

Workforce Characteristics and Wages in the Public and Private Sectors

INTRODUCTION AND OVERVIEW

The issue of public and private sector wages is part of a larger economic trend in America and in Massachusetts. Over the past three decades, income growth has been much weaker than it was between the Second World War and the 1970s.¹ Between 1979 and 2007, the gap between the richest and poorest Americans more than tripled. In 1979, the highest-income households earned 22.7 times more than the lowest-income households; by 2007, they were earning 75 times more. During this period, the average after-tax income of these highest-income households grew by almost 5 percent annually while incomes of the middle- and lower-income households saw growth rates of less than 1 percent.²

Within this broader trend, important demographic differences between workers have shown to correspond to wage growth on an individual level. Educational attainment of workers plays an especially important role. While wage growth has been relatively stagnant at all education levels in the past decade, in the preceding decades, workers in Massachusetts with less than a college degree saw much slower wage growth than those with higher levels of education.³ In examining wage trends in the public and private sectors, this wage differential for people with different levels of education turns out to be a crucial factor to account for in making meaningful comparisons.

When education is taken into account, public sector workers with a four-year college degree or more (60 percent of the public sector workforce) are paid *less*, on average, than private sector workers with the same level of education. Public sector jobs, however, more often require a college or advanced degree than do private sector jobs. Thus, a comparison of the entire public sector workforce with the entire private sector workforce in the state shows higher overall wages in the sector with more college graduates, the public sector.

The data also show that for workers in Massachusetts with only a high school degree or less, wages are low and stagnant in both the private sector and the public sector.⁴ This is a serious problem and an important issue for policymakers at both the state and national level to address. It is not, however, an issue about a differential between public and private sector wages. It is a separate problem that can be addressed best by policies that would increase wages and expand access to employee benefits in the private sector, or policies that help more people to receive higher levels of education.

¹ Economic Policy Institute, "Median Income Growth Slows Substantially Since Early 1970s." State of Working America. <http://www.stateofworkingamerica.org/charts/view/139>

² Sherman, Arloc and Chad Stone, "Income Gaps Between Very Rich and Everyone Else More than Tripled in Last Three Decades." Center on Budget and Policy Priorities. June 25, 2010.

³ *MassBudget*, "The State of Working Massachusetts 2010." http://www.massbudget.org/documentsearch/findDocument?doc_id=769&dse_id=1414

⁴ There has been a little progress among public sector workers with some college—which includes both those with a two-year degree and those who began college but didn't earn a degree.

Failing to control for the significant differences in the public and private sector workforces has led some to claim that state and local government workers earn more than private sector workers.⁵ As other national and regional reports have shown, factors such as age, experience and gender have an influence on an individual workers' earning potential and that when these factors are accounted for, public sector workers do not earn more than their private sector counterparts.⁶ Because education is generally recognized as the most important determining factor, this paper will focus specifically on the effect of educational attainment on the wages within the public and private sectors.⁷ We examine Massachusetts wage and benefits data from the U.S. Census and U.S. Bureau of Labor Statistics in detail to show and compare the actual wages and benefits for public and private sector workers with the same level of education.

THE PUBLIC & PRIVATE SECTORS: IMPORTANT DIFFERENCES

Meaningful comparisons between wages in the public and private sectors are complicated by two major factors, both having to do with important differences between the public and private sectors. First, comparability between the two sectors can be problematic, as there are distinct occupations that are found exclusively within one or the other sector. Attempting to make one-to-one comparisons between the jobs and wages between the two sectors would be impossible for some jobs. Police officers and firefighters, for example, do not have private sector equivalents. In fact, of the 509 Census occupations, 150 are unique to either the private or public sector.⁸

The second, and related, distinction between the public and private sectors are the characteristics of those in the public and private sector workforces. Years of experience, level of education, and age all influence an individual worker's wages, and if a workforce is comprised more or less of any one type of worker, it will affect the average wages for the entire workforce. Due to the nature of public sector jobs, the public sector is made up of a greater percentage of college-educated workers than the private sector. And because workers with higher education levels earn higher wages, this has a significant impact on the public sector's average wages

