

# Briefing Paper

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## THE TRUTH ABOUT PUBLIC EMPLOYEES UNDERPAID OR OVERPAID?

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### Introduction

The debate surrounding state and local governments' ability to set wages at an appropriate level has recently taken on renewed vigor as financial pressures on government to reduce costs have increased. As the private sector discovered in the 1980s, employee wages and benefits are one place to seek cuts. However, the effect of wage and benefit reductions on the quality and delivery of services as well as the possible ripple effect on wages in related industries has not been established yet.

How the public sector sets its wages has always been controversial. The notion of comparability—identifying and matching the wages of workers with similar experience performing like jobs—dates back at least fifty years.<sup>1</sup> One must compare like with like: accountants with accountants and not with sales clerks, college graduates with college graduates and not with high-school dropouts.

In addition to the problems associated with determining comparability, other issues affect public sector wage determinations such as special compensation for the unique responsibilities and hazards faced by the uniformed services. Public policy and opinion also may make replication of certain aspects of the private sector compensation system unacceptable. For example, we expect the public sector to serve as a model employer, treating all employees equally rather than replicating the problems in the private sector such as patterns of racial and gender wage discrimination. In addition, the public sector has played a leading role in establishing employee pension systems and in providing due process. Likewise, we may prefer government to improve the health care insurance system rather than replicate the problems of the private sector.

This paper provides an analysis of whether the state and local public sector overpay their employees and whether public sector wages and benefits are rising

more rapidly than those in the private sector. The major findings include the following:

- States, on average, compensate their employees at a level comparable to similar private employees (within 1.5 percent), even without controlling for issues such as discrimination and the uniqueness of some public sector jobs:
- The average wages and earnings of local governments' employees remain four to five percent below that of comparable private sector employees;
- The relative wage "advantage" of state and local employees in 1989 is scarcely different from that of twenty years ago. The gross differential between public and private wages has increased through the period, but after adjusting for the occupation and education advantages of public sector workers, there is no evidence that the wage difference of *comparable* public and private sector workers changed from 1973 to 1989;
- The increased likelihood that public sector workers will receive a pension compared to private workers drops considerably—from 37.7 to only 14.2 percentage points for state workers and from 29.8 to only 12.2 percentage points for local workers—when factors such as individual characteristics and firm size are taken into account:
- Many private firms, in an effort to cut costs, are exempting groups of workers, such as part-time employees, from pension plans. Additionally, the cost per employee of a pension plan is much higher for small firms, typical of the private sector, which cannot take advantage of agglomerations of size and therefore frequently do not provide pension coverage. Studies which do not account for these differences between the public and private sector provide inappropriate comparisons: and,
- There is no evidence that public workers have substantially longer job tenure than comparable private sector workers. State workers have roughly the same tenure as comparable private workers and local government employee tenure is only about five months longer.

Thus, this paper shows that after controlling for individual and firm differences, the wages of public and private workers are roughly comparable. Further, as in the case of local government employees' wages, public sector workers sometimes fare worse than comparable private employees. Overall, the concern over public sector wages as an escalating cost is overstated because it reflects the rising cost of white-collar workers in all sectors, public and private.

## How We Make Workers Comparable

By rewarding performance, maintaining equity, creating stability, and reducing unnecessary costs, a good compensation system creates and promotes individual effort and organizational efficiency. Most compensation systems, be they private or public, base wage levels on how similar employees performing like tasks are paid at competitive firms. Achieving this “external comparability\*\* is important since compensation above the level paid to workers with equivalent jobs in other firms may represent an excess cost. Similarly, compensation lower than that for equivalent jobs creates an incentive for the best employees to move to other organizations.

Much of the effort in constructing a compensation system is in finding appropriate “comparables.” One needs to compare like jobs. Similarly, we need to compare individuals who have similar educational attainments and are at similar points in their careers. Such adjustments are particularly important in making comparisons between the public and private sector because there are marked differences between public and private employees in terms of occupational and educational attainment.

Although the body of research on public sector wages provides little evidence of universal overpayment at the state and local levels, the belief that state and local governments overpay their employees does get support from studies that ignore the issue of comparability. An example is the recent work, “America’s Protected Class: Why Excess Public Employee Compensation is Bankrupting the States” (Cox and Brunelli 1992). that argues that state and local compensation has increased so quickly over the past decade that it outstripped the increase in the private sector by a factor of four. Using figures from the U.S. Bureau of Labor Statistics and the Bureau of Economic Analysis Wendell Cox and Samuel A. Brunelli report that, while private sector compensation rose by 55.6 percent between 1980 and 1989, public sector compensation rose by 72.5 percent (1992, p. 6). This, they suggest, has caused public wages, salaries, and compensation to forge “well ahead of the private sector in the quantity and quality of compensation.” They present data showing that public employees have lower job turnover rates than those in the private sector as further evidence of overcompensation (Cox and Brunelli 1992, p. 25). Cox and Brunelli use these statistics to argue for competitive contracting of government services and legislation to cap public sector pay raises.

