on the state budget has come to the forefront of policy debates recently, particularly in light of the economic recession. An important question for the Commonwealth and for taxpayers is how much does it cost to provide these benefits? And who is bearing those costs? Pensions are an important and valuable benefit provided by the state, and thus deserve a careful examination of both the costs and benefits.

But for many, deciphering the various figures and calculations relating to the state pension system can be daunting. The cost of the benefits provided to employees—and for benefits that have already been promised but not funded—is calculated using a complicated range of assumptions regarding the workforce, the state of the economy, and possible changes in the future. In this report, we aim to answer these questions by examining the factors that contribute to the cost of providing pension benefits. By explaining the various aspects of the pension system, we show that the state's pension cost for current employees is very low—for a significant portion of the state's workforce, it is zero. The unfunded liability, however, is a significant cost that the Commonwealth has worked to address.

HOW THE STATE PENSION SYSTEM WORKS

Virtually all part-time and full-time state employees are required to participate in the pension system, with the state and employee contributing a certain percentage of the employee's annual salary toward their pension. The amount of both contributions depends on a variety of factors: when the employee was hired and entered the system, the "group," or classification, of workers he or she belongs to, and how much his or her salary is. While each of these factors are discussed in more detail below, it is important to note that state employees who joined the system after the mid-1990s actually contribute a significant portion of their salary (starting at 9 percent) toward their pensions with little to no state contribution. In essence, many of these state workers are entirely funding their own pensions.

Employee Groups

State employees are organized into groups in order to differentiate those workers with specialized occupations, such as public safety workers. The four state employee groups are:

- **Group 1:** General state employees, such as clerical or administrative workers, and all employees who are otherwise not classified.

- **Group 2:** Employees with specified "hazardous duty" positions, such as those who provide direct care, custody, or supervision of parolees.
- **Group 3:** State police officers and inspectors.
- **Group 4:** Public safety officers and officials, such as corrections officers.

State teachers are included in Group 1; however they maintain a separate retirement system, the Massachusetts Teachers' Retirement System (MTRS), which is also funded through the state, not the individual municipalities in which they are employed.

Date of Entry & Salary

The contributions made by each group toward their pensions depend also on the individual employee's date of entry into the system. Group 1, 2 and 4 employees who entered the system prior to 1975, for example, contribute 5 percent of their salaries. Subsequent changes in the regulations in the 1980s and 1990s increased this contribution amount. The most recent changes require Group 1 employees to contribute a base of 9 percent of their entire salaries, with an additional 2 percent of the salary amount exceeding $30,000. The base contribution rates for state workers and teachers are detailed in Table 1 below.

Table 1. State Employee and Teacher Pension Contribution Rates

Group	Date Entered System	Contribution Rate
Groups 1, 2, 4	Prior to 1975	5%
	Jan 1, 1975- Dec 31, 1983	7%
	Jan 1, 1984- June 30,1996	8% (+2%)
	After July 1, 1996	9% (+2%)
Group 3*	After July 1, 1996	12% (+2%)
Teachers**	After July 1, 2001	11%

* Contribution rates for Group 3 employees are the same as Groups 1, 2, and 4 until June 30, 1996.
** Contribution rates for Teachers are the same as Groups 1, 2, and 4 prior to July 1, 2001.

Vesting & Eligibility

State employees must meet certain conditions pertaining to their length of service and age in order to be eligible to retire—these are known as "vesting" and "eligibility" requirements. To become "vested" means that an employee has met the requirements necessary for receiving a retirement allowance, namely that they have completed at least 10 years of service. In order to retire, however, the employee must meet the eligibility requirements: either complete 20 years of service, or be 55 years of age with at least 10 years of service. If a state employee stops working for the state after 10 years of service, but before turning 55, he or she may leave the retirement contributions with the state system and receive the pension after turning 55.

Retirement Allowance

An employee's state pension provides a maximum of 80 percent of his or her salary upon retirement. The salary amount is calculated using a three-year average of the employee's highest consecutive annual salaries, which usually corresponds to the salary in the last three years of employment. This is then multiplied by a factor that accounts for the age at retirement, group classification, and years of service. The retirement allowance is paid in monthly payments over the employee's lifetime. The employee is also offered a few options that adjust the monthly payments in order to provide benefits to the employee's survivors and other beneficiaries. Each year, the retirement allowance is partially adjusted for inflation, which means that it reflects changes in the cost of living. This adjustment is calculated on the first $12,000 of the retirement allowance, with a maximum of up to 3 percent or $360 per year.[1] Because it is not calculated on the total retirement allowance, the value of the allowance erodes over time because most of it does not keep pace with the cost of living. Furthermore, the $12,000 base to which the cost of living adjustment is applied has not been updated since the late 1990s, which also contributes to the erosion of the value of the retirement allowance.