MOST PUBLIC SECTOR EMPLOYEES EARN LOWER WAGES THAN PRIVATE SECTOR WORKERS WITH THE SAME LEVEL OF EDUCATION

As mentioned above, a critical factor influencing wages is education. Workers with a higher level of education tend to have higher wages. As shown in Figure 1 below, workers with a college degree earn wages that are 63 percent higher than workers with a high school diploma, while those with a degree beyond college earn more than twice as much as those with only a high school degree.

⁵ The CATO Institute, for example, has shown data that indicate public sector wages are 34 percent higher than private sector wages. Edwards, Chris, "Employee Compensation in State and Local Governments." Tax & Budget Bulletin No. 59. CATO Institute: January 2010. <http://www.cato.org/pubs/tbb/tbb-59.pdf>

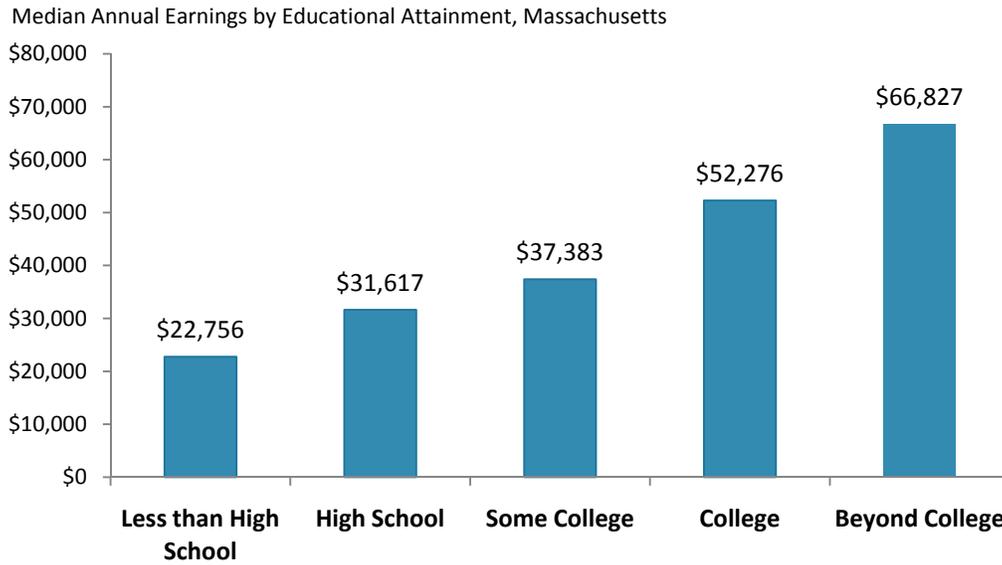
⁶ See Bender, Keith A. and John S. Heywood. "Out of Balance? Comparing Public and Private Sector Compensation over 20 Years." National Institute on Retirement Security and Center for State and Local Government Excellence: April 2010. <http://www.slge.org/vertical/Sites/%7BA260E1DF-5AEE-459D-84C4-876EFE1E4032%7D/uploads/%7B03E820E8-F0F9-472F-98E2-F0AE1166D116%7D.PDF>. For New England analysis, see Thompson, Jeffrey and John Schmitt. "The Wage Penalty for State and Local Government Employees in New England." September 2010.

http://www.peri.umass.edu/fileadmin/pdf/working_papers/working_papers_201-250/WP233.pdf. For additional national analysis, see Schmitt, John. "The Wage Penalty for State and Local Government Employees." May 2010. <http://www.cepr.net/documents/publications/wage-penalty-2010-05.pdf>

⁷ Keefe, Jeffrey. "Debunking the Myth of the Overcompensated Public Employee: The Evidence." Economic Policy Institute: September 15, 2010. http://epi.3cdn.net/8808ae41b085032c0b_8um6bh5ty.pdf

⁸ Bender and Heywood.