**Table 1** shows the age, education, gender, occupational distribution, and average wage of employees in the private sector, state government, and local government.<sup>2</sup> Beginning where Cox and Brunelli left off, Table 1 reveals that the average wage of

**Table 1**  
**Distribution of Employees Characteristics: 1989**

	Private	State	Local
<b>Individual Characteristics:</b>			
Education (avg. years)	12.9	14.4	14.4
High school	45.3%	50.2%	46.7%
College	20.5	43.6	45.8
Under 25	15.9	7.4	5.4
25 - 55	74.6	80.8	81.7
Over 55	9.5	11.8	12.9
Female	46.1	52.5	58.6
Minority	13.5	17.3	17.5
<b>Occupational Distribution:</b>			
Managers	12.3%	15.7%	10.3%
Professionals	9.7	30.1	39.0
Technicians	3.5	5.4	1.9
Clerical	16.6	21.5	17.1
Sales	12.6	1.0	0.5
Craft	13.7	4.2	4.4
Operatives	9.9	5.6	0.6
Transport	4.9	1.8	4.3
Laborer	4.5	0.8	1.3
Average Wage (per hour)	\$10.26	\$12.06	\$11.34
Average Job Tenure (years)	6.75	8.31	9.15

Source: Data obtained from the 1989 Annual Earnings File of the U.S. Bureau of Labor Statistics.

employees in the private sector is \$10.26, \$12.06 in the state sector, and \$11.34 in the local sector. Translated into differences between public and private wages, these figures suggest that if we ignore differences in education, occupation, and experience, state employees earned 17.5 percent more than private workers while the local employee premium is 10.5 percent.

### **Adjusting for Differences in Education, Experience, and Occupation**

But, these “raw” averages compare very different groups of workers. Because public sector workers have more education and experience, and are more likely to be professionals and managers, one would expect the average wage of public sector workers to be higher. As Table 1 shows, average education in the private sector is 12.9 years, but it is 14.4 years in both state and local government. Over forty percent of state and local employees have a college degree, but fewer than 21 percent of

**Table 2**  
**Estimates of Public/Private Wage Gap: 1989**

	No Controls	Occupation Controls	Education Controls	All Controls
State	18.8%	11.5%	7.8%	1.5%
Local	13.9	6.6	3.7	-4.5

**Source:** Data obtained from the 1989 Annual Earnings File of the U.S. Bureau of Labor Statistics.

private sector employees are college graduates. The difference in the distribution of ages is also striking. The private sector has many more young workers, individuals who are just beginning to work and may not yet have been able to find a career track position. In contrast, the public sector has many prime age and older workers, workers who are more likely to have settled in their positions, who are working their way through career ladders, and who have substantial work experience. Moreover, although professional employees comprise less than ten percent of the private labor force, they comprise approximately thirty percent of the state and forty percent of the local labor force. In contrast, we find craft workers, sales workers, and laborers far less common in the public labor force than in the private sector.

There are also marked contrasts in the racial and gender composition of the two sectors. Female workers make up 46.1 percent of the private sector workforce, 52.5 percent of the employees of state government, and 58.6 percent of the employees of local government. Similarly, a less dramatic pattern exists for non-white workers. They make up 13.5 percent of the private workforce, 17.3 percent of the state labor force, and 17.5 percent of the labor force of local government.

**Table 2** illustrates the importance of adjusting for these differences in the occupational and educational distributions between the sectors. Without controls for any factors, we find that state employees receive an 18.8 percent wage premium and local employees are paid 13.9 percent more than private employees.<sup>3</sup> With controls for occupations, these premiums fall to 11.5 percent and 6.6 percent. Adding controls for education causes a further decline to 7.8 percent for state employees and to 3.7 percent for local employees. Additional controls for gender, race, marital status, collective bargaining status, part-time work status, and region cause further declines. Using all controls, we find that state workers earned 1.5 percent more than comparable private sector workers, while local governments paid their employees 4.5 percent less than similar private sector workers.

**Table 3**  
**Estimates of Public/Private Wage Gaps**

Researchers	Estimate for Year	State Employees			Local Employees		
		men	women	avg.	men	women	avg.
Sharon Smith	1973	-0.3%	12.0%	4.6%	-4.9%	3.6%	-1.5%
Moore and Raisin	1979-1983	--	--	0.7	--	--	-4.3
Belman and Heywood	1983	-3.5	1.1	-0.7	-7.8	-6.4	-9.5
Belman and Heywood	1989	-0.9	4.1	1.5	-6.0	-3.4	-4.5
Percentage Point Change in Public/Private Wage Gaps							
	1983- 1989	2.6	3.0	2.2	1.8	3.0	5.0

Notes: S. Smith's work is based on the May 1973 CPS. The average state and local employee wage differential is obtained by weighing the differential for men and women by the proportion of men and women in the overall sample and summing.

Moore and Raisin combined the May 1979 and May 1983 CPS and benefits survey to obtain their estimates. They have defined public employees as those working in the public administration industry. Public employees in other industries are treated as part of the private sector. The authors include controls for employment by the postal service and in education.

Belman and Heywood (1983) use the May 1983 CPS and Benefits Supplement.