Other Retirement Benefits

State employees are also eligible to receive other postemployment benefits (OPEB) such as health care, life insurance, mental health, and prescription drug benefits to retirees and their spouses and dependents through the state's Group Insurance Commission. Unlike pensions, however, these benefits are not guaranteed in the same way that pensions are—the state can make certain changes to these provisions. Currently, for retirees aged 64 and younger, the state provides full health and life insurance benefits. For retirees aged 65 and older who are eligible for Medicare, the state provides "wrap-around" coverage, meaning that the state provides coverage for the gap between the coverage provided through Medicare and the GIC. Retirees also contribute to the cost of their postemployment health and life insurance benefits. Those who retired before July 1, 1994 contribute 10 percent of the cost, and those who retired after that date contribute 15 percent. It is important to note that the cost to the state for providing other postemployment benefits is significant. Though this issue is important it is beyond the scope of this paper, more information on other postemployment benefits can be found in the *MassBudget Brief*, "Workforce Characteristics & Wages in the Public & Private Sectors" at http://massbudget.org/doc/777.[2]

THE COST OF FUNDING EMPLOYEE PENSIONS

The state employees' and teachers' pension systems are supported by the Pension Reserves Investment Trust (PRIT), a pooled investment fund. PRIT, established in 1983 to invest and grow the assets of the state pension system, is managed by the Pension Reserves Investment Management Board (PRIM). There are three sources of funding for the PRIT fund: employees' pension contributions, the state's contributions toward employee pensions, and investment returns of the PRIT fund. The PRIM Board contracts with investment managers who, under the direction and guidelines provided by the Board, invest and manage the PRIT fund.

[1] Public Employee Retirement Administration Commission, http://www.mass.gov/perac/guide/mainguide15.htm

[2] A more detailed discussion of postemployment benefits can also be found in "Retiree Health Care: The Brick That Broke Municipalities' Backs," Massachusetts Taxpayers Foundation, February 2011. http://www.masstaxpayers.org/sites/masstaxpayers.org/files/The%20Brick%20That%20Broke%20Municipalities%27%20Backs_Feb%2025%202011.pdf

Listed below are the two costs associated with state pensions. Each of these is then discussed in more detail.

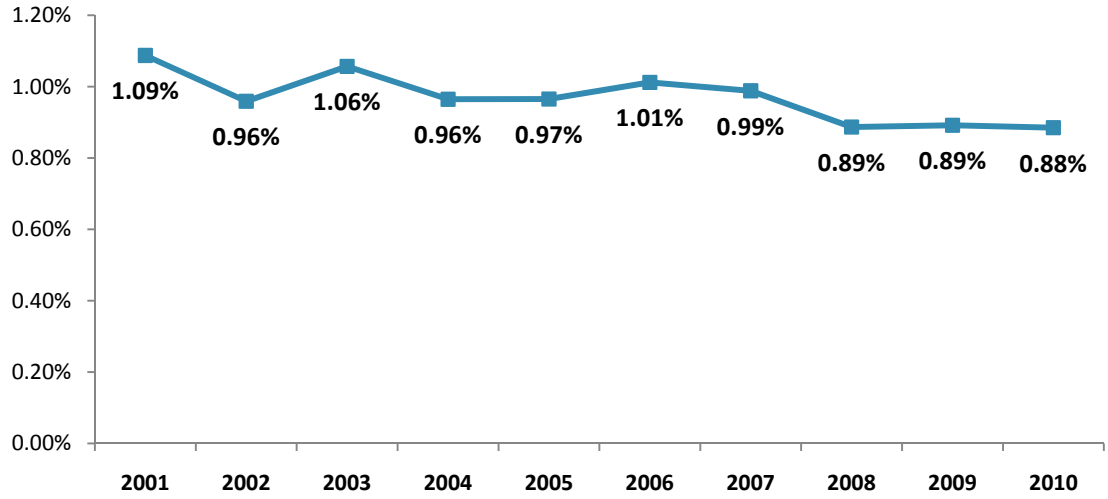
1. The cost of pension benefits that current active employees accrue year to year while they are employed, also called the "normal cost."
2. The difference between cost of benefits that had been promised to employees in past years (the "liability") and the assets of the pension system to cover these benefits. This difference between liability and assets is called the "unfunded liability."