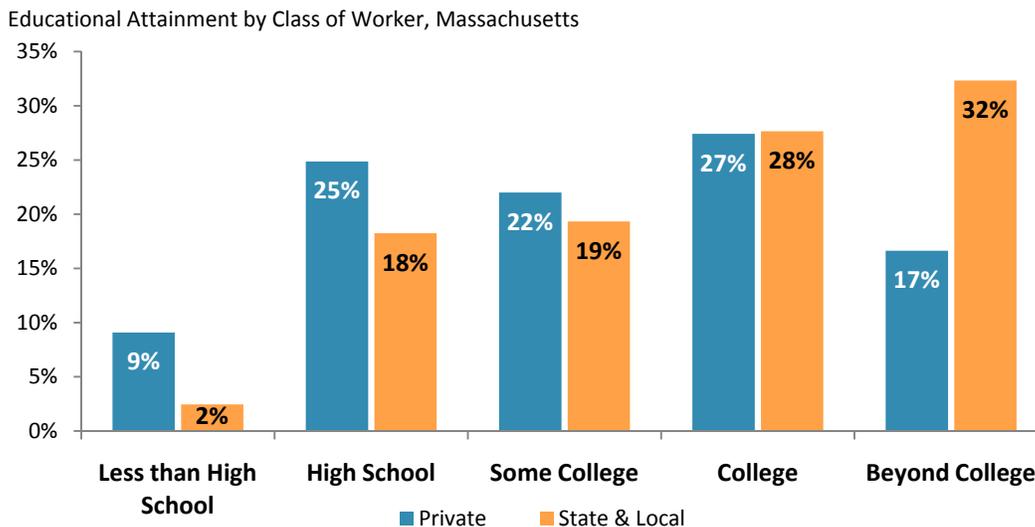
Figure 1. Annual Earnings Increase with Higher Education Levels



Source: 2007-2009 American Community Survey 3-Year Estimates

Nationally, state and local government employees are twice as likely as their private sector counterparts to have at least a college degree.⁹ In Massachusetts, 60 percent of public employees have at least a college degree, compared to 44 percent in the private sector. As shown in Figure 2, the public sector is more heavily populated with workers who have higher educational attainment, while the private sector has higher percentages of workers in the lower educational attainment levels. Given the strong correlation between higher levels of education and higher wages, it is essential to take this distinction between the sectors into account when assessing their wages. An across-the-board comparison would fail to recognize this important difference in the composition of the public and private sectors.

Figure 2. Higher Level of Educational Attainment Among Public Sector Employees



Source: 2007-2009 Current Population Survey, March Supplement 3-Year Average

⁹ Ibid.

Breaking down public and private sector wages by education levels of workers allows for more accurate comparisons. Table 1, and the charts that follow in Figure 3, show the average weekly earnings of state and local government and private sector employees in Massachusetts, between 1994 and 2009, by each level of education. The data show that college-educated workers in the public sector – the majority of workers in the public sector – earn less than their counterparts in the private sector. In 2009, state and local government workers with a college degree earned 17 percent less than private sector workers with the same education. For those with more than a college degree, public sector workers earned 20 percent less. Public sector wages are higher for workers with some college education – by 14 percent, as compared to private sector workers.¹⁰ For those with just a high school degree wages are slightly higher in the private sector. For those without a high school degree wages are slightly higher in the public sector (but that is only 2 percent of the public sector workforce).

