WORKING IN ILLINOIS' PUBLIC INTEREST

A Comparison Study on Earnings, Benefits, and Impacts

March 12, 2013

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LABOR EDUCATION PROGRAM
School of Labor and Employment Relations

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UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

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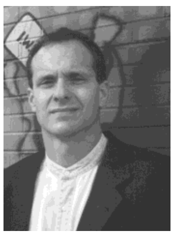

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Executive Summary

The State of Illinois confronts serious budgetary challenges. While the state's affinity for borrowing money, inaction in providing serious tax reform, and poor investment performance are primarily responsible for this large budget deficit, the Governor and other state legislators have supported measures to limit expenditures on employment costs as quick fixes to the problem. Paired with the public dialogue on public sector workers, these actions raise an obvious question: Are state and local government employees in Illinois "overpaid?"

In an effort to respond to this concern, this policy brief reveals the following critical findings:

Apples-to-apples comparisons show a general wage and salary *penalty* for the public sector

- More than half (51.8 percent) of state and local government workers hold a Bachelor's degree compared to less than one-third of private sector workers (30.5 percent).
- Illinois state and local government workers with a bachelor's degree or higher are significantly underpaid compared to their counterparts in the private sector, earning between 32 and 40 percent less in wage and salary income than they would in the private sector.
- High school graduates, those with associate's degrees, and those with some college but no degree do earn between 1 and 16 percent more on average than their counterparts in the private sector, but these advantages likely disappear when comparing less-educated state and local government workers to their counterparts in large, highly-unionized private sector firms.
- Controlling for demographics and education, working in state and local government in Illinois is strongly associated with incomes 13.5 percent less on average than in the private sector.

State and local government employment is more equitable than private sector employment

- Wages and salaries of state and local government workers in Illinois are more compressed and equally-distributed than in the private sector.
    - Public sector employment supports economic security for minorities and women.
    - African-Americans and women in state and local government jobs are more highly educated than African-Americans and women in the private sector.

Illinois public sector workers' total compensation is less than their counterparts in other states

- The average Illinois state and local government employee annually earns $44,042 in wages compared to the $44,615 for all state and local government workers nationwide excluding Illinois.

- The average Illinois state worker's total compensation is less than the average for state government employees of other high-wage states such as California and New York, and also less than some nearby Midwestern states such as Iowa and Minnesota.
- Illinois workers trade off moderately higher benefits for slightly lower salaries compared to their counterparts in comparable states.
  - The average total cost of pensions for state and local government employees in Illinois is 17.5 percent of payroll. The average total cost for all other public sector systems in the United States is 12.6 percent of payroll.
  - The average annual cost of health premiums for Illinois state government employees is higher than other high-wage and neighboring states selected for our analysis but, in general, the cost of health care is particularly high in Illinois.
  - Health benefits are greater for Illinois state government employees than for the private sector. However, more appropriate comparisons to large, highly-unionized private sector industries indicate that state employee health benefits are not overly generous.
- State employees are currently in the top quarter of states in paying into their retirement system while working, but in the bottom quarter of states in receiving a proportionate share of their final income during retirement.

State and local government workers provide large contributions to the Illinois economy

- Illinois' state and local government pension expenditures annually boost total economic output by $12.06 billion, or 1.8 percent of the state's GDP, and support 84,771 jobs.
- Expenditures on state and local government workers in Illinois annually contribute $105.70 billion in total economic output to the state of Illinois, representing 15.8 percent of the state's GDP.
- A total of 1.1 million jobs in Illinois are attributed to state and local government employment, or 18.5 percent of all jobs in Illinois. This includes over 300,000 private and nonprofit jobs, or 6 percent of all jobs in the private sector.

When accounting for an array of factors, assertions that state and local government workers in Illinois are "overpaid" are not sustained. Instead, Illinois public servants earn an average compensation package expected for a high-wage, highly-educated state. State and local government employees are not overcompensated for equal work.

I. Introduction

The State of Illinois confronts serious budgetary challenges. As the 2013 fiscal year began the state had approximately $8 billon in unpaid obligations. Of course, like states across the country, the 2008 financial recession caused Illinois' revenues to sharply tumble.[1] In 2010 the country's total state taxes had dropped to 93 percent of their 2007 pre-recession total, but Illinois' tax revenue fell even further to 85 percent.[2] At the same time, Illinois' financial stress was only intensified by the economic downturn. According to the *Reports of the State Budget Crisis Task Force: Illinois Report*, during prosperous economic times (late 1990s to mid-2000s), "Illinois expanded government services, but did not raise taxes and did not put away cash reserves."[3] The state's sales tax rate (i.e., 6.25 percent) is relatively high but the Task Force revealed two fundamental structural problems with Illinois' tax system. First, the bases from which the system collects tax revenue "have been eroding and failing to keep up with economic growth." Second, the combined tax base is too "narrow" and exempts many forms of earned income.[4] As a consequence of the widening "structural gap between spending growth and sustainable revenues," Illinois has now been saddled with the second highest per capita debt in the country.[5] Fiscal mismanagement has also embarrassingly resulted in the state being responsible for $87 million in penalties for late medical payments.[6] Ultimately, the deficit has in large part been caused by questionable state borrowing to finance operations which the state was unwilling to raise taxes to support.

An analysis of Illinois' past budgetary practices strongly suggests that state government has been funded for decades on borrowed money and from the constitutionally-guaranteed retirement incomes of state employees. Unfortunately, despite a tax increase in 2010, serious proposals to address the Task Force's recommendation that tax reform may be necessary "to achieve an adequate, sustainable, and predictable revenue system" have yet to be offered.[7] Despite bipartisan acknowledgement that state workers are not responsible for Illinois' problems, the Governor and a majority of members of the General Assembly have promoted pay freezes and pay cuts, reductions to retirement and healthcare benefits, facility closings or even layoffs to state government employees to help decrease the budget deficit.[8]

In 2011, Governor Pat Quinn cancelled scheduled pay increases for about 30,000 Illinois state employees in fourteen state agencies, commissions, and boards.[9] Several unions who represent the affected state workers subsequently challenged his action. In an arbitration decision involving Council 31 of the American Federation of State, County and Municipal Employees (AFSCME), the state was found to have "violated the Agreement and the Cost Savings Agreements when it failed to pay the 2 percent increase for all bargaining unit classifications and steps effective July 1, 2011 as required by those Agreements."[10] The Governor responded to the arbitration award by appealing the order to the Cook County Circuit Court. In November of 2012, a decision was rendered by Circuit Court Judge Richard Billik which declared that the State was required to pay the increases plus an additional 7 percent interest until the obligation was met. Importantly, however, the judge's ruling also added that public employers only have to pay wage increases when the General Assembly appropriated the necessary funds.[11] Billik's pay case decision was then appealed by the state and currently awaits judgment.

Labor relations took another blow when the state moved to close facilities and lay-off employees. AFSCME again filed for arbitration and again won a judgment, which found that, "as a matter of contract, the State violated its no layoff/no facility closure promises" as included in a prior agreement with the union to reduce costs.[12] The bargaining relationship was further aggravated when the Governor terminated the state's contract with AFSCME.[13] While the state employees' union and the Governor's office did come to terms on a new labor agreement in early March of 2013, the negative characterizations of the state's workforce raise an obvious question: Are state and local government employees in Illinois overpaid compared to both Illinois private sector workers and public sector workers in other states?