Belman and Heywood (1989) use the Annual Earnings Files of the U.S. Bureau of Labor Statistics. This includes all individuals who are asked questions about earnings in any of the twelve monthly CPS surveys.

The discrepancy between the state level premiums (**18.8** percent without any controls for differences in the workforce and 1.5 percent with controls) is the result of differences in occupations, age, sex, and educational levels of state and private sector workers. The positive premium for state employees is due to the high proportion of women in state workforces. Men working for state government are, after controlling for the higher level of education and occupational attainment of public employees, paid 0.9 percent less than their private sector counterparts. As we will see later, what appears to be a bonus of 4.1 percent in wage to female state employees may actually reflect less sex discrimination in the public than private sector.

**Table 3** shows the results of seminal works in modern public/private wage comparisons, "Government Wage Differentials" and "Government Wage Differentials by Sex" by Sharon Smith (1977 and 1976, respectively). Smith began with the premise that comparability means individuals should receive the same return to

educational and occupational attainment (the individual's human "capital") wherever they work. Using the 1973 Current Population Survey (CPS—a monthly survey of American households taken by the Census Bureau), she found that, without adjustments for comparability, female state employees earned 25 percent more than women in the private sector, while male state employees received an 8 percent premium. The wage premium for local employees was 32 percent and 3 percent respectively for women and men. She used statistical controls to account for differences in education, occupation, work experience, marital status, race and ethnicity, veteran status, geographic and metropolitan location, union membership, dual job holding, and part-time status. Controlling for these individual characteristics, Smith reported that women in state government earned 12 percent (rather than 25 percent) more than comparable private sector women, while men employed in state government earned the same (not 8 percent more) as comparable men in the private sector. Local premiums underwent a more dramatic decline, with women earning only 3.6 percent (versus 32 percent) more than their private sector counterparts, and men earning 4.9 percent less (not 3 percent more) than comparable men in the private sector. Smith's research exemplifies the importance of adjusting the raw numbers. Wage premiums adjusted for comparability are half or less of the unadjusted premiums and, for men working for local government, shift from positive to negative.

### **Differences in Discrimination between the Public and Private Sectors**

As Smith notes, this pattern of wage premiums by gender could be the result of the public sector guarding against gender discrimination in pay and promotion. The lack of a positive premium for men employed in the public sector shows that the public pay system does not have a universal tendency toward overcompensation. The extensive legal and administrative safeguards developed in public sector organizations, the level of public scrutiny that has developed over the years, and the openness of wage and promotion decisions, would make practicing discrimination more difficult in the public than private sector. In contrast, there is considerable evidence of discrimination in wages and employment in the private sector (for a review covering this issue see Blau 1984).

Our analysis of the 1989 wage data shows that less sex discrimination in the public sector explains most of the wage "premiums" received by public, female employees.<sup>4</sup> We investigate this question by adapting Smith's approach. We find that women have a wage that is 23.4 percent lower than men's in the private sector, 17.9 percent lower wage when employed in state government, and 16.5 percent lower wage when employed in local government.<sup>5</sup> Although women appear undercompensated in

all sectors relative to men of similar characteristics, in the state and local government sectors they are between 5.5 and 6.4 percentage points, respectively, better off than women in the private sector. The 5.5 percentage point difference of male/female relative earnings in state government needs to be compared to what Table 3 shows. In Table 3, female, state employees earn 4.1 percent more than comparable private sector, female workers. So, combined with Smith's findings, these results strongly suggest that much of (and perhaps all of) the difference in wages between women employed in the public and private sectors can be attributed to gender discrimination in the private sector.

### **What Has Happened to Wage Differentials Between 1980 and 1989?**

The assertion that public sector wages grew out of line in the 1980s is not supported by the available economic research. If Cox and Brunelli's implication is correct, we should find public sector wage premiums to be much higher at the end of the 1980s than at the beginning. Table 3 presents research by Sharon Smith covering the mid-1970s, the work of William J. Moore and John Raisin (1991) covering 1979 and 1983, our own published work covering 1983 (1991), and some recent work of ours using the BLS Outgoing Rotation Annual files for 1989.<sup>6</sup> Like our work, the other researchers base all estimates on household data collected by the U.S. Bureau of the Census. These studies use similar, but not identical controls for worker characteristics in their estimates. As the Census Bureau household surveys do not include data on total compensation (wages plus the cost of employer-provided benefits) all comparisons are limited to wage and salary figures,

Cox and Brunelli (1992) claim that the wages and salaries of state and local government employees rose by 13.6 percent more than the wages of private sector employees in the 1980s. But a survey of studies that adjust for occupation and education shows that the gap between public and private wages and salaries has changed little over the period between 1973 and 1989 (see Table 3). Comparing Moore and Raisin's research on the period 1979-1983 with our research on 1989, we find a small increase in the public sector wage premium between 1979-1983 and 1989. The state employees' premium over the private sector increased by 0.8 percentage points, from 0.7 percent to 1.5 percent over the period. The local employee wage premium actually declined by a minuscule 0.2 percentage points, from -4.3 percent to -4.5 percent.<sup>7</sup>