Normal Costs

As explained in the previous section, every year current state employees set aside a portion of their income for their pensions and with each year of service, employees "earn" a portion of their total pension benefit. The total cost of these benefits earned by current employees each year is called the "normal cost." Part of the normal cost is paid for through employee contributions, as detailed in Table 1, and the remainder is paid for by the state's contributions. The "net normal cost" is the employer's contribution and represents the Commonwealth's cost for current state employee pensions.

The net normal cost for state and teachers pensions was $287.5 million in 2010.[3] This represented 0.88 percent of the total state budget of $32.49 billion. Between 2001 and 2010, the net normal cost represented close to or below 1 percent of the entire state budget. As shown in Figure 1, the net normal cost was 1.09 percent of the state budget in 2000 and has declined since.

Figure 1. Net Normal Cost Declines as a Percentage of Total State Budget, 2001-2010



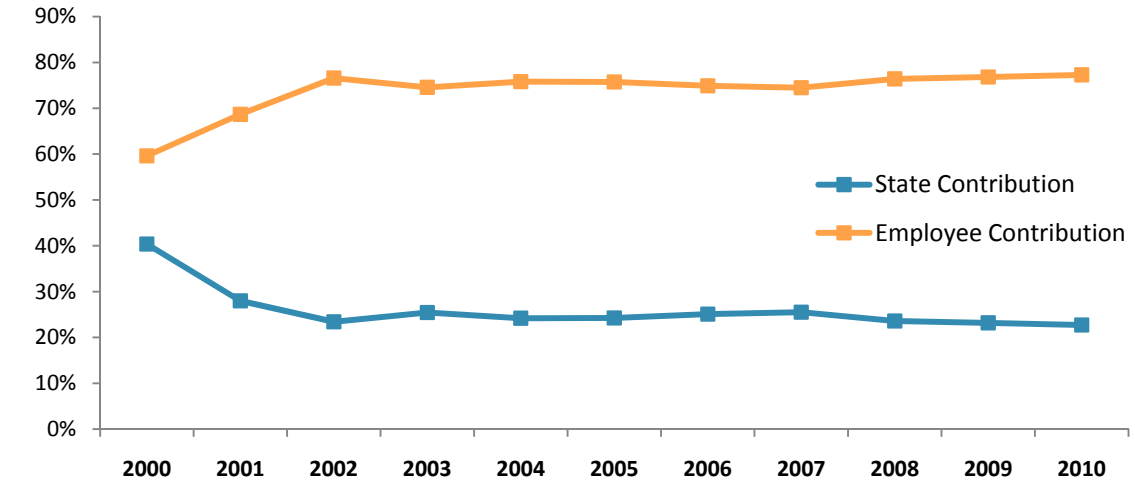
Source: Public Employee Retirement Administration Commission, Annual Valuation Reports 2001-2010.

Between 2000 and 2010, the portion of the total cost funded by the state also declined. As the state's share of the contribution toward employees' pension decreased, the employees' share increased, as shown in Figure 2. In 2000, the state contributed 40 percent of the total normal cost; by 2010 the state's contribution had decreased to 23 percent. This corresponds to the changes in employee contribution rates, discussed in the previous section. As employees' contribution rates increased over the past few decades, the employer's contribution—the state's contribution—declined. In 2000, the state contributed

[3] Public Employee Retirement Administration Commission, "Commonwealth Actuarial Valuation Report." January 1, 2010. Page 2. http://www.mass.gov/perac/valuation/2010commonwealth.pdf

5.2 percent of payroll toward the normal cost of employee pensions; by 2010, this had decreased to 2.6 percent of payroll (see Table 2 below). Each change in the contribution schedule increased the amount that workers are required to contribute, and as the state's workforce shifted toward more new workers, the relative burden on the state decreased. Thus, a significant portion of state workers and teachers are almost fully funding their own pensions.

Figure 2. State Contribution Toward Normal Cost Declines as Employee Contribution Rises, 2000-2010



Source: Public Employee Retirement Administration Commission, Annual Valuation Reports 2001-2010.