Defining "overpaid" is not an exact term of science. It is a subjective term usually used derisively to refer to a person judged by the accuser as being paid more than he or she is worth. In reality, the best way to assess whether a person is overpaid is through a comparison study. One of the biggest problems in assessing worth is determining the work efficiency of a person or a class of people. In many occupations, performance effectiveness can be both nearly impossible to reasonably determine and also the product of enumerable factors beyond the control of the individual or group under review. Despite the difficulty in making comparisons, a number of credible studies of state and local public sector employment wages and benefits have been conducted. Informed by previous scholarship on public employment, the primary purpose of this research brief is to respond to the "overpaid" question and to offer a fuller understanding of Illinois state and local government employee compensation.[14]

Questions about earnings and benefits are also organizational value statements. Both public employers and private businesses consciously prioritize what is most important to them by how they allocate resources. The State of Illinois is a prosperous jurisdiction responsible for annually spending billions of dollars on essential human services, subsidies to businesses, and management of extensive physical assets. Even in the best of times, political leaders have made willful choices about how local, state, and federal tax dollars will be spent. Each appropriation was a choice that revealed policymakers' judgments about the nature of living, schooling, investing, and working in Illinois. While researchers endeavor to design comprehensive studies based on data to inform policy discussions, at the most fundamental level what political leaders choose to spend money on is an act of political consciousness.

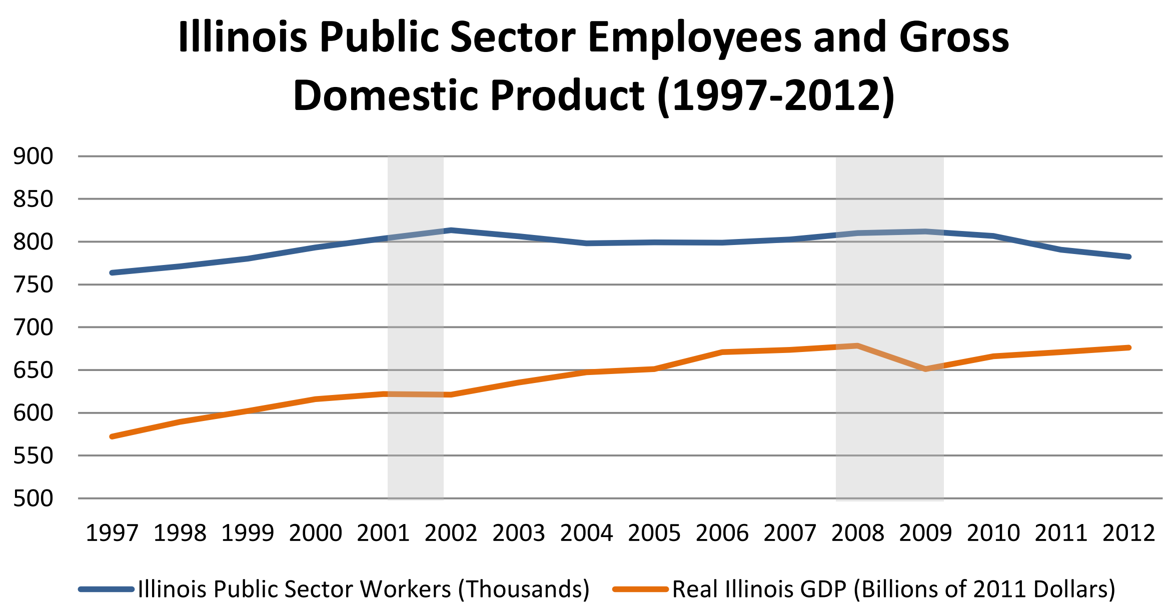
This policy brief presents findings in four sections. The first section delves into comparative data on state and local government employees and private sector workers in Illinois. The following three sections contrast Illinois state and local government workers with their counterparts in other states and comparable industries in terms of salaries, pension benefits, and healthcare benefits. Finally, the report then transitions into two sections on the economic impacts of state and local government pension expenditures and of state and local government employment. The policy brief concludes by recapping key findings.[†]

II. Findings and Comparative Analyses

Comparisons of State and Local Government Employees and Private Sector Workers in Illinois

Estimates from the 2011 Census Bureau's American Community Survey suggest that there are 4,860,610 private wage and salary workers (not including the self-employed) and 788,051 state and local government workers in Illinois, or 6.17 private wage and salary employees to every one public sector employee. State and local government workers make up 13.2 percent of Illinois' workforce. Nationally, there are 5.20 private wage and salary employees to every one public employee, and government workers are 15.1 percent of the American labor market.[15]

Figure 1: The Illinois Economy and Public Sector Workforce[16]



Source: Authors' analysis of Federal Reserve Economic Data, Federal Reserve Bank of St. Louis. Excludes federal government employees.

[†]. Although her name does not appear on the cover of this report, we are tremendously grateful to our colleague, Alison Dickson Quesada, MUPP, who provided helpful comments, suggestions, and insights on initial drafts. The quality of this report has been significantly improved thanks to her contributions.

The number of public sector employees in Illinois rose in tandem with the increase in real gross domestic product (GDP) for the State of Illinois until 2001 (Figure 1). In 2002, however, the trends diverged. Interrupted only by the peak of the 2008 recession when the state economy contracted by 4 percent, Illinois' economy has steadily grown. With the exception of a countercyclical employment bump produced by the American Recovery and Reinvestment Act, the number of public sector workers in Illinois has declined to its lowest level in more than a decade.

At face value, *median* wage and salary data seem to show that state and local government workers in Illinois earn more than do their counterparts in the private and non-profit sectors. Three-year data from the 2011 American Community Survey of the U.S. Census estimate that the median for-profit private sector worker in Illinois earned $33,090 and the median not-for-profit private sector worker earned $35,012. By comparison, the respective median earnings for state and local government workers were $42,155 and $44,520.

However, these surface estimates are shallow, misleading, and do not say much in and of themselves. For example, it is important to recognize that state and local government employees are more highly educated than private sector workers in Illinois (Figure 2). More than half (51.8 percent) of state and local government workers in the civilian labor force hold a bachelor's degree compared to less than one-third of private sector workers (30.5 percent). A worker's level of education is *very* highly associated with higher earnings and lower unemployment rates.[17] Accordingly, when controlled for education, an Illinois government employee's earning advantage largely vanishes.

Figure 2: Educational attainment of Illinois workers, 21 years old or more[18]

ILLINOIS WAGE AND SALARY WORKERS BY EDUCATIONAL ATTAINMENT, AGES 21 AND OVER	PERCENTAGE OF PRIVATE SECTOR WORKERS	PERCENTAGE OF STATE AND LOCAL WORKERS
Less than a high school degree	7.7%	3.2%
High school degree	29.0%	16.9%
Some college, no degree	19.5%	5.9%
Associate's degree	9.3%	10.2%
Bachelor's degree	20.8%	22.1%
Master's degree	7.3%	25.9%
Doctorate or Professional degree	2.4%	3.9%
No response or unknown degree	4.0%	11.9%

Source: Authors' analysis of Integrated Public Use Microdata Series – Current Population Survey (Census) for 2010-2012, for all workers ages 21 and over in the civilian labor force in Illinois.