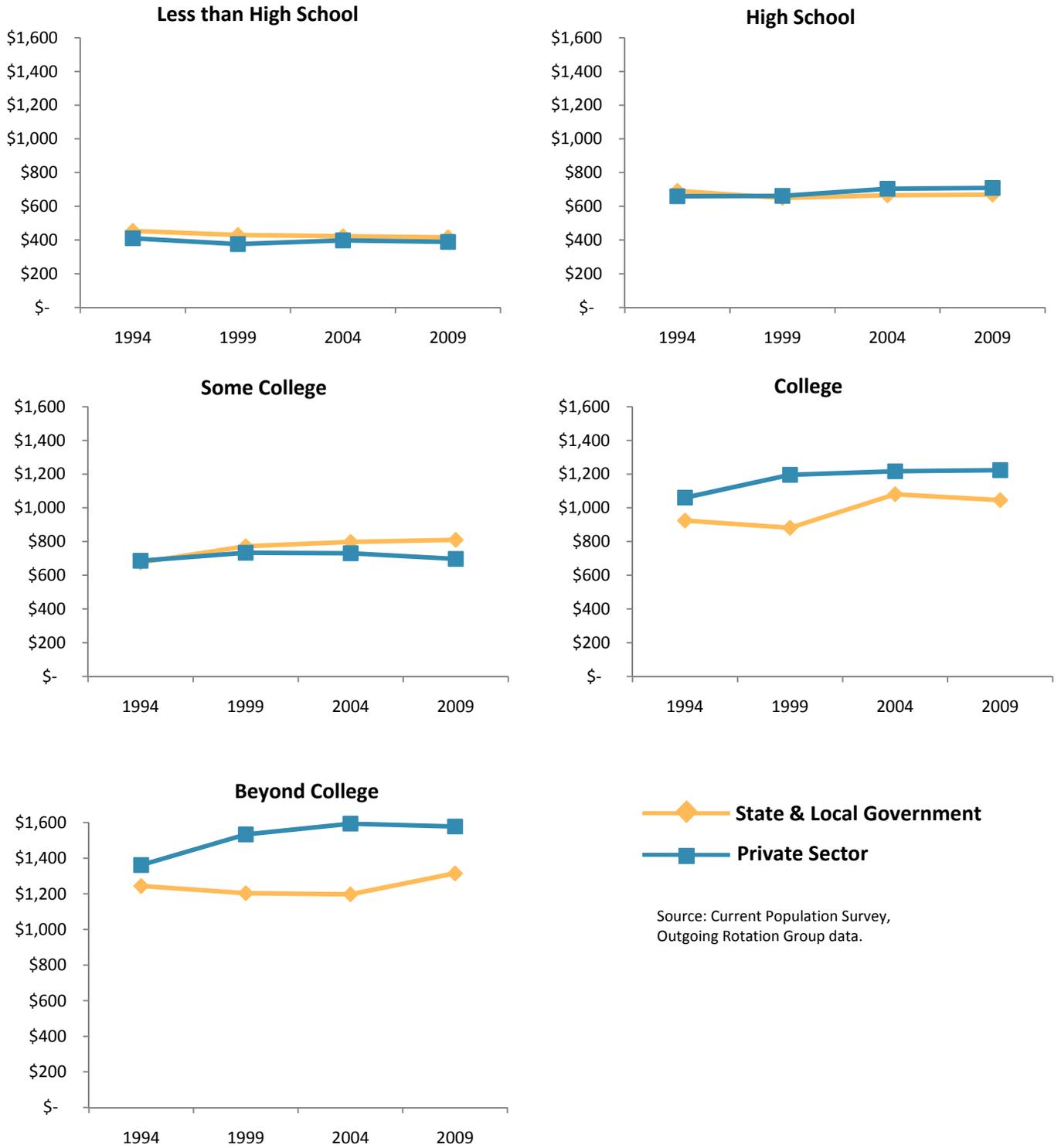
Table 1. Average Weekly Earnings of State & Local Government and Private Sector Workers by Education, Massachusetts

Education Level	Sector	Average Weekly Earnings (Inflation Adjusted)			
		1994	1999	2004	2009
Less than High School	State & Local	\$454	\$430	\$422	\$416
	Private	\$411	\$376	\$398	\$389
High School	State & Local	\$692	\$649	\$666	\$669
	Private	\$659	\$662	\$704	\$709
Some College	State & Local	\$676	\$772	\$798	\$810
	Private	\$686	\$734	\$731	\$697
College	State & Local	\$925	\$881	\$1,081	\$1,045
	Private	\$1,060	\$1,196	\$1,217	\$1,223
Beyond College	State & Local	\$1,244	\$1,203	\$1,197	\$1,315
	Private	\$1,362	\$1,534	\$1,594	\$1,578

Inflation-adjusted using the Consumer Price Index. Source: Current Population Survey, Outgoing Rotation Group data.