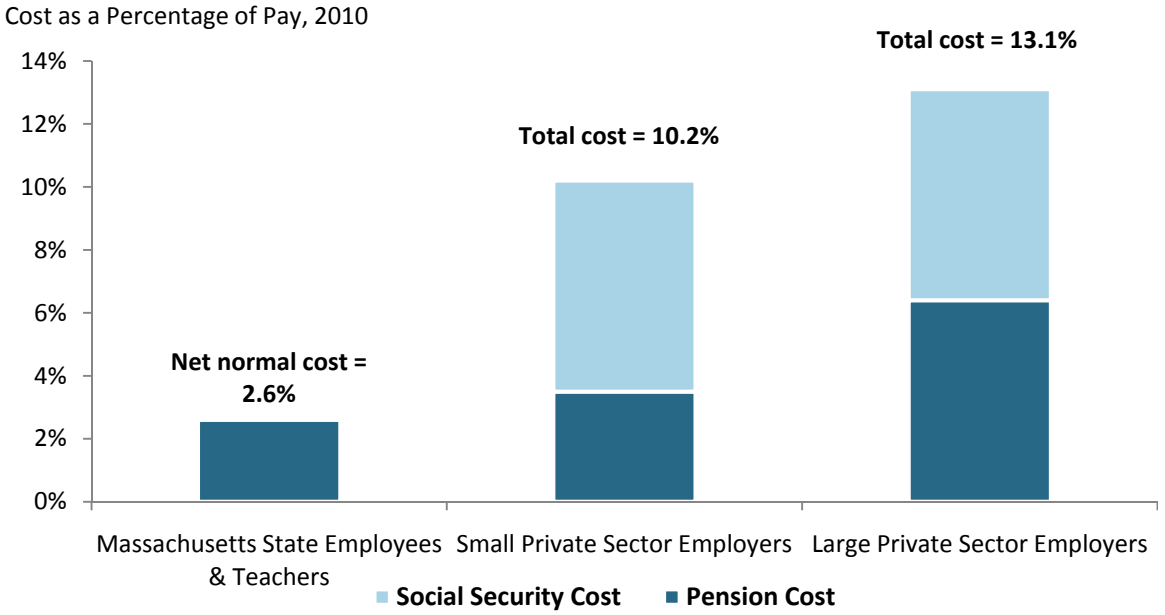
Table 2. State and Employee Contributions as a Percentage of Payroll, 2010

Total Normal Cost	State Contribution	Employee Contribution
11.7%	2.6%	9.1%

Source: Public Employees Retirement Administration Commission.

One important distinction between public and private sector workers in Massachusetts is that public sector workers are not eligible to participate in Social Security. Thus, state employees and teachers do not contribute the 6.2 percent of their salary toward Social Security. On the employer side, the state also does not contribute 6.2 percent of employees' salary (up to $106,800) toward Social Security. If the state were to abolish the pension system entirely for new employees and thus be required to participate in Social Security, costs would subsequently increase by about 3 percent of payroll, more than double what it pays now.

Figure 3. Massachusetts State Pension Normal Cost Less than Private Sector Costs



Source: Employer Cost for Employee Compensation Survey. US Bureau of Labor Statistics, 2010.
Also, Public Employee Administration Commision data, 2010.

Overall, the Commonwealth's pension contributions for current employees, as a percentage of employee salaries, are less than private sector retirement costs (see Figure 3). Large private sector employers, those with 100 employees or more, are the most appropriate comparison to the public sector, as most state governments employ greater than 100 workers. Of these firms, employers' cost for retirement averages to 6.4 percent of wages and salaries—more than twice the cost of Massachusetts state employees and teachers. [4] In fact, the Commonwealth's cost is even less than the cost for private sector firms with less than 100 employees (3.5 percent). Private sector employers incur these costs on top of their Social Security costs, resulting in total average cost—retirement and Social Security combined—of 10.2 percent of salary for small employers and 13.1 percent for large employers.

The Unfunded Liability

PRIT was established to set aside funding for promised pension benefits, the "unfunded liability," for which the state had not previously been setting aside funding. Prior to the establishment of the PRIT fund, the state funded the pension system on a "pay-as-you-go" basis—the state would pay out retirement benefits as employees retired without setting aside the amount of retirement benefits that employees were accruing yearly throughout their employment. This essentially meant that the state was not saving up funds for its future obligations. Though PRIT was established in 1983, the state did not adopt a funding schedule until the early 1990s. The total value of these formerly promised obligations is known as the "unfunded liability." The cost of current retirees' allowances is built into the calculation of the unfunded liability. PRIT was established in an effort to help the state set aside funding to meet these obligations and reduce the unfunded liability, as well as to manage the investments of the pension fund.