Moore and Raisin have however restricted their definition of the public sector to individuals working in the public administration industry, the legislature, uniformed services, administrative departments, and the like. They included teachers, govern-



ment employees at public medical facilities, and other non-public administration employees in the private sector.<sup>8</sup> In our work with the May 1983 CPS, we treat these public employees as part of the public sector. With this revision, we find that state employees' premium rose by 2.2 percentage points, from -0.7 percent to 1.5 percent between **1983** and 1989. Local government employees improved their position, relative to the private sector, by 5.0 percentage points between 1983 and 1989. But, far from showing that local employees were improving their lead, this represented a partial catch-up in which local governments moved from paying their employees 9.5 percent less than comparable private sector workers to paying 4.5 percent **less**.<sup>9</sup> They remain behind. There is no evidence in these figures that public employee wages rose at much higher rates in the 1980s than those of the private sector.

Breaking these figures down by gender does not greatly alter the results. Table 3 shows that men in state employment improved their wages by 2.6 percentage points relative to the private' sector, to finish the decade 0.9 percent behind comparable private sector workers. Women in state employment improved their wage premium by 3.0 percentage points and ended the decade 4.1 percent ahead of the average for women in the private sector. Local employees also saw a modest improvement in their relative wages. Men improved their premium by 1.8 percentage points, women's premium rose by 3.0 percentage points relative to comparable private sector employees, but both groups remained behind comparable private workers by three to six percent in 1989.

This research provides no evidence that, by 1989, public employee wages were much above that of comparable private sector employees. Instead, we find small, positive wage premiums for state workers and modest negative premiums for local workers. Even in the former case, the positive premiums are due to the premiums earned by women: men in state employment are paid slightly less than their private sector counterparts. And again, our findings are as equally consistent with the premiums earned by women being the outcome of less discrimination in pay and promotion in the public sector as finding that public sector women are **overpaid**.<sup>10</sup>

Extending our analysis back to the mid-1970s suggests that the modest public sector gains in the 1980s restored a previous balance between the public and private sector. Compare Smith's estimates of the state and local wage premiums to those we found for 1989. Apparently over this longer period the public sector has just kept up with, or even fallen behind, the private sector. Men in the state and local government have seen their relative wage disadvantage worsen by 0.6 percent for state employees and by 1.1 percent for local employees. Women in state government have seen a substantial wage premium, 12.0 percent, fall to 4.1 percent over the sixteen years. Women in local government have seen a wage premium of 3.6 percent reverse itself and become a wage deficit of 3.4 percent.<sup>11</sup>

Comparison of the results found in studies by various researchers done at different times is always difficult. Perhaps not too much should be made of moderate differences in results. Changes of a percent or two across studies could readily be ascribed to the chances of sampling or differences in specification and populations. Nonetheless, the type of change discussed by researchers such as Cox and Brunelli, **13 to 14 percent**, is not apparent in any of these studies.

What explains the contrast between the large increase in per capita expenditures on wages and salaries by state and local government relative to the private sector and the simultaneous stability of public/private wage premiums? In part, as already discussed, this can be attributed to studies which compare non-comparable workers. Once we compare state and local government employees to comparable private sector workers, large wage gains vanish. There is no evidence that wages of public sector workers are forging well ahead.

What Cox and Brunelli have mistaken for an unprecedented wage expansion by public employees is, instead, a relative decline in the economic well-being of the less-educated and less-skilled worker in our country. That is a group much more likely to be found in the private than the public sector. Work by Lawrence Katz and Alan Kreuger (1991) provides some answers. In the decade of the 1980s, private sector employees with college educations did fairly well. Although the real wage (wages adjusted for changes in purchasing power because of inflation) of men with college degrees was stagnant, women with college degrees experienced wage increases of about ten and eleven percent. Those without college degrees, almost eighty percent of the private sector labor force, saw their real wage decline by 15 to 27 percent.

As shown in Table 1, the state and local government workforce is far more likely to have graduated from college than the private sector labor force. Therefore, comparison of public employees to the average private employee produces results in which public wages are seen to be increasing rapidly, particularly in contrast to the real wage setbacks experienced by the “average” private employee in the 1980s. However, focusing on a comparable group of college-educated private and public employees, we find that the wage increases of state and local public workers were remarkably ordinary.

Are Public Sector Benefits Excessive?

Fifty years ago, comparisons of economic well-being could have stopped with wages and salaries. Today benefits such as pensions, vacation, sick leave, health insurance, life insurance, and funeral leave are important parts of the compensation

package. However, comparing benefit packages is much harder than comparing wages due in part to difference in terminology, plan options, employer goals, and the timing of benefit disbursement.

As in the previous discussion of wages and salaries some researchers conclude that public employees receive excess compensation. For, example, as with wages and salaries, there are allegations that public employees receive excess compensation. Don Bellante and James Long (198 1) calculate that “overpayment” to state employees increases from 2.2 percent to 6.2 percent when the cost of fringe benefits enters the calculation. And, when they include benefits for local employees, overpayment rises from a deficit of -5.0 percent to a premium of 1.1 percent. Applying a methodology similar to what they used for wages, Cox and Brunelli found that, on average, public sector benefits rose 23 percent more than those in the private sector from 1980 to 1989. Such simple but large figures mask difficult issues.