¹⁰ “Some college” is defined as those with some college level education but not a four-year degree, those with an associate’s degree, and those with post-high school vocational certification.

Figure 3. Weekly Earnings of State & Local Government and Private Sector Workers by Education, Massachusetts



FACTORING IN EMPLOYEE BENEFITS

To get a comprehensive understanding of the differences between the public and private sectors, it is important also to consider the role that employee benefits play in the total compensation of workers in each sector. As with wages, an accurate comparison would compare workers with the same level of education. Unfortunately, obtaining the necessary data to make an apples-to-apples comparison between the two sectors is very difficult. Nationally collected data on benefits and employee characteristics, such as age or education, which would be needed for a detailed analysis of public and private sector benefits, are not available. Still, there are some benefits data available that can be used to make a few comparisons, such as the Employer Costs for Employee Compensation (ECEC) data collected by the U.S. Bureau of Labor Statistics. The ECEC provides information on the cost to employers, per hour worked, for employee benefits by employer size, occupation, and industry, though not by employee characteristics.

Because of the problem that the data on employee benefits is not available by level of education, approximations are necessary in order to provide a comparison of wages and benefits in the two sectors. At the state level, we were able to obtain additional pension and health care data that allowed for an estimate of private sector and public sector costs specifically in Massachusetts. The Public Employee Retirement Administration Commission (PERAC) provided data on the costs and benefits of the state employees' and teachers' pensions systems. Data on health care costs for Massachusetts' public sector workers were obtained from the state's Group Insurance Commission, while data on private sector health care cost were obtained from the Medical Expenditure Panel Survey, conducted by the U.S. Department of Health and Human Services. One important distinction is that the data on public sector benefits is only for state employees and does not include municipal employees. For this report, the data on state employees is used for all public sector workers, as local data was not available.¹¹

In order to estimate the differences between public and private sector benefits, we compared the cost of these benefits for all state government workers with the cost for private sector workers in large firms (those with more than 100 employees). Because government is most similar to larger firms – all state governments employ over 100 people – the comparison of public sector costs to large firms is the most instructive.¹² In addition, the workforce at large employers is closer to the public sector workforce in terms of level of education than is the private sector workforce overall.¹³ Though this does not provide a comprehensive analysis of the differences between the two sectors, it makes use of the best available data. These data enable some comparisons to be made between the benefits – retirement, social security, and health insurance – provided to public and private sector workers in the Commonwealth.

COMPARING RETIREMENT COSTS

To compare retirement costs between the public and private sectors, we rely on both the data supplied by PERAC on the costs of the public employee pension system and the ECEC survey data on retirement costs for firms with more than 100 employees. A more detailed discussion of the state pension system

¹¹ It is important to note that local public sector health care costs may be greater than state health care costs.

¹² Thompson and Schmitt.

¹³ Ideally we would compare public employees with college degrees to private sector employees with college degrees, but since that data does not exist, we compare public sector employees with college degrees to that sector of the private labor market (large employers) that has a larger share of workers with college degrees. Census data shows that of firms with less than 100 employees, 46 percent have a high school degree or less, compared to 35 percent of firms with more than 100 employees. Also, 35 percent of workers in firms with over 100 employees have at least a bachelor's degree, compared to 26 percent of workers in firms of fewer than 100 workers. (U.S. Census, Current Population Survey, March Supplement, 2009)

can also be found in the *MassBudget* report, “Demystifying the State Pension System.” 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 and the remainder is paid for by the state’s contributions.