The total unfunded liability as of Fiscal Year (FY) 2010 was $20 billion for state employees and teachers. Similar to a loan one would take out for a home, the unfunded liability is paid incrementally on a

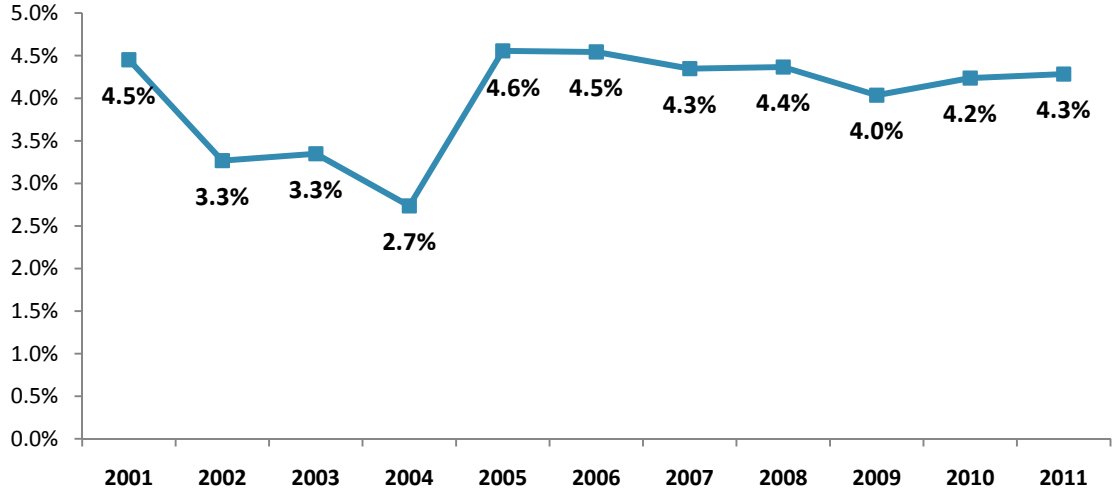
[4] U.S. Bureau of Labor Statistics. Employer Cost for Employee Compensation Survey. 2010. http://www.bls.gov/news.release/ecec.nr0.htm

schedule extending out over several decades. It is different from a home loan in that the payments increase over time. Because the state had not been pre-funding its obligations prior to the 1990s, the schedule is calculated to eventually bring the fund up to "full funding," when the state will have set aside enough funds to cover the unfunded obligations and will only have to pay the normal costs. In 1988, most of the pension systems in the state (including municipal pensions) were funded at 20 percent to 40 percent. By 2009, most were funded at greater than 60 percent and many were on track toward full funding by 2030.[5] Since then, as the effects economic collapse continued to be felt, funded ratios have dropped for almost all of the systems.

Often, the cost of unfunded liabilities for retiree health and other benefits are added to the unfunded liability for state pensions, showing an even larger total unfunded obligation. Because retiree health benefits are different in nature than pension benefits, adding the two together can be misleading. As mentioned in the previous section, other retiree benefits are not guaranteed in the same way that pensions are. The state can make changes to the provisions or rules regarding these benefits. It is likely that these benefits will be adjusted in the future as costs are projected to grow faster than state and local revenues.[6]

Each year, the state makes an appropriation from the General Fund to make that year's payment for the normal cost and the unfunded liability. The total state appropriation toward the pension fund was $1.4 billion in FY 2011, representing 4.3 percent of the state budget. Since 2001, the appropriation dipped between 2002 and 2004, during the last economic recession, and from 2005 has remained at or close to about 4 percent of the state budget (as shown in figure 4).

Figure 4. Annual State Appropriation for Pensions as a Percentage of State Budget, 2001-2011



Also each year, the state requires that the assets and liabilities of the pension system be re-evaluated in order to keep the funding schedule accurate and on track. This is known as the "actuarial valuation." The unfunded liability is calculated using a complex set of assumptions about the composition of the workforce, the length of time that employees are likely to be employed, future wage growth, the likely

[5] Public Employee Retirement Administration Commission. Annual Report. 2009. Page 5. http://www.mass.gov/perac/09annualreport/AR09.pdf

[6] Iris J. Lav and Elizabeth McNichol, "Misunderstandings Regarding State Debt, Pensions, and Retiree Health Costs Create Unnecessary Alarm." Center on Budget and Policy Priorities. January 20, 2011. Page 4. http://www.cbpp.org/files/1-20-11sfp.pdf

return on investments, and other factors. Normal costs are also re-calculated to reflect demographic changes in the workforce, account for retirees and workers leaving the system, wages, and other economic factors. Most recently, the crash of the stock market has had a significant impact on the unfunded liability. As discussed in more detail below, because the unfunded liability is the difference between the pension systems assets and total liabilities, a drop in the assets creates a larger gap between the value of the assets and the systems total liabilities.