A comparison of benefits between the public and private sectors presents challenges because of the complexity of benefit plans and the limits on information available to researchers. For example, a straight comparison of benefit plans reveals that public employees receive several more days of vacation per year than private sector employees of similar job tenure. However, the vacation benefit plays a different role in the public than the private sector. While a private employee’s vacation benefit is likely to be supplemented by funeral leave, personal days, and other forms of leave, the public employee’s vacation plan, often called annual leave, typically incorporates all the forms of leave available to the private sector employee. Proper comparison of public and private leave would require increasing private sector vacation time for these additional forms of leave.<sup>12</sup> The need for this type of detailed adjustment makes broad, less-detailed comparisons across employers problematic.

Comparison of retirement plans presents even more difficult problems as the plans are complex and may be composed of various combinations of pension, Individual Retirement Accounts, and profit sharing plans. Pension plans themselves vary in many dimensions. Plans may be defined contribution, where the employer places an assured amount into the plan each year, or defined benefit, where the employer guarantees a payment upon retirement based on some combination of age, years of service, and final salary. Since one type of plan fixes the costs, but provides an uncertain benefit, and the other type of plan fixes the benefit, but gives employers an uncertain cost, it is very difficult to compare the relative costs or benefits of the plans. This complicates public/private comparisons because the private sector is more likely to provide defined contribution plans and the public sector defined benefit (Lovejoy 1988).

Even within types of plans, differences in the generosity of benefit formulas, in assumptions about interest rates, and the timing of funding can make comparisons nightmarish. For example, the cost of the federal pension system increased considerably in the 1980s because Congress did not provide adequate funding in earlier decades. If we compared the actual cost of the system to a private defined payment system in the 1980s, the federal system would look very expensive. If we repeated this exercise in the 1970s, we would likely get the opposite result. In fact, it is the timing of payments, not the true cost, which is driving the outcomes.

In a similar vein, many private firms were able to reduce their pension costs in the 1980s by investments in high-yield “junk” bonds. But, the collapse of the junk bond market in the late 1980s has resulted in reducing some retiree’s pension payments by 30 percent or more and will force some firms to refinance their pension plans. Again, we face a problem assessing the employer cost and the benefit amount when assumptions about the future play such a large role in their determination.

As noted, plans in the public sector are more likely to be defined benefit than plans in the private sector. This type of plan has the advantage to the public of encouraging longer tenure since benefits are typically based on both years of service and final salary. Public plans tend to be more generous in their payments, but they also are more likely to require employee contributions (Lovejoy 1988). The greater generosity of state and local pensions also may be somewhat misleading since private sector plans are supplemented by social security payments, while fully one-quarter of state and local employees were not covered by social security in 1988. Similarly, while private employees often had access to profit sharing, stock purchase, or employer-supplemented savings plans, such quasi-retirement plans were not available to public sector employees (Lovejoy 1988). Each of these differences present factors affecting how a researcher might compare either the cost or the benefits from a plan, as well as decide what set of pension, profit sharing, and saving plans actually constitute the “retirement” plan.

Sophisticated research on benefits is difficult because of limited information. The household surveys of the Census Bureau only ask questions about benefit coverage, not about employer cost, and then only once every five years. So, benefits research is more tentative in its conclusions than wage research. As happens for wages, there is substantial evidence that benefit coverage needs to be adjusted for individual characteristics. The work of William Even and David MacPherson (1990) show that the probability of receiving benefits such as pension coverage and health insurance is greater for those with more education and greater labor market experience. Other research shows that, although overall local government employees are

**10.3** percent more likely to be covered by employer-supplied health insurance than private employees, this declines to 2.3 percent once adjusted for individual characteristics (Belman and Heywood 1991).<sup>13</sup> Similarly, while state employees' unadjusted health care coverage advantage is 14.4 percent, this falls to 6.6 percent once adjusted for individual characteristics. Heywood (1991), using a sample of public administrators, reports similar results after adjustment for characteristics. His findings include little excess probability of coverage on health and life insurance and some excess probability of coverage on pensions.

Using the May 1983 Current Population Survey benefit supplement, we find that while 90 percent of state employees and 86 percent of local government employees work for organizations offering pension plans, barely 58.4 percent of private sector employees work for firms that offer a pension plan. Why this difference? Part of the difference may be attributed to the size of the employer and the employment location (geographic region, i.e., Northeast, Pacific, etc., and metropolitan-non-metropolitan status). Small employers, those with fewer than 25 employees, make up 40 percent of the private sector. Such employers find offering benefits burdensome because of the high fixed-cost and complexity of establishing plans for small groups. In contrast, larger employers are far more likely to offer pension and health plans. State and local government, being large employers and often competing for employees with large employers, find it both easier and more necessary to offer pension and health plans.