Earnings by educational attainment reveal that Illinois state and local government workers with a bachelor's degree or higher are on average significantly underpaid compared to their counterparts in the private sector (Figure 3). Illinois state and local government workers with a bachelor's degree earn 36 percent less than similarly educated private sector employees. Public sector employees with a master's degree make 32 percent less than their private sector counterparts. Public employees with doctorates and professional degrees face an even more substantial 40 percent wage penalty compared to for-profit and non-profit earners. For those with less than a high school diploma or equivalent, there is a 2 percent wage penalty for employment in state and local government.

Figure 3: State and local government wage premium? A breakdown by education, 21 years old or more

REAL WAGE AND SALARY INCOME FOR ILLINOIS WORKERS BY EDUCATIONAL ATTAINMENT FOR CIVILIAN LABOR FORCE, AGES 21 AND OVER	PRIVATE SECTOR AVERAGE	STATE AND LOCAL AVERAGE	EARNINGS DIFFERENCE	PERCENT DIFFERENCE
Less than a high school degree	$20,490	$20,019	**-$471**	*-2%*
High school degree	$33,043	$33,327	**+$284**	*+1%*
Some college, no degree	$32,170	$37,403	**+$5,233**	*+16%*
Associate's degree	$37,206	$40,333	**+$3,127**	*+8%*
Bachelor's degree	$63,937	$41,088	**-$22,849**	*-36%*
Master's degree	$83,001	$56,845	**-$26,156**	*-32%*
Doctorate or Professional degree	$126,636	$76,489	**-$50,147**	*-40%*

Source: Authors' analysis of Integrated Public Use Microdata Series – Current Population Survey (Census) for 2010-2012, in constant 2011 dollars, for all workers ages 21 and over in the civilian labor force in Illinois. Unlike Keefe (2010), the authors' did not limit the analysis to full-time or full-time equivalent employees.

The state and local government sector appears to set a floor on earnings which generally improves the wage and salary income of those with lower levels of educational attainment. High school graduates and those with associate's degrees earn more in state and local government jobs, with high school graduates earning slightly more and those with associate's degrees earning moderately more. The largest public sector beneficiaries are those workers with some college but no degree, who earn 16 percent more on average than their counterparts in the private sector. However, these advantages disappear when comparing less-educated state and local government workers to their counterparts in large, highly-unionized private sector firms in Illinois, since the union wage premium is generally higher for low-wage workers.[19]

It is also noteworthy that the average total separation rate (i.e., employee leaves job voluntarily or involuntarily) from 2010 to 2012 for state and local government workers was 1.4 percent compared to 3.4 percent for the private sector.[20] The lower public sector separation rate is due in part because of the higher education levels of state and local government workers and because of higher levels of unionization. Employees with both greater average skills capacity to invest in a job and a collective voice in protecting the value of that job will typically manifest a more sustained commitment to their employment.[21] A higher job turnover rate, however, raises hiring costs and new worker training costs.

These higher employment-related costs in the private sector are not captured in standard wage and salary income data, and consequently undervalue the efficiency of state and local employees.

To further dissect these results, we construct a simple linear regression model that includes controls for such factors as age, race, gender, and an educational attainment indicator. The regression looks at how being classified as a state and local government worker is correlated with a percentage change in the annual wage and salary income of *an average employee*, controlling for other reasons a wage might be higher or lower (Figure 4). The state and local government indicator variable is presented first in Figure 4. When holding age, race, gender, and level of education constant, working in state and local government in Illinois is strongly associated with annual incomes 13.5 percent less on average than in the private sector.[22] This wage penalty is very close to that of Cooper, Gable, and Austin (2012), who found on a national scale that state and local government workers earn 11.7 percent less than their private sector counterparts when controlling for socioeconomic and demographic factors.[23] As might be expected, Illinois workers earn more on average in private sector jobs.

Figure 4: Simple OLS regression of log(wage) on state and local government, with controls

ILLINOIS WAGE AND SALARY OLS REGRESSION MODEL DEPENDENT VARIABLE: LOG(WAGE)	COEFFICIENT ESTIMATE	ROBUST STANDARD ERROR
State and local government	-0.13488**	(0.03400)
Age	0.11009**	(0.00550)
Age squared	-0.00112**	(0.00006)
Male	0.36750**	(0.01987)
White	0.12022**	(0.02494)
High school	0.0346	(0.02731)
Associate's degree	0.26710**	(0.03572)
Bachelor's degree	0.62357**	(0.02804)
Master's degree	0.85633**	(0.03754)
Professional or doctorate degree	1.27277**	(0.05472)
Federal government	0.30703**	(0.05472)
Self-Employed	-0.10911	(0.06608)
Constant	7.34595	

Two asterisks (**) denote significance at the 1% level, one denotes significance at the 5% level. In total, there were 8,121 Illinois observations of workers in the civilian labor force, ages 21 and above; R^2: 0.2833.
Source: Authors' analysis of Integrated Public Use Microdata Series – Current Population Survey (Census) for 2010-2012, in constant 2011 dollars for all workers ages 21 and over in the civilian labor force in Illinois.

Finally, the distribution of income is more unequal in the private sector in Illinois than in state and local governments (Figure 5). Without controlling for education or other factors, the top 1 percent in the private sector annually earns $278,478 or higher in wage and salary income, more than double that of the highest earning state and local government employees, who take home $123,768 or more each year. Utilizing the "90/10 ratio" for the private sector, the poorest person of the richest 10 percent of workers earns 20 times as much as the richest person of the poorest 10 percent of workers.[24] But the ratio of income inequality in Illinois' public sector shows that the top decile of state and local government employees earns only 16 times as much as the bottom decile. There is also much closer alignment of the median income to average income for state and local government employees than for private sector employees. Each of these comparisons demonstrates that the wages and salaries of state and local government workers in Illinois are more compressed and equally distributed than in the private sector.

There are social costs associated with such income inequality in the private sector. Approximately 10.1 percent of the state's civilian labor force, 21 years or older receive $2,387.03 per year on average in Earned Income Tax Credits. To compare, only 8.0 percent of state and local government employees in Illinois receive the credit, with an average annual benefit of $2,132.66.[25] While small, this difference in both frequency and benefits received further closes the claimed income premium experienced by workers in state and local government.

Figure 5: Distribution of income in private sector jobs vs. in state and local government jobs

WAGE AND SALARY INCOME FOR ILLINOIS WORKERS AGES 21 AND OVER, EQUALITY CONCERNS	PRIVATE SECTOR	STATE AND LOCAL GOVERNMENT
Top 1 Percent	$278,478	$123,768
Top 10 Percent	$87,063	$82,512
Median	$31,469	$40,288
Bottom 10 Percent	$4,332	$5,035
90/10 Ratio	20.1	16.4
Average	$45,146	$44,042

Source: Authors' analysis of Integrated Public Use Microdata Series – Current Population Survey (Census) for 2010-2012.

Another often-ignored hidden cost of shrinking the state workforce or reducing public employee compensation is the racial and gender impact. In Illinois, 18.9 percent of the full-time state and local workforce is African-American. In the private sector, however, African-Americans are a smaller 13.9 percent of the full-time labor force. Importantly, research by Lewis and Galloway (2011) has shown that African-American and Latino or Latina workers generally earn 5 percent more in the public sector than in the private sector.[26] Additional studies have found that women are paid approximately 2 percent more than their private sector counterparts and, importantly, minority workers and women are paid "the market rate only in the public sector."[27] In Illinois, Lewis and Galloway report that African-American public sector employees on average earned an 8.5 percent pay premium while Latino and Latina government employees experience a positive 9.6 percent pay differential. White women however earn 4.8 percent less working in Illinois state and local government than they do in the private sector. Public sector employment further supports economic security for minorities and women because wages are more compressed and there is less compensation variation by gender and race, thus raising the average compensation relative to the private sector.