Table 2, below, shows that on average the state’s share of the annual “normal cost” of public pensions for current employees is less than the cost of private retirement plans, measured as a cost to the employer per hour worked. The public pension system costs the state \$0.72 per hour worked (2.6 percent of payroll), compared to a cost of \$1.33 per hour worked for private sector firms (4.1 percent of payroll). This is because the total normal cost of most state employee and teacher pensions is funded almost entirely through employees’ own contributions. Workers who joined the pension system after 1996 contribute 9 percent of their annual salary, plus an additional 2 percent of salary that is above \$30,000, toward their pensions.¹⁴ Of course, both costs and employee contributions vary between the different types of state workers. Pensions for state police, for example, cost \$4.65 per hour worked; however, state police also make among the highest employee contributions to their pensions, starting at 12 percent for those joining after 1996. Similarly, retirement costs for private sector workers at different levels of experience, age, and education may also vary. However, the total employer cost of state pensions is still much less than the cost for private sector pensions (\$0.61 less).

Table 2. Employer Costs for Public and Private Sector Pensions & Social Security, 2009

Sector	Retirement (Hourly Cost)	Social Security (Hourly Cost)
Public Sector	\$0.72	\$0
Private Sector, Large Firms	\$1.33	\$1.53

Sources: U.S. Bureau of Labor Statistics, Employer Costs for Employee Compensation (2009) & Public Employee Retirement Administration Commission (2009).

Public employees in Massachusetts receive reasonably good pension benefits. This is primarily the result of two factors: the very large contributions made by state employees into the pension fund, and the ability of the pension fund to 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.¹⁵

Table 2 also points out that public sector workers in Massachusetts are not eligible for Social Security benefits, which results in a significant cost reduction for the state. Because they comprise two of the three “legs” of retirement income, it is important to compare the sum of retirement savings and Social Security income when examining workers’ retirement benefits. Both private sector employers and employees contribute 6.2 percent of employee pay (up to \$106,800) toward Social Security, in addition to the contributions made toward retirement plans.¹⁶ The ECEC data show that for large private sector

¹⁴ Massachusetts State Board of Retirement. “Benefit Guide for the Massachusetts State Employees’ Retirement System.” <http://www.mass.gov/Ctre/docs/retirement/retguide.pdf>

¹⁵ Baker, Dean. “The Origins and Severity of the Public Pension Crisis.” Center for Economic and Policy Research. February 2011. Page 4. <http://www.cepr.net/documents/publications/pensions-2011-02.pdf>

¹⁶ In 2010 the percentage contributed by employees was reduced to 4.2 percent.

firms, the cost per hour worked for Social Security is \$1.53. Since Massachusetts' public sector workers do not participate in Social Security, there is no corresponding cost to the state. When taken together, private sector retirement and Social Security costs are four times more than the cost of public sector pensions. If the state were to eliminate pensions and switch entirely to Social Security for new employees, it would be required to pay the 6.2 percent Social Security tax instead of the 2.6 percent it contributes toward pensions, which would be much more costly.

The public sector costs described above are all associated with the "normal costs" of current employees – this is the amount of pension benefits that current employees are earning year to year during the course of their employment. For these employees, the state sets aside funding in order to fulfill these obligations when the employees retire. One complicating factor in looking at public sector pension costs is the "unfunded liability," which are the costs for promised pension benefits that the state had not previously set aside funding for. Until the early 1990s, the state had not been setting aside any funds for promised benefits. The accumulation of these costs is referred to as the unfunded liability. Because the unfunded liability is a cost associated with former pension obligations, it is not accurate to include this cost when comparing the cost of compensation for current employees. Nevertheless, it is a significant cost of about \$20 billion, which the state has been working to reduce over several decades.