Returns on Investments: The Investment Return Assumption

Of the factors described above in determining the value of the state pension fund, the likely return on investments has sparked much debate recently. It provides an estimate for how much the pension fund's assets will grow in the future—how much will be earned on investments—and thus affects the amount that the state should contribute over toward paying the unfunded liability. The state contribution to the pension fund is inversely related to the investment return assumption: if the returns are assumed to be high then the contribution would be smaller, but if the returns are assumed to be low, then the state contribution would be higher. The percent by which the investments are expected to grow is the "investment return assumption," which is often also called the "discount rate." An important distinction between these two terms is that the investment return assumption is the long-term rate, while the discount rate is short-term. However, these two terms are often used interchangeably to refer to the investment return assumption.

It is typically assumed that the investment return assumption for the Commonwealth's pension fund is 8.25 percent. One question that has come up recently is whether or not future returns will mirror past trends—i.e., will we continue to see about 8.25 percent growth in the decades to come? And secondly, should the state use the likely rate of return to calculate unfunded liabilities and annual contributions, or should the state use a much lower estimate for returns?

Historical trends in the market show that average investment returns had been at or above 8.25 percent over the past several decades. In the 25 years leading up to 2009, the average return was 9.7 percent.[7] Some have argued that the economy has fundamentally changed and that investment returns in the upcoming decades will not reflect historical trends. Others reject the idea that there have been fundamental changes that will lead to dramatically lower investment returns in coming years.[8] The Special Commission to Study the Massachusetts Contributory Retirement Systems reported that an 8 percent investment return assumption represents the expected cost for the state to provide benefits.[9] But even if the returns in the upcoming few years are not expected to be 8.25 percent, and if the rate should be lowered (PERAC suggests that over time an investment return assumption between 7 to 7.75 percent may become the standard), the change, according to PERAC, should not occur at once.[10] Instead, the rate should be lowered incrementally over a number of years in order to gradually increase the state's yearly obligation, rather than a sudden one-time change.

In regard to the second question, the broader issue is whether state policy should be built on the best estimates of the likely rate of return, or on what the returns would be if the state made only very conservative estimates. Under current accounting procedures, Massachusetts and other states assume

[7] Public Employee Retirement Administration Commission. Annual Report. 2009. Page 6.
[8] Baker, Dean, "The Origins and Severity of the Public Pension Crisis." Center for Economic and Policy Research. February 2011. http://www.cepr.net/documents/publications/pensions-2011-02.pdf
[9] Special Commission to Study the Massachusetts Contributory Retirement System, Final Report. October 7, 2009. Page 31. http://www.ream1951.org/Report_PensionCommission_9-01-09.pdf
[10] Ibid.

expected returns in their pension fund (the 8.25 percent investment return assumption) at essentially the midpoint of likely returns, recognizing that assuming the high end of likely returns would be very risky and that assuming the low end could inappropriately divert resources from other critical needs and productive uses. Furthermore, the state pension system can achieve high rates of return because it is a very large and diversified fund that can invest for the long term. Because the state pension fund does not face the risk of being liquidated at a particular moment in time, it can invest to receive the highest long term returns rather than accepting lower returns to achieve greater short term stability – as individual investors often must.[11] Ultimately, this benefits both the state and the employees—the returns that state employees and teachers get result in a stronger pension benefit than they would have likely received individually.

A report published by the Center for Retirement Research at Boston College examined the effects of different discount rates on state budget contributions (see table 3 below). The analysis showed that when a lower investment return assumption is used, in this example 5 percent (the "risk-less" return guaranteed by U.S. Treasury Bonds at the time), the state's contribution toward pensions increases from 4.6 percent of the state budget to 7.6 percent of the state budget. These figures are projections for the years between 2014 and 2043, but the estimate using an 8 percent rate is close to the current state contribution (4.3 percent of the state budget). If the current state contribution were to increase to 7.6 percent of the state budget, that would equal a $1.1 billion, or 77 percent, increase in the state appropriation.

Table 3. Effect of Discount Rate Changes on State Pension Contributions

Discount Rate	Contribution as a Percent of State Budget
5.0%	7.6%
8.0%	4.6%

Source: Center for Retirement Research at Boston College.

State costs could also decline if wage growth is slower than anticipated. Though unemployment remains high, the market has been growing. In future years, it is possible that the stock market will continue to do well, even though wage growth may be slow. Because pensions are calculated on employee incomes—i.e., if employee wages rise, so do their pension benefits— slower wage growth will lead to lower pension costs. Even if we assume that investment returns will be low in future years, if wage growth is slower as well, the effects could offset.