Public sector employment also provides much greater work opportunities for minorities with higher levels of education. In the public sector, African-American males nationally comprise 17.0 percent of the workers with a bachelor's degree, but only 11.0 percent in the private sector. In Illinois, only 21.9 percent of all African-American employees in the private sector have a bachelor's degree or higher while 42.7 percent do in the public sector (Figure 6). Public service also represents a distinct career path for high school and college-educated women. While women are less than half (47.4 percent) of the private sector workforce, they are a near supermajority (60.8 percent) of state and local employees in Illinois. Additionally, in Illinois, 30.7 percent of women in the private sector hold at least a bachelor's degree compared to 56.1 percent of women in state and local government jobs (Figure 6). The racial and gender demographics of the Illinois labor force convincingly document the role that government employment plays in providing a pathway into the state's middle class. Massive restructuring of government jobs and work benefits brought on by austerity measures will likely have a disproportionate, negative impact on the state's minority citizens and increase racial and gender inequality in Illinois.

Figure 6: Education of women and African-American workers in Illinois by sector, 21 years old or more

Illinois wage and salary workers by Educational Attainment, Ages 21 and Over	Women in State and Local	Women in the Private Sector	African-Americans in State and Local	African-Americans in the Private Sector
Less than a high school degree	2.8%	8.4%	6.1%	7.6%
High school degree	16.1%	26.6%	21.1%	30.2%
Some college, no degree	16.0%	19.5%	18.3%	28.1%
Associate's degree	8.9%	12.8%	11.7%	12.2%
Bachelor's degree	24.7%	22.3%	17.2%	15.4%
Master's degree	27.4%	8.0%	22.7%	3.8%
Doctorate or Professional degree	4.0%	2.4%	2.8%	2.7%

Source: Authors' analysis of Integrated Public Use Microdata Series – Current Population Survey (Census) for 2010-2012. Data do not include those workers for whom degrees were unknown or not reported.

State Comparison of Public Sector Employee Wages and Compensation

How do Illinois state and local government workers match up with their counterparts in other states?

The proportion of Illinois' state and local government workforce with bachelor's degree or higher (51.8 percent) is above the national average (50.6 percent) for state and local government workers. In bordering states, the percentages of highly-educated state and local government workers are, from highest to lowest: Iowa (56.8 percent), Wisconsin (56.0 percent), Missouri (50.6 percent), Kentucky (48.9 percent), and Indiana (40.0 percent).[28]

In 2011 Illinois' economy ranked tenth in the nation in annual mean wages and ninth in annual mean wages for state government workers.[29] The average worker is in general paid above the national average because Illinois is a high wage state and its workers are highly educated (Figure 7).

Figure 7: Select characteristics of Illinois workers in a national context

STATE OF ILLINOIS IN NATIONAL CONTEXT		
State ranking: Annual mean wages, all non-farm workers	10th	Rank out of all 50 states
State ranking: Annual mean wages, state government workers	9th	Rank out of all 50 states
Percentage of state and local government workers with a bachelor's degree or higher	51.8%	National average = 50.6%

Sources: Bureau of Labor Statistics, Center for Continuing Study of the California Economy, and CPS-IPUMS data.

Importantly, the data suggests that state employees are not overpaid relative to their counterparts in other states. The average Illinois state and local government employee annually earns $44,042 in wages compared to the national wage average for all state and local government workers, excluding Illinois, of $44,615 per year.[30] Measuring total compensation with pension and healthcare benefits for full-time equivalent employees reveals that at $60,292 per person, Illinois state government employees also earn below the nation's state government sector total compensation average ($69,108).[31] A further analysis shows that the average Illinois state worker's total compensation is less than the average for state government employees of other high-wage states such as California and New York, and also less than some nearby Midwestern states such as Iowa and Minnesota (Figure 8). Additionally, benefits as a percentage of total compensation are higher for Illinois state government employees than for all eight other states selected for comparison in our analysis, but the average wage and salary is less than all the other states except for Ohio. It thus appears that Illinois workers trade off slightly higher benefits for slightly lower salaries compared to their counterparts in comparable states.

Figure 8: Total compensation of state workers, neighboring high-wage states

STATE	AVERAGE TOTAL COMPENSATION	AVERAGE SALARY FOR STATE EMPLOYEE	COST OF BENEFITS PER EMPLOYEE	BENEFITS AS A PERCENTAGE OF COMPENSATION
California	$70,777	$55,420	$15,357	21.70%
New York	$67,250	$55,722	$11,528	17.14%
Iowa	$62,138	$47,234	$14,904	23.99%
Minnesota	$61,686	$46,402	$15,284	24.78%
Illinois	$60,292	$42,016	$18,276	30.31%
Michigan	$59,162	$44,179	$14,983	25.33%
Ohio	$56,390	$41,254	$15,136	26.84%
Wisconsin	$55,633	$48,152	$7,481	13.45%
Pennsylvania	$55,300	$49,717	$5,583	10.10%

Source: Authors' analysis of Integrated Public Use Microdata Series – Current Population Survey (Census) for 2010-2012 and of United States Census Government Employment and Payroll data (2011).

Comparisons of Public Sector Employee Pension Benefits

Illinois' five state-managed pension plans have an unfunded liability in excess of $96 billion. It is also critical to note that the overwhelming majority of the current state debt is due to pension bonds sold in 2003, 2010, and again in 2011. It is estimated that approximately three-quarters of that shortfall is the result of the state legislature failing to make the required annual contributions. Stock market losses experienced during the Great Recession arguably contributed the remaining bulk of the liability.[32] What is not in dispute is that state employees made 100 percent of their contributions.[33] The current pension mess in Illinois is largely due to the State of Illinois's failure to meet its obligation and to poor financial market performance.

State and local government employees in Illinois contribute between 7.0 percent (standard formula for state employees) and 9.4 percent (Teachers Retirement System) of their salaries into their retirement systems. Only 11 other states require on average that their state and local government employees pay higher than 7 percent of their salaries into retirement. Illinois is also among the top quarter of states in state and local government worker contributions to their pensions.[34]

In terms of cost as a percentage of payrolls, state and local government pension costs in Illinois are above the national average. Using FY2010 and FY2011 data from the Center for Retirement Research's Public Plans Database, we find that the average total cost of pensions for state and local government employees in Illinois is 17.5 percent of payroll (7.5 percent from member contributions and 10.0 percent from employer contributions). The average total cost for all other public sector systems in the United States for which the Center has observations is 12.6 percent of payroll (6.1

percent from members and 6.5 percent from employers).[35] It is worth noting that nationally 25 percent of state and local government employees are not covered by social security.[36] In Illinois, however, 45.4 percent of all public employees do not receive Social Security benefits, including teachers, school administrators, other public school personnel, professors, judges, firefighters, and police officers.[37] Moreover, 78 percent of workers *in the state retirement system* do not receive Social Security coverage.[38]

Focusing again on only state employees for comparison, pension benefits for state workers in Illinois accrue at 1.67 percent of their "final average salary" (average of the last 4 years of work for Tier I and average of the last 8 years for Tier II) for every year worked. But 38 state retirement plans have an accrual multiplier greater than 1.67 percent. Furthermore, in Illinois pension benefits are capped at 75 percent of "final average salary" while most state retirement plans have higher caps or no limits at all. These comparisons indicate that Illinois state employees are currently in the top quarter of states in paying into their retirement system while working, but in the bottom quarter of states in receiving a proportionate share of their final income during retirement.