We therefore turn our attention to how individual and firm characteristics influence the likelihood of coverage by a pension plan. (It is important to note that coverage is the outcome of both working for an organization offering a plan and, given that a plan is available, participating in it.) Using the May 1983 benefit survey we find that without any adjustment for individual or firm characteristics, 44.2 percent of private employees are likely to be covered by a pension, while 81.9 percent of state and 74.0 percent of local employees will participate. After adjustment for individual characteristics and employer size, we find that 55.7 percent of private employees participate in a pension plan, while 69.9 percent of state and 68.0 percent of local employees are covered.<sup>14</sup> Although still suggesting some level of "excess" coverage, these results show that, differences in employees and organizations account for much of the apparent difference in coverage between the two sectors.

Differences in the rate of increase in the cost of benefits, the findings of Cox and Brunelli, result from many factors. They can be the result of greater generosity in one sector than another. They can occur, as is true of wages, if the characteristics of individuals vary between sectors. They also can occur when the two sectors have

similar plans but different rates of employee coverage. The private sector has, with part-time and temporary workers, been reducing labor costs by reducing the proportion of employees covered by benefit plans. This may be beneficial to individual employers, but it is not clearly beneficial to the nation. Lack of health insurance for employed workers is already a national issue: it is likely that the erosion of other benefits, such as pensions, could eventually become another pressing national issue. Following this approach to reducing public benefit costs may only worsen current problems, leading to demands for government intervention to provide health insurance and additional old age security.

Research in the field of public/private benefits comparison is new and there is considerable work remaining before we can reach the level of knowledge achieved in making wage comparisons. The evidence that is available, and it is not perfect, does not suggest that the increase in benefit costs in the public sector is due to excessive levels of benefits.

### Does Lower Turnover Indicate Excessive Compensation?

An argument, advanced by several **researchers**,<sup>15</sup> is that equal wage and benefit levels between the two sectors would generate similar rates of voluntary turnover and job tenure. If compensation levels are “too high” in the public sector, employees will be reluctant to leave their positions, extending tenure and reducing voluntary turnover rates. There is something to this argument, but again, there is a need to compare turnover and job tenure of comparable workers. We do not wish to compare the high-school student who is a fry cook at McDonald’s with a lawyer in a career position in state or local government. Ideally, we wish to compare only voluntary turnover, employees leaving jobs to seek “greener” pastures. We do not wish to look at firings or involuntary layoffs due to seasonal adjustments or recessions as these are not the outcome of employee choice.

Differences in job tenure may involve more than adjusting for worker characteristics since employer characteristics also influence job tenure and turnover. Forty percent of the private sector is made up of employers with less than twenty-five employees. Ambitious employees in small firms have limited opportunities to advance within the firm. Moving between firms is often the means of improving their position. In contrast, large private employers often provide substantial opportunities to advance within the organization. For example, IBM has often advertised that employees who enter as semi-skilled production workers can, through their efforts and the support of company training programs, rise to managerial or engineering positions.

**Table 4**  
**Estimates of Public/Private Tenure Differentials**  
**(In Years)**

	State men	Employee women	avg.	Local men	Employee women	avg.
Unadjusted	1.97	1.52	1.56	2.17	2.92	2.37
Adjusted for worker characteristics	0.49	-0.04	0.13	0.08	0.45	0.09
Adjusted for establishment and firm size as well as worker characteristics	-0.3	-0.39	-0.61	0.57	0.67	0.40

Notes: Estimates obtained using the 1983 May CPS and Benefits supplement.

It is not surprising then that large private organizations experience lower turnover rates and longer job tenure than small employers. To the degree that public employers are large organizations with many jobs and a policy favoring internal advancement, they, like large private employers, may provide sufficient advancement opportunities to avoid the high turnover rates and short tenure that characterize smaller private employers.

To test whether job tenure does differ between the public and private sector, we have applied the same techniques to adjusting tenure for individual characteristics, including occupational and educational attainment, which we previously applied to wage and salary data. We extend this experiment by controlling for the size of the establishment and for the size of the employing organization. In the latter case, we consider establishments and firms with 24 or fewer employees as **small**.<sup>16</sup> We estimated the model using the 1983 May Benefits survey of the CPS; results are reported in **Table 4**.

There is little evidence of large differences in tenure between the public and private sector once we compare comparable workers. The raw averages are roughly in line with those presented by Cox and Brunelli. The average state employee has about 1.6 more years on the job than the average private employee, while local government employees have about an extra 2.4 years. However, once employee characteristics are controlled, both state and local workers have about 0.1 years (1.5 months) “excess” job tenure. These results change slightly when controls for establishment and firm size are added. Job tenure for state employees falls below that of private sector employees by seven months (-0.6 years), while average job tenure for

local government employees increases to five months longer than comparable private sector workers. Estimating separate equations by gender does not greatly alter these results. Again, once we look at comparable workers, we find that the large apparent tenure differences between public and private employees turn out to be a few months at most.