The Special Commission to Study the Massachusetts Contributory Retirement Systems also provided an analysis of how the contribution-to-cost ratio would change if these two variables—the investment return assumption and wage growth—change. If we take as an example 5 percent wage growth over the period that a worker is in the system and use an 8 percent investment return assumption, the amount that workers contribute would cover about 100 percent of the cost of pension benefits. If we change the investment return assumption to 4 percent, the portion of the cost that workers' contributions cover would reduce to only about one-third of the cost. This is because a lower investment return assumption would increase the costs of the pension system.[12] Similarly, if we

[11] Baker, Page 4.
[12] Special Commission to Study the Massachusetts Contributory Retirement Systems, Page 31.

assume that wage growth will be slower than 5 percent—say, 3 percent—then the ratio of workers' contributions to cost would increase because costs would decrease. At the 8 percent rate with 3 percent wage growth, workers' contributions would cover more than the cost of the pension benefits by 50 percent.

Changing the investment return assumption creates a range of possibilities—some with higher costs for the state and some with lower. Using a middle of the road option does not under- or over-estimate the likely outcome and also ensures that the state is not contributing more than is likely to be necessary. Lowering the discount rate would lead to significant reductions in other state spending, which could be more harmful to the economy as a whole, particularly in the current fiscal context. The current assumptions used to calculate the costs of the pension system should be examined to assure that they are accurate. The most reasonable route for the state would not be to assume returns at either the low or high end of the range of possibilities, but rather to use the best available information and base policy and funding decisions on the most likely outcome. Finally, as will be discussed in the subsequent section, the Commonwealth has acted responsibly in maintaining funding for pensions, compared to other states.

MASSACHUSETTS COMPARED TO OTHER STATES

The cost of public sector pensions has received media attention recently, mostly as a reaction to states' challenging fiscal conditions. It is true that the costs are significant; however, a broad national discussion obscures important differences between states. While some states have made policy choices with detrimental consequences, others, including Massachusetts, have made more responsible choices.

Normal Cost Comparisons

A comparison of states' contributions toward the total normal cost of pensions shows that the Commonwealth's contribution toward normal costs is among the lowest in the nation. Table 4 shows the employee and state contributions toward pensions, as a percentage of pay, for all the state systems that do not participate in Social Security. This table shows the most recent base contribution rates and also does not include incremental contributions (such as the additional 2 percent of income above $30,000 in Massachusetts). Among these states, the Massachusetts teachers' pension system has the lowest state contribution among all pension systems. The state employees' pension system ranks fifth among all systems, but second among all non-teacher pension systems. The state contribution for non-Social Security states would also be low compared to the states that do participate in Social Security. This is because all states that participate in Social Security by definition pay at least 6.2 percent, in addition to the contributions made by these states toward the normal cost of pensions.

Table 4. Massachusetts Among Lowest State Contributions Toward Pensions, as a Percentage of Payroll

Plan	State Contribution	Employee Contribution
Massachusetts Teachers	**0.6%**	**11.0%**
Louisiana SERS	1.7%	8.0%
District of Columbia Teachers	2.0%	8.0%
Alaska Teachers	2.8%	8.7%
Massachusetts SERS	**3.2%**	**9.0%**
Alaska PERS	3.5%	6.8%
Texas Teachers	4.0%	6.4%
Ohio School Employees	4.1%	10.0%
Connecticut Teachers	4.4%	6.0%
Ohio Teachers	4.8%	10.0%
Ohio PERS	4.9%	10.0%
Maine State and Teachers	5.5%	7.7%
Colorado State	5.9%	8.0%
Kentucky Teachers	5.9%	7.6%
Colorado School	6.0%	8.0%
Nevada Regular Employees	6.5%	10.5%
Louisiana Teachers	7.4%	8.0%
Missouri Teachers	8.7%	13.0%
Illinois Teachers	9.3%	9.4%
California Teachers	9.3%	8.0%
Illinois Universities	10.8%	8.0%
Ohio Police & Fire	12.1%	10.0%
Nevada Police and Fire	12.9%	17.3%
District of Columbia Police and Fire	17.7%	8.0%
Maine Local	Varies	6.5%

Source: Final Report of the Special Commission to Study the Massachusetts Contributory Retirement Systems. October 2009.
This table provides an overview of contribution rates for comparison purposes. For a rigorous comparison across states, a more detailed description of each plan and the specific assumptions used to calculate costs would be necessary.

Unfunded Liability Comparisons

The issue of unfunded liability is one that all states with a pension system are working to address. The policy approaches may differ from state to state, but the cost of not having set aside funding for future obligations is one that cannot be avoided. While Massachusetts has made smart choices to reduce the unfunded liability over time, it is still a significant concern for the state. For reasons discussed below, the Commonwealth does not fare as favorably in regards to the unfunded liability, when compared to other states.