Finally, any cost-benefit analysis of state and local pension plans should also consider the risks that any program changes will have serious unintended consequences. For example, research from the Political Economy Research Institute at the University of Massachusetts-Amherst has estimated a substantial probability that shifting state pensions away from a defined benefit (DB) plan will increase initial compensation costs, increase employee turnover, decrease employee effectiveness, and raise transaction costs.[39]

Comparisons of Public Sector Employee Health Benefits

Any comparison of state and local healthcare provisions should begin with recognition that nation-wide 61 percent of workers covered by a health plan are employed by a private firm, while only 17 percent are employed by a public employer (22 percent are employed by a non-profit employer).[40] Healthcare coverage and costs are still predominantly driven by private market actors.

Nationally, public employees receive a higher proportion of their total compensation from employer-provided health insurance than private sector workers. However, as with all benefits, the differences between private and public employees' compensation costs shrink as the private organizational comparison increases in size. For example, 11.2 percent of all state and local government workers' total compensation comes from health benefits. For private organizations with between one and 99 employees, the corresponding benefits percentage is just 6.3 percent. But by comparison, for private firms with 100 to 499 employees and firms with 500 or more employees, benefits respectively amount to 8.0 percent and 8.3 percent of the average worker's total compensation.[41] Recognizing that public employers typically have substantial numbers of workers on average included in their plans, a fairer comparison to Illinois costs would be with large private sector employers in the state.

A comparison would also take into consideration that a much higher percentage of state and local employees are unionized and covered by collective bargaining agreements than are private sector workers. In Illinois 9.3 percent of private sector workers are union members and 9.8 percent are covered by union negotiated agreements. However, 49.8 percent of the state's public sector employees are union members and 53.4 percent are covered by labor agreements.[42] Understanding the true comparability of state and local healthcare benefits requires pairing the state's public employee plans with large unionized private employers. We first present comparisons of health plans for state government employees in Illinois to those of state government employees in comparable states before extending the analysis to a case study of healthcare costs for a large, highly-unionized private sector industry in Illinois.

Figure 9: State health plans for a worker supporting a family of four, neighboring high-wage states, excluding local government employees

STATE	AVERAGE WAGE FOR STATE EMPLOYEE	AVERAGE EMPLOYER CONTRIBUTION	AVERAGE EMPLOYEE CONTRIBUTION	AVERAGE ANNUAL COST OF MONTHLY PREMIUMS	(AVERAGE ANNUAL COST OF PREMIUMS TO STATE)	AVERAGE SALARY PLUS AVERAGE HEALTH INSURANCE
New York	$55,722	77.4%	22.6%	$16,720	($12,941)	$69,866
California	$55,420	81.0%	19.0%	$17,444	($14,124)	$69,417
Illinois	$42,016	86.7%	13.3%	$21,875	($18,970)	$65,917
Michigan	$44,179	85.0%	15.0%	$18,584	($15,796)	$64,114
Pennsylvania	$49,717	81.0%	19.0%	$12,518	($10,140)	$61,401
Wisconsin	$48,152	85.9%	14.1%	$17,137	($14,725)	$60,783
Minnesota	$46,402	90.1%	9.9%	$15,784	($14,222)	$59,288
Ohio	$41,254	84.2%	15.8%	$15,896	($13,380)	$56,713
Iowa	$47,234	100.0%	0.0%	$13,249	($13,249)	$55,956

Source: Authors' analysis of Integrated Public Use Microdata Series – Current Population Survey (Census) for 2010-2012 and of internal documents graciously provided, upon request, from the American Federation of State, County, and Municipal Employees Council 31 (AFSCME 31).

Illinois and other state health care premiums for state government employees are costly. Depending on the health plan, the state contributes between 84.7 percent and 91.6 percent to the plan. For a worker supporting a family of four, the State of Illinois contributes an average of 86.7 percent. The governments of Iowa and Minnesota actually pay more as a percentage of the contribution to their state employee health plans for similar workers supporting a family of four (Figure 9).

The average annual cost of health premiums for Illinois state government employees is higher than for any other state selected for our analysis. But it is important to note that the state's governmental healthcare costs are part of an expensive insurance market. Illinois has the sixth highest health care costs in the nation.[43] For single state workers in Illinois, the average annual healthcare premium is $9,118 and the cost of coverage for a worker with a family of four is on average $21,875 per year. To provide healthcare benefits for a state worker with a family of four is more costly in Illinois than in any of the other eight comparable states (Figure 9). At $18,970 it is also more expensive for public agencies than the national average ($15,544) for all large private employers.[44] Illinois state employees pay an annual average premium of $2,905 for family coverage, while workers in the private sector contribute on average $4,113. The nominal cost of family coverage to Illinois' state government workers is also slightly lower than the national average for employees of large public employers ($3,462).

However, a more appropriate parallel, as noted previously, would be to compare these figures to highly-unionized private sector firms in Illinois. Unfortunately, large-scale private sector union employer healthcare data at the regional or state level is not readily available. Instead, a case study approach of particular industries can be utilized to conduct a more suitable comparison. One private sector industry in Illinois for which data is accessible is the construction industry, where 39.9 percent of workers are covered by a union contract.[45] By examining, for example, unionized employers of particular trades in 2012 whom are customarily part of a multi-employer benefit plan, we can calculate an employer's per-employee family healthcare premium. For this analysis we examined employers of operating engineers and laborers. Based on a calculation utilizing aggregate number of hours worked in the trade, the total number of operating engineers and laborers who logged work hours, and the per-hour per-employee healthcare contributions required by the state's Prevailing Wage Act, we estimate that contractors contribute on average $24,116 to employee family medical coverage for operating engineers and $21,274 for laborers.[46] It is noteworthy that, contrary to general private-public employer comparisons, in these cases the unionized private employers' costs are higher than the average annual cost of health insurance for a state worker supporting a family of four.

III. Economic Impact Analyses

The Impact of State and Local Government Pension Expenditures on GDP

Public sector pensions often constitute a lion's share of the public discourse on the purportedly "overpaid" state and local government employee. Discussions on employer-employee contributions and retirement incomes should not be the exclusive focus of this pension debate. While beneficiaries depend on the earnings they have deferred until retirement, the benefits of their pension checks extend well beyond their own households. State and local government pensions are also sizeable generators of employment and economic activity. A 2012 study by the National Institute on Retirement Security (NIRS) found that expenditures of state and local pension benefits supported in excess of 2.9 million jobs and more than $442.6 billion in economic output.[47] The 2012 study analyzed the economic impact of all defined-benefit pension plans by state, including federal and local pensions, and reported state and local government pension economic impacts on a national level. An additional measure of public pension plans economic value is the "expenditure multiplier." The multiplier calculates how much additional economic output is supported for every dollar paid out in pension benefits. The national state average was $1.48 for every $1.00 of pension expenditure. But, according to the study, Illinois had the sixth highest multiplier at $1.77, meaning that for every dollar in pension benefits paid out, $1.77 in total economic output was supported in Illinois.