Another complicating issue in looking at the cost of public sector retirement is retiree health and other postemployment benefits. However, there are two important distinctions between other postemployment benefits and pensions: first, other postemployment benefits are not guaranteed, so the state can elect to reduce or discontinue offering these benefits; and second, the state is not currently pre-funding, or setting aside funding, for these obligations. If the state continues to provide postemployment benefits at the rate it currently does, the normal cost would amount to approximately \$2.52 per worker per hour.¹⁷ It is also difficult to compare this cost to the private sector because aggregate data on private sector retiree health costs do not exist. We do know that most private sector employers do not provide these benefits at all. In fact, only 12 percent of private sector workers provide retiree health benefits.¹⁸

The state's cost for actual pension benefits for current employees is significantly lower than the cost paid by private employers for Social Security and pensions. The challenge in making a comprehensive comparison, however, is in determining how to account for the health care benefits that the state currently provides to retired employees, but is not obligated to provide in the future. If the state is still providing those benefits when current employees retire – and if it is providing the same level of benefits it is now providing – that would be a significant additional benefit. If one assumes that the state will not be providing health benefits for retired employees when many current employees retire, then its overall retirement costs for current employees are significantly lower for the state than for private sector employers. If one assumes that the state will make no reductions in health care benefits for retired employees, then the costs would be slightly higher in the public sector. If the state continues to provide these benefits, but limits eligibility or benefits – either directly or indirectly by increasing the retirement age – then retirement-related costs for current employees would likely be somewhat lower for the state than for typical large private employers.

¹⁷ Aon Consulting. "Postemployment Benefits Other Than Pensions Actuarial Valuation." January 1, 2009. http://www.mass.gov/Aosc/docs/reports_audits/OPEB/2009_OPEB_Valuation.pdf

¹⁸ Massachusetts Division of Health Care Finance and Policy. Massachusetts Employer Survey. 2009. http://www.mass.gov/?pageID=eohhs2terminal&L=4&L0=Home&L1=Researcher&L2=Physical+Health+and+Treatment&L3=Health+Care+Delivery+System&sid=Eeohhs2&b=terminalcontent&f=dhcfp_researcher_all_dhcfp_publications&csid=Eeohhs2

COMPARING HEALTH CARE COSTS

Using private sector data collected by the Medical Expenditure Panel Survey (MEPS) for Massachusetts and data published by the state’s Group Insurance Commission, we can estimate the differences between public and private sector health care costs (Table 3, below). Compared to the public sector, private sector workers’ health coverage costs less by \$2.86. Health care accounts for an average of 20 percent of compensation in the public sector and accounts for an average of 8 percent in the private sector. A first look at the data below suggests a substantial gap between public and private sector health care costs. However, the private sector data include a significant percentage of workers who are not enrolled in health care through their employers, about 42 percent of workers. When we examine the costs for only those private sector workers who are enrolled in health care coverage through their employers, the private sector costs increase to \$3.42 per employee. For comparison purposes, however, we will use the lower \$1.97 amount for private sector health care costs.

Table 3. Public and Private Sector Health Care Hourly Costs, 2009

Sector	Health Care Cost
Public Sector	\$4.83
Private Sector, Large Firms, All Employees	\$1.97
Private Sector, Large Firms, Covered Employees Only	\$3.42

Sources: U.S. Department of Health & Human Services, Medical Expenditure Panel Survey (2009) & Group Insurance Commission Annual Report (2009)

COMPARING TOTAL COMPENSATION

Table 4 includes a summary of all the components of total compensation – wages, retirement, and health care. Even after accounting for both wages and the best estimates for employee benefits, we find that among workers with a college education or more – again, 60 percent of the public sector workforce – total compensation is still below compensation for their private sector counterparts. It is as important to make this distinction for those with less than a college degree, as those with less than a college degree – 40 percent of the public sector workforce – earn more in total compensation in the public sector. Table 4 includes the cost of other postemployment benefits, assuming that these benefits would continue to be offered at their current levels. As mentioned previously, however, there is a likelihood that postemployment benefits will be adjusted to reduce costs in the future.