A study by the Pew Center on the States comparing the pension liabilities across states identified the Commonwealth as having "serious concerns," as it is among the states with the lowest funded ratios.[13]

[13] The Pew Center on States. "The Trillion Dollar Gap: Underfunded State Retirement Systems and the Roads to Reform." February 2010. Page 12. http://downloads.pewcenteronthestates.org/The_Trillion_Dollar_Gap_final.pdf

One significant factor in the current state of the Commonwealth's unfunded liability is the economic recession. In 2008, before the effects of the economic recession began to affect the pensions system's valuation, the system's assets were valued at $44.5 billion. As market conditions worsened, the assets declined in value and reducing the funded ratio. Table 5 outlines these trends (taken from 2010 Actuarial Valuation Report). The state's funded ratio dropped from 76.8 percent in 2008 to 62.7 percent in 2009. Since then, it has climbed up to 67.5 percent; however, because the actuarial valuation smoothes out economic fluctuations, the full impact of the recession will continue to be felt over the next few years.

Table 5. Recession Increased Unfunded Liability, Decreased Funded Ratio

Year	Unfunded Liability (billions)	Assets (billions)	Funded Ratio
2008	$12.1	$44.5	76.8%
2009	$22.1	$37.1	62.7%
2010	$20	$41.6	67.5%

Source: Public Employees Retirement Administration Commission. Actuarial Valuation Report. 2010.

It is important to note, however that the problem of the unfunded liability began before this recession. Because the state had been using a pay-as-you-go method for so long—from the creation of the system in 1911 until the funding schedule was adopted—those unfunded obligations essentially piled up. Also, because the Massachusetts pension system is the second-oldest in the nation, it had several more years of piling up obligations as compared to states with relatively newer systems.

As mentioned in the previous section discussing the unfunded liability, though this is a significant cost Massachusetts has acted responsibly in working toward the goal of full funding since the establishment of PRIT. Unlike other states that have received media attention, such as California, New Jersey, and Illinois, Massachusetts continued to make annual pension payments toward the unfunded liability throughout economic ups and downs.[14] In fact, the Pew report identifies Massachusetts as a leading state for making among the highest percentage of its annual required contribution toward pensions.[15] Some other states elected to either reduce or forgo making these payments, thus setting back their funding schedules and adding to their liability. In addition, the Commonwealth for the most part did not expand benefits during periods of economic growth when investment returns were high. This helped steady the pensions system and avoid unreasonable costs during economic downturns.

RECENT REFORMS

Overall, though the state employee and teacher pension system is cost efficient for the state, abuses still occur when individuals attempt to "game" the system. Despite the strengths of the Massachusetts public pension system, there are improvements that can be made to tighten the system and prevent further abuse. In fact, several reforms had been passed by the Legislature in 2009 to address certain loopholes, clarify regulations, and improve cost efficiency. The following reforms were enacted as of July 1, 2009:

1. The definition of "regular compensation," which is used to calculate the retirement allowance, was clarified to include just base pay, not incidental or one-time increases.

[14] Public Employee Retirement Administration Commission, Annual Report. 2009. Page 5.
[15] The Pew Center on States, Page 33.

2. Elected officials who do not serve a full year will not be entitled to one full year of creditable service. Also, elected officials must now complete 10 years of creditable service and reach age 55 in order to retire. Prior to this change, elected officials only had to complete 6 years of service.
3. The provision allowing certain persons in uncompensated positions to purchase creditable service was repealed. Also, workers earning less than $5,000 will not be allowed to earn creditable service in that position. Workers who cannot receive creditable service will be required to participate in the alternative plan for public employees not enrolled in the retirement system.
4. Changes were made to the calculation of pension benefits for employees who are employed by more than one governmental unit and are enrolled in more than one retirement system so that these workers would not receive full benefits from each unit.
5. Re-constituted a commission formerly established by Chapter 182 of the Acts of 2008 to study the public pension law. This resulted in the Special Commission to Study the Massachusetts Contributory Retirement Systems, which has been referenced throughout this report.

Further reforms have recently been proposed, both to strengthen the system and prevent abuses, but also to lower costs. These are some of the reforms proposed by the Governor as a second phase of the reforms enacted in 2009.

1. Reducing the salary amount that is used to calculate pension benefits by shifting from the average of three consecutive years of an employees' highest salary to five consecutive years. This would create savings by including a wider range of years, and thus reduce the average on which retirement allowances are calculated.
2. Limiting the annual increases in "pensionable earnings" in order to prevent employees from hiking up their salaries in their last years as active employees.
3. Pro-rating retirement allowances based on workers' employment history and the number of years worked in each group. This would address the issue of employees who shift to a different employee group with greater benefits in their final year of employment.
4. Increasing the retirement age for workers in all groups.