An earlier 2009 NIRS report focused exclusively on state and local government pension programs and found that Illinois government pensions annually boost the economy by $12.9 billion and support 83,611 jobs.[48] Only California and New York's public pension systems were bigger generators of state employment and economic stimulus.

Our research updates and fills in the gap between the 2009 and 2012 NIRS reports. We performed a 2013 economic impact analysis of state and local government pension programs in Illinois using IMPLAN data and software. The results demonstrated that state and local government retiree spending continues to have a significant economic impact on the state economy. In 2011, the most recent year for which data have been made publicly available, there were $13.4 billion in total payments distributed by state and local governments in Illinois to public sector retirees and their dependents.[49] These payments supported $12.22 billion in disposable income for retired Illinois public sector employees after federal income taxes were paid.[50]

In estimating the economic impacts of distributing retiree benefits it is also necessary to acknowledge that retirees may leave the state to live in warmer climates, to live nearer to their children, to go on vacation, or to shop for goods. Consequently, not all Illinois retiree expenditures are spent in the state. To account for migration patterns of retirees, we assume that just 78 percent of all expenditures made by recipients of pension funds from state and local governments in Illinois remain in the state.[51] It is likewise true that, just as spending occurs outside of Illinois' borders, migrant retirees *to* this state contribute to the economic activity of Illinois. Our analysis, however, only discusses the economic impact of pension funds distributed by state and local government bodies in Illinois, which are in turn spent in Illinois.

Importantly, in conducting economic impact analyses, total economic output and jobs created are itemized by direct, indirect, and induced impacts. *Direct impacts* measure the effect of consumer spending by Illinois retirees on the Illinois economy. *Indirect impacts* measure the effects of inter-industry purchases by firms which receive direct expenditures from retirees. Lastly, *induced impacts* measure the additional consumer spending by those employed by the previous direct and indirect impacts.[52] Overall, retirees' spending supports $7.10 billion in direct economic impacts on state goods and services, $2.33 billion in indirect economic impacts, and $2.62 billion in induced benefits from additional employment created by the direct and indirect impacts (Figure 10). The top five industries in Illinois affected by pension benefits and expenditures are food services and drinking places, private hospitals, offices of physicians and dentists, real estate establishments, and nursing and rental care facilities (Figure 11).

Moreover, state and local pension payments also benefit state and local tax revenue in Illinois. We estimate that pension expenditures each year trigger economic activity that generates $728 million in state and local Illinois taxes. Most of this government revenue ($603 million) comes from "indirect business taxes" – which include excise taxes, sales taxes, property taxes, licenses, permits, and fees. Ultimately, Illinois' state and local government pension expenditures largely pay for themselves, as total economic output ($12.06 billion) and tax revenues ($728 million) contribute $12.78 billion to the Illinois economy and government budgets.

Figure 10: Impact of state and local government pension expenditures on the Illinois economy

IMPACT	EMPLOYMENT	LABOR INCOME	VALUE ADDED	TOTAL OUTPUT
Total	**84,771 jobs**	**$4,064,599,550**	**$7,146,967,116**	**$12,056,002,186**
Direct	52,447 jobs	$2,382,134,486	$4,223,837,827	$7,097,616,992
Indirect	13,608 jobs	$801,228,580	$1,354,740,614	$2,333,801,505
Induced	18,715 jobs	$881,236,484	$1,568,388,675	$2,624,583,689

Source: Result of authors' insertion of data from the 2011 Annual Survey of Public Pensions: State & Local Data by the U.S. Census Bureau and the Integrated Public Use Microdata Series – Current Population Survey (Census) for 2010-2012 into IMPLAN's institution spending pattern feature, which estimates household spending patterns of disposable income by class of income. The Labor Education Program utilizes IMPLAN (IMpacts for PLANning) Version 3.0.17.2, Minnesota IMPLAN Group, Inc., © 2011.

Figure 11: Top industries affected by state and local government pension benefits, by employment

INDUSTRY	EMPLOYMENT	LABOR INCOME	VALUE ADDED	TOTAL OUTPUT
Food and drinking places	8,168 jobs	$192,827,829	$278,166,405	$500,229,906
Private hospitals	5,790 jobs	$385,376,821	$428,272,138	$801,257,892
Offices of physicians and dentists	5,175 jobs	$409,986,326	$422,763,475	$659,812,437
Real estate establishments	3,992 jobs	$74,537,741	$564,950,145	$735,890,025
Nursing and residential care	3,537 jobs	$121,758,446	$140,386,482	$218,172,407
Wholesale trade businesses	2,891 jobs	$254,986,055	$443,796,388	$576,767,679
General merchandise retail	2,848 jobs	$74,509,068	$127,298,947	$166,227,619
Food and beverage retail	2,594 jobs	$73,201,246	$97,409,979	$143,608,741

Source: Result of authors' IMPLAN analysis. The Labor Education Program utilizes IMPLAN (IMpacts for PLANning) Version 3.0.17.2, Minnesota IMPLAN Group, Inc., © 2011.

The Impact of State and Local Government Employment on GDP

With so much of the political discourse about state and local government employees revolving around the *costs* of employment, the positive *benefits* of state and local government employment for the Illinois economy are often omitted. Sensationalized attacks on "overpaid" state and local government employees frame the debate in negative characterizations of the allegedly lazy, entitled, and unproductive public sector worker. The diatribe ignores the fact that these are the same workers who educate our children, patrol our streets, extinguish our fires, run our parks, provide health insurance for our seniors and disabled neighbors, build our roads, and transport our workers every day.

Perhaps the dialogue focuses so heavily on costs because salaries, benefits, and taxes are easily quantifiable and understood whereas the benefits that residents receive from those who work in Illinois' public interest – the provision of public goods, the correction of market inefficiencies, the protection of private property, and the investments in education – are more difficult to enumerate in dollar figures. Our research aims to partially quantify these economic benefits through an economic impact analysis. This type of analysis by definition utilizes a regional gross domestic product framework (reported as "total output") which does not measure such benefits as "lives saved," "property damage averted," or "pollution prevented" and also treats education as the consumption of a service rather than an investment in our workforce.[53] It is thus essential to note that the total output figures which follow may in fact understate the true benefits of state and local government employment to the residents of Illinois.[54]

As noted previously, there are 788,051 workers directly employed by the state and local governments in Illinois, constituting 13.2 percent of the workforce. While the average "labor income" (i.e., cost in terms of total compensation) of state and local government employees is $47.75 billion each year, expenditures by state and local government workers in Illinois annually contribute $105.70 billion in total economic output to the State of Illinois (in constant 2012 dollars), representing 15.8 percent of the state's GDP (Figure 12). A decomposition of this figure suggests that government workers themselves produce $58.61 billion in total output to the state and generate $47.08 billion in additional output through indirect and induced effects, as goods and services are provided to meet the production and consumption needs of state and local government workers.

In addition, a total of 1.10 million jobs in Illinois are attributed to state and local government employment, or 18.5 percent of all jobs in Illinois (Figure 12). While 788,051 (13.2 percent of the workforce) workers are directly employed by state and local governments, another 313,770 private, nonprofit, and self-employed jobs (5.3 percent of the workforce; 6.1 percent of private sector jobs) are created through the indirect and induced effects of government hiring.