## **Conclusion**

Comparability, that like should be compared to like, is the central principle in comparing wages, benefits, and conditions of work. Simple comparison of wages between unlike groups can easily mislead the researcher. This point is illustrated in the difference between Cox and Brunelli's estimate that public sector wages rose by almost fourteen percent more than those in the private sector between 1980 and 1989, and our research showing that, once adjusted for the characteristics of employees, the public wage "premiums" barely changed over the period. Also, the claim of excessive tenure in the public sector seems weak once the data were adjusted for employee characteristics.

However, looking for comparability is only a first step. There are other issues the public must consider in evaluating the wages of its civil servants. The adjustment of wages for the particular conditions of jobs is important. Most would accept premium payments to police and fire fighters because of the danger and responsibilities that are part of their job. Yet the methodology developed by Sharon Smith and used by most researchers in the field does not allow for this type of adjustment. Full comparability may require accounting for job as well as individual characteristics. Indeed, research on federal wages has shown that as much as one-half of their apparent advantage over "comparable" private sector workers may be attributed to differences in the characteristics of their occupations (Belman and Heywood 1992).

There are other reasons why we may want the public sector to lead rather than imitate the private sector. Sharon Smith noted that the apparently large wage advantage for women in public employment might reflect wage discrimination against women in the private sector. The intervening twenty years have shown little change in this pattern. Clearly we would not want the public sector to replicate private sector discrimination. The public sector should serve as a yardstick for the private sector.

As testified by the large number of texts and consultants in the field of compensation, setting wages, benefits, and conditions of work is not a simple task. A well-functioning system must address issues of comparability, of compensation for conditions of work, of equity, and of ability to pay. In the public sector, the role of



government as model employer makes wage and benefit determinations more complex.

Given the rough equality between private and public compensation, substantial savings could not be realized by simply using private employees with the characteristics of public employees. If there are savings, they would come from using fewer or less qualified personnel. The consequences for the quality of services provided remains an open question. Our results also suggest that only modest direct savings exist on wages and benefits, by turning all public tasks over to private firms.

Finally, while particular states or localities may over-compensate some workers relative to private sector comparables, the average treatment seems similar. While this suggests there may be room for increased efficiency in the public sector, large and general reductions by every state and locality in the level of each employee's compensation do not seem warranted.

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## Appendix A

### Estimated Public/Private Wage Differentials by State

The table provides estimates of the public/private wage differentials for each state for which adequate data were available. Male/Female wage differentials were estimated for all states (except Wyoming). Although estimates are provided for all states (except Wyoming), not all are statistically significant. Estimates which have one star (\*) following are found to be different than zero in a 10 percent test, those with two stars (\*\*) are different than zero in a 5 percent test, those with three stars (\*\*\*) to be different than zero in a 1 percent test. In the case of those with a dagger (†), the data did not conclusively show a difference between public and private wages. The large number of estimates falling into this category may indicate that many governments are approximating private sector compensation through their wage policies. It also may be that small sample sizes are responsible. Estimates were not made for Wyoming because of sample size.

**Appendix Table**  
**Public-Private Wage Differentials by State**  
**(In Percentages)**

	Male		Female	
State	Local	State	Local	
<b>Northeast</b>				
Maine	†	-12.24% " "	†	†
New Hampshire	†	-17.09 " "	†	- 14.44% " "
Vermont	†	-10.83 " "	†	t
Massachusetts	-12.70% " " "	-9.76 " " "	†	-10.79 " " "
Rhode Island	-9.58 "	-13.34 " "	24.30 " "	†
Connecticut	†	†	†	†
<b>Middle Atlantic</b>				
New York	†	†	†	†
New Jersey	†	†	†	†
Pennsylvania	-8.04 "	-7.08 " " "	†	†
<b>East North Central</b>				
Ohio	-8.93 " "	-7.52 " " "	†	-7.02 " " "
Indiana	†	-14.94 " "	†	- 14.03 " " "
Illinois	9.63 " "	t	†	-4.67 "
Michigan	†	-12.09 " " "	10.69 " "	†
Wisconsin	†	-12.96 " " "	†	-9.35 " "

**Appendix Table**  
**Public-Private Wage Differentials by State**  
**(In Percentages)**

	Male		Female	
	State	Local	State	Local
<b>West North Central</b>				
Minnesota	†	†	†	†
Iowa	†	†	31.28""	†
Missouri	†	-13.95""	†	†
North Dakota	†	†	14.50""	†
South Dakota	†	†	†	†
Nebraska	†	-10.52""	†	-9.34"
Kansas	†	t	†	†
<b>South Atlantic</b>				
Delaware	†	†	2 1.45""	†
Maryland	†	†	14.01*	†
District of Columbia	n/a	†	n/a	11.96""
Virginia	†	†	16.78""	†
West Virginia	†	†	†	†
North Carolina	†	-7.06""	13.16""	†
South Carolina	†	-11.18""	15.40""	†
Georgia	†	†	†	t
Florida	†	8.33""	†	5.01"
<b>East South Central</b>				
Kentucky	†	-16.34""	†	†
Tennessee	†	†	†	†
Alabama	†	†	18.79""	†
Mississippi	14.50"	†	†	-10.34""
<b>West South Central</b>				
Arkansas	†	-13.75""	†	†
Louisiana	†	†	†	†
Oklahoma	-13.74"	-16.58"	†	†
Texas	†	-7.85""	†	-8.15""
<b>Mountain</b>				
Montana	†	†	†	t
Idaho	†	-15.13""	†	†
Colorado	†	†	†	†
New Mexico	†	†	18.74"	†
Arizona	†	†	†	†
Utah	-19.64***	†	-10.45"	-11.41"
Nevada	†	t	†	†
<b>Pacific</b>				
Washington	†	-11.96""	†	†
Oregon	†	†	†	†
California	12.43""	†	†	†
Alaska	13.80""	†	19.49""	17.07""
Hawaii	-13.33""	†	-9.49"	†