Table 4. Employer Cost for Public and Private Sector Total Hourly Compensation, 2009
Summary of Costs

Sector	Educational Attainment	Average Wages	Retirement	Other Postemployment Benefits	Social Security	Health Care
Public	Less than High School	\$10.40	\$0.72	\$2.52	\$0	\$4.83
	High School	\$16.72				
	Some College	\$20.25				
	College	\$26.14				
	Beyond College	\$32.88				
Private	Less than High School	\$9.72	\$1.33	n/a	\$1.53	\$1.97
	High School	\$17.72				
	Some College	\$17.43				
	College	\$30.59				
	Beyond College	\$39.45				

Totals

Educational Attainment	Public	Private	Private-Public
Less than High School	\$18.47	\$14.55	(\$3.92)
High School	\$24.79	\$22.55	(\$2.24)
Some College	\$28.32	\$22.26	(\$6.06)
College	\$34.21	\$35.42	\$1.21
Beyond College	\$40.95	\$44.28	\$3.34

This comparison illustrates the importance of accounting for differences in the two sectors before making broad generalizations. It is clear that educational attainment is an important factor in determining the wages earned by workers in each sector. For benefits, however, because data do not exist by education level, we should be cautious in drawing conclusions. This analysis uses the same benefits data across educational levels. For workers with higher levels of education, this likely underestimates the difference between total compensation in the public and private sectors – and again, because workers with at least a college degree make up the majority of the public sector workforce, a truly accurate comparison would necessarily have to account for this distinction.

There is a problem of less-educated workers earning low wages and receiving poor benefits, particularly in the private sector. Although this is an issue that reaches beyond the discussion of public and private sector compensation, it can be addressed through public policy decisions. For low-wage workers, increased access to benefits can provide a bridge to greater economic security. Publicly subsidized health care, for example, fills a vital gap for workers in Massachusetts who are not provided health care at work and who could not afford health coverage otherwise. National health care reform will also help fill this gap. Similarly, providing access to state-operated retirement plans would allow low-wage workers the opportunity to save and plan for their futures – something that many low-wage earners and small employers cannot afford on their own.¹⁹ Policies could also be put in place to help

¹⁹ *MassBudget*, “Universal Voluntary Retirement Accounts: Expanding Employee Savings Opportunities,” <http://massbudget.org/doc/740>

workers achieve higher levels of education and training in order to increase their potential to earn a higher income. These solutions would not only benefit low-wage workers, but would also be beneficial for the economy as a whole.

CONCLUSION

In both the private sector and the public sector, workers with more education receive higher salaries. Public sector workers in Massachusetts with higher levels of education, however, earn less than private sector workers with the same level of education (at least a bachelor's degree or higher), and earn less in overall compensation after factoring in retirement and health benefits. Claims that public sector wages are higher than private sector wages ignore the significant differences in the composition of the public and private sector workforce: overall public sector jobs require higher levels of education than private sector jobs, so even though public sector workers get paid less than private sector workers with the same levels of education, the average salary overall is higher. Furthermore, misconceptions about the state's public employee pension system obscure the fact that the state's cost for current employee pensions is very low. Most new employees almost entirely fund their own pensions, with little to no state contribution. Though there are legitimate concerns regarding the cost of unfunded liabilities, particularly in light of the nation and state's current fiscal constraints, the issues are often presented without careful attention to the situation in Massachusetts. In fact, compared to other states, the Commonwealth has acted responsibly in funding the state pension system. A full discussion of the state pension system can be found in our companion brief, "Demystifying the State Pension System."

There is a problem with wages in Massachusetts and America: workers with less education often have poor or no employer-provided pension and health benefits and have had stagnant wages for two decades even as productivity has increased.²⁰ Finding solutions to increase private sector wages and improve access to pensions and health care for less educated workers – and helping more young people to attain the levels of education needed to get a job that pays enough to support a family – are crucial public policy challenges. Public sector wages for well-educated workers will likely continue to lag those of their private sector counterparts, but that gap is far less important than the challenge of creating a strong economy where the benefits of economic growth are broadly shared.

²⁰ Economic Policy Institute analyses of Current Population Survey, Outgoing Rotation Group data and Major Sector Productivity and Costs Index from the Bureau of Labor Statistics.