Figure 12: Impact of state and local government employment on the Illinois economy in 2012

IMPACT	EMPLOYMENT	LABOR INCOME	VALUE ADDED	TOTAL OUTPUT
Total	**1,101,821 jobs**	**$62,955,285,521**	**$76,427,409,112**	**$105,695,698,392**
Direct	788,051 jobs	$47,753,164,140	$49,533,680,274	$58,610,776,092
Indirect	24,357 jobs	$1,564,723,530	$2,626,782,271	$6,472,048,879
Induced	289,413 jobs	$13,637,397,851	$24,266,946,566	$40,612,873,422

Source: Result of authors' IMPLAN analysis using data from the American Community Survey 2011 (3-Year Estimates). The Labor Education Program utilizes IMPLAN (IMpacts for PLANning) Version 3.0.17.2, Minnesota IMPLAN Group, Inc., © 2011.

Along with the employment impacts of public service, expenditures on government workers and on the economic activity they stimulate generate $3.86 billion in tax revenue to state and local governments in Illinois (Figure 13). The primary sources of tax revenue to the state and local governments are sales taxes, personal income taxes, and property taxes on businesses and households. The economic activity spurred by Illinois government employees also confers $11.90 billion to the federal government in taxes.

Figure 13: Impact of state and local government employment on 2012 state and local tax revenue

TAX DESCRIPTION	REVENUE
Total	**$3,860,362,861**
Personal Income and Property Taxes	$898,128,982
Business Sales and Property Taxes	$2,051,913,005
Corporate Profits and Dividends Taxes	$142,899,749
Social Insurance Tax- Employee Contribution	$54,673,186
Social Insurance Tax- Employer Contribution	$96,920,657
All other taxes, fees, and licenses	$615,827,282

Source: Result of authors' IMPLAN analysis using data from the American Community Survey 2011 (3-Year Estimates). The Labor Education Program utilizes IMPLAN (IMpacts for PLANning) Version 3.0.17.2, Minnesota IMPLAN Group, Inc., © 2011.

IV. Conclusion

When accounting for an array of factors, assertions that state and local government workers in Illinois are "overpaid" are not sustained. Illinois state and local government employees are much more highly educated than their counterparts in the private sector and, with less job turnover, acquire more job-specific human capital skills. It is therefore reasonable for economists, researchers, policymakers, and taxpayers to *expect* Illinois public servants to be compensated more on average than private sector workers. However, when controlling for education and other demographic factors, an apples-to-apples comparison shows that state and local government workers actually earn lower salaries than their private sector counterparts. As a matter of fairness, state and local government employment in Illinois is also more equitable across income and socioeconomic characteristics than working in the private sector.

Comparisons to state and local government employees in other states also largely refute claims that Illinois state and local government employees are overpaid. On pensions, mismanagement by state officials and politicians has created an insecure environment. It is clear, though, that Illinois state and local government sector workers do not inherently fare better than their counterparts in other states. Additionally, while Illinois state government employees do earn more in health benefits than those in comparable states, this difference can be attributed to lower income from wages and salaries in Illinois than in those states (i.e., the composition of how Illinois public sector workers are paid is simply different than other states). It is also noteworthy that when compared to private unionized industries and occupations in Illinois, the health benefits' premium for Illinois state workers is less advantageous.

Finally, state and local government employment and retirement payments provide large contributions to the Illinois economy. About one-sixth of the Illinois economy is driven by expenditures made by active state and local government workers and state pension recipients. Nearly two-fifths of the jobs in Illinois are attributed to expenditures made to public sector workers, including over 300,000 private sector jobs, or 6 percent of all private sector jobs.

While there has been a lot of commentary about the impact of Illinois' public workforce on the state's fiscal health, this report concurs with a growing body of research which rejects the notion that state and local government employees are overcompensated for equal work.[55] State and local government workers provide substantial measured and unmeasured benefits to the residents of Illinois, are not obviously better off than their counterparts, and in general face a wage and salary penalty by working in the public sector. Ultimately, Illinois public servants earn an average compensation package expected for a highly-educated workforce in a high-wage state.

Endnotes and Data Appendix

[1]. Richard Ravitch and Paul A. Volker, Task Force Chair, *Reports of the State Budget Crisis Task Force: Illinois Report*, July 2012, Summary.

[2]. *Reports of the State Budget Crisis Task Force: Illinois Report*, July 2012, p. 15, supra note 1.

[3]. *Reports of the State Budget Crisis Task Force: Illinois Report,* July 2012, p.16, supra note 1.

[4]. Illinois only taxes 17 categories of income. By comparison, Indiana levies taxes on 24, Wisconsin on 76, Michigan on 26, Missouri on 26, Minnesota on 66 and Iowa on 94. Illinois is also only one of seven states with a flat personal income assessment. The vast majority of states apply a graduating tax to income (Figures from the Federation of Tax Administrators 2007 and Center for Tax & Budget Accountability, 2007). In January 2011 Illinois did increase individual and corporate tax rates generating an additional $7.6 billion in revenue above what would have been collected without the hikes (*Reports of the State Budget Crisis Task Force: Illinois Report*, Summary and p.11).

[5]. *Reports of the State Budget Crisis Task Force: Illinois Report*, p.16, supra note 1.

[6]. As reported in the Governors' *Economic and Fiscal Policy Report* to the General Assembly, January 11, 2013, p. 3.

[7]. *Reports of the State Budget Crisis Task Force: Illinois Report*, p.8, supra note 1.

[8]. In fiscal year 2012 and 2013 deep budget cuts were made in education, medical care, and other human services and savings from the closure of state facilities were projected. *State of Illinois Budget Summary: Fiscal Year 2013, Commission on Government Forecasting and Accountability: Illinois General Assembly*, August 2012.

[9]. Joseph Erbentraut, "Governor Quinn Cancels 30,000 Public Employee Raises, Union Calls Plan 'Illegal and Irresponsible.'" *The Huffington Post*, September 1, 21, at http://www.huffingtonpost.com/2011/07/01/governor-quinn-cancels-30_n_889009.html.

[10]. Edwin Benn arbitrator, *In the Matter of the Arbitration between STATE OF ILLINOIS and AFSCME COUNCIL 31, Case No.: Arb. Ref. 10.251 and July 1, 2011 Increases*, July 19, 2011, p. 20.

[11]. Dave McKinney, "AFSCME Scores Victory in Pay Dispute with Quinn Administration." *Chicago Sun-Times,* December 7, 2012, at http://blogs.suntimes.com/politics/2012/12/afscme_scores_ partial_pay_victory_in_legal_fight_with_quinn_administration.html. The judge, however, also ruled that the state "cannot pay money that wasn't appropriated by the General Assembly" (see Doug Finkle, "Judge Orders Quinn to Honor State Employee Raises," *The State Journal Register*, December 7, 2012). Billik's order is currently on appeal.

[12]. Edwin Benn arbitrator, *In the Matter of the Arbitration between STATE OF ILLINOIS and AFSCME COUNCIL 31, Case No.: Arb. Ref. 10.251 and 2011-2012 Layoffs and Facility Closures*, October 3, 2011, p. 36.