## Endnotes

1. Efforts to generate comparability in benefits are more recent. When wage comparability principles were first adopted by the federal government, there were few benefit programs, the federal government often served as a “model employer,” introducing benefit programs such as pensions, vacations, and sick leave.
2. It covers all individuals ages 16 to 70 with a wage which is at least one dollar per hour.
3. This differs slightly from the numbers reported in Table 1. The gap between public and private sector pay in Table 1 uses a larger sample. The numbers reported here are for individuals with complete information on all variables, i.e., occupation, education, sex, age, geographic region, etc. Also, some persons were eliminated from the sample used in Table 1 because of checks made for the validity of the data they reported. An example would be that some people report hourly wages less than \$1.00.
4. To measure the effect of gender on the wage in each sector, we include a dummy variable indicating whether the individual is female. The coefficient on this dummy is a rough indication of the degree of wage disadvantage faced by women.
5. As discussed later in this paper, the results from the 1983 and 1989 data are similar to those obtained by Smith with 1973 data.
6. To the extent possible, we follow Sharon Smith’s specifications in our 1983 and 1989 models. These models include controls for education, experience, race, gender, marital status, location by region and size of city, union status, part-time status, and one digit occupational dummies.
7. Moore and Raisin include controls for individual characteristics including education, tenure, experience, race, gender, location, veteran and union status, whether the individual is a blue-collar worker, and year. They also include controls for establishment and firm size.
8. Moore and Raisin include controls for education and postal employees in their models. The former includes all teachers without regard to whether they work for a public or a private employer. There are no equivalent controls for other occupations which might include public employees not in the public administration industry. Teachers are shown to be 11.2 percent underpaid relative to workers of comparable attainments.
9. The average figures presented here were not published in the *Public Finance Quarterly* article but were taken from the same data set and used the same specification as the gender specific estimates which were included in the article. We, of course, included a gender dummy variable in our combined model.
10. The estimates of the wage differentials for local government employees are sensitive to the treatment of teachers. Teachers made up 4.13 percent of the labor force in

1989; about 80 percent of primary and secondary teachers are in the public sector. If we include controls for teachers in our wage equations we find that there is no longer evidence that non-teaching local government employees are underpaid, but public teachers are underpaid by 22.6 percent. If the equations are split by gender we again find that non-teaching males in local government are neither over- nor underpaid. Male teachers in the public sector are underpaid by 33.7 percent. In the women's equation we again find that non-teaching local employees are paid as they would be in the private sector and that public teachers are underpaid by 17.8 percent. Although these results indicate that underpayment among local government employees is concentrated among teachers, there are reasons to withhold judgement on this conclusion. Developing meaningful public/private pay differentials for occupations which are heavily concentrated in or unique to the public sector, jobs such as police, fire fighters, and teachers, is difficult because of the unique conditions of the jobs. Likewise, these results might also be altered if other occupations were disaggregated by sector.

11. These results are national averages and should not be interpreted as indicating that there is no overpayment to public employees in any state or in any occupation. It is possible that there are large positive premiums in some states or for some occupations, However, any state or occupation receiving a premium in excess of the estimated national premium will be counterbalanced by an underpayment to other states or occupations.

12. This would be a difficult task as not all forms of leave are typically used in a given year. Few employees use their funeral leave in a given year. Ideally, private sector vacation would be increased by the average per capita utilization of the various forms of leave. This type of information is not readily available in most data sets.

13. The May 1983 CPS Benefits supplement was used to generate these estimates.

14. The model was estimated with **probit** (a statistical technique) on 11,107 observations with controls for education, experience, race, gender, marital status, region, part-time status, collective bargaining status, occupational status, and establishment and firm size. The effects of the sector of employment were captured by dummy variables for state and local government employment. Using CPS data the "excess" probability of pension coverage falls from 35.3 to 31.2 percent for state employees and from 29.5 to 21.8 percent for local employees once adjusted for individual characteristics, but not for the effect of firm size.

15. See for example Cox and Brunelli (1992).

16. Our measure of tenure takes in both voluntary and involuntary turnover since we cannot tell if an employee's tenure at a job is the outcome of voluntarily moving from their last job to their current job, or because of a dismissal or layoff at the previous job. We have reason to suspect that there is more involuntary turnover in the private sector because seasonal and recession-related layoffs are far more common in the private sector than the public sector. This suggests that our private sector measure of tenure is a downward biased measure of what we really want, 'voluntary' tenure.

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