[13]. "Quinn Ends State's Contract with AFSCME." NBC5 Chicago, November 20, 2012, at http://www.nbcchicago.com/blogs/ward-room/illinois-governor-quinn-afscme-contract-180250351. html.

[14]. One very good example of scholarship on public employment issues is the Employment Policy Research Network at http://www.employmentpolicy.org/about-eprn.

[15]. Authors' analysis of the 2011 American Community Survey by the United States Census Bureau. Data are three-year estimates and were obtained through the American Factfinder database at http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.

[16]. Authors' analysis of Federal Reserve Economic Data, Federal Reserve Bank of St. Louis; Government Employees Public Sector for Illinois and Total Gross Domestic Product by State for Illinois (ILNGSP); U.S. Department of Labor: Bureau of Labor Statistics; http://research. stlouisfed.org/fred2/graph/?id=ILNGSP. Total Gross Domestic Product was adjusted by the Consumer Price Index (CPI) each year in accordance with the the Illinois Department of Revenue's PTELL usage: http://tax.illinois.gov/LocalGovernment/PropertyTax/CPIHistory.pdf.

[17]. For more on this common finding, please see Jennifer Cheeseman Day and Eric C. Newburger, *The Big Payoff: Educational Attainment and Synthetic Estimates of Work-Life Earnings*. U.S. Census Bureau, Special Studies, Issued July 2002, at http://www.census.gov/prod/2002pubs/p23-210.pdf and David Card, "The Causal Effect of Education on Earnings." *Handbook of Labor Economics, Volume 3*, 1999 at http://www.stanford.edu/group/scspi/_media/pdf/Classic_ Media/Card_1999_Education.pdf.

[18]. Authors' analysis of the Integrated Public Use Microdata Series (IPUMS) of the Current Population Survey (CPS). Miriam King, Steven Ruggles, J. Trent Alexander, Sarah Flood, Katie Genadek, Matthew B. Schroeder, Brandon Trampe, and Rebecca Vick. Integrated Public Use Microdata Series, Current Population Survey: Version 3.0. Minneapolis: University of Minnesota, 2010, at http://cps.ipums.org/cps/. The CPS is a monthly U.S. household survey conducted jointly by the U.S.

Census Bureau and the Bureau of Labor Statistics. The authors analyzed data for the civilian labor force aged 21 or older from 2010 to 2012, adjusting the data to constant 2011 dollars based on CPI-U inflation amounts, as reported by IPUMS-CPS at http://cps.ipums.org/cps/cpi99.shtml.

[19]. John Schmitt, *The Union Wage Advantage for Low-Wage Workers*. Center for Economic and Policy Research, May 2008 at http://www.cepr.net/documents/publications/quantile_2008_05.pdf. Schmitt estimated an average union hourly wage premium of 11.9 percent but premiums of between 13.7 percent and 20.6 percent for the lowest half of the national income distribution, holding age, race, education, industry, and state constant. Note that only Illinois public sector workers with "some college, no degree" experience a wage premium, at 16 percent, of comparable magnitude.

[20]. Authors' analysis of the Job Openings and Labor Turnover Survey (JOLTS) of the U.S. Bureau of Labor Statistics from 2010 to 2012. JOLTS is a monthly survey conducted by the BLS to help measure job vacancies and job churn. Data used can be found at http://www.bls.gov/data/.

[21]. See Richard B. Freeman and James Medoff, *What Do Unions Do?* (New York: Basic Books 1985); James T. Bennett and Bruce Kaufman, Editors, *What Do Unions Do? A Twenty-Year Perspective* (Piscataway Township, New Jersey: Transaction Publishers 2007); Michael D. Yates, *Why Unions Matter* (New York: Monthly Review Press 2nd edition 2009); Richard Freeman and Joel Rogers, *What Workers Want*, updated edition (New York: Russell Sage Foundation and Cornell University, ILR Press 2006).

[22]. The dependent variable is the natural log of annual wage, and the variable of interest is the first indicator variable taking on the value of one when a worker is classified as working in the state and local government sector and zero otherwise. Excluded dummy variable indicators include non-white, less than a high school degree, and the private sector, meaning reported coefficients are to be measured against these variables as baselines. For instance, one who has a bachelor's degree earns, on average 62.4 percent more per year (as shown in Figure 5) than a baseline individual with less than a high school degree but an identical race, age, and sector of work. The regression was performed using STATA Data Analysis and Statistical Software.

[23]. David Cooper, Mary Gable, and Algernon Austin. *The Public-Sector Jobs Crisis: Women and African Americans Hit Hardest by Job Losses in State and Local Governments.* Economic Policy Institute, May 2, 2012, at http://www.epi.org/publication/bp339-public-sector-jobs-crisis/.

[24]. For more on the 90/10 ratio, see "Appendix A: Measurement of Living Standards and Inequality." *Making Transition Work for Everyone*. The World Bank, 2000, at http://siteresources.worldbank.org/ECAEXT/Resources/publications/Making-Transition-Work-for-Everyone/appendix+A.pdf.

[25]. Authors' analysis of the Integrated Public Use Microdata Series (IPUMS) of the Current Population Survey (CPS), supra note 18.

[26]. Gregory Lewis and Chester Galloway, "A National Analysis of Public/Private Wage Differentials at the State and Local Levels by Race and Gender." Andrew Young School of Policy Studies Research Paper Series No. 11-10 at http://papers. ssrn.com/sol3/papers.cfm?abstract-id=1768190.

[27]. C. O. Kroncke, and J. E. Long, "Pay Comparability in State Governments," *Journal of Labor Research*, 19, 2, (1998), 371-385 and M. Asher, and. J.Popkin, "The Effect of Gender and Race Differentials on Public-Private Wage Comparisons: A Study of Postal Workers," *Industrial and Labor Relations Review*, 38, 1, (1984), 16-25.

[28]. Authors' analysis of the Integrated Public Use Microdata Series (IPUMS) of the Current Population Survey (CPS), supra note 18.

[29]. May 2011 State Occupational Employment and Wage Estimates of the U.S. Bureau of Labor Statistics at http://www.bls.gov/oes/current/oessrcst.htm and Government Employment & Payroll - 2011 State Government of the U.S. Census Bureau at http://www.census.gov/govs/apes/.

[30]. Authors' analysis of the Integrated Public Use Microdata Series (IPUMS) of the Current Population Survey (CPS), supra note 18. State government worker data included 35,577 observations for the 50 states plus Washington, D.C. Data includes *all* state and local government employees and is not limited to full-time or full-time equivalent workers.

[31]. Jeffrey H. Keefe provides the estimate for average total compensation for full-time equivalent state *and* local government employees in the United States (Keefe, *Debunking the Myth of the Overcompensated Public Employee.* Economic Policy Institute, September 15, 2010, at http://www.epi.org/page/-/pdf/bp276.pdf). Keefe does not, however, provide an estimate for Illinois. For ease of comparison, the authors analyzed state government worker data only in this section. The Illinois estimate is the authors' analysis of the U.S. Census Bureau Government Employment & Payroll for 2011 State Government data, using total March payroll and full-time equivalent employment for Illinois. The Government Employment & Payroll data can be found at http://www.census.gov/ govs/apes/.

[32]. According to Chief Legal Counsel to Illinois Senate President John J. Cullerton and Parliamentarian of the Illinois Senate Eric M. Madiar, "between fiscal years 1985 and 2007—before the 2008 stock market crash—over 70% of the growth in the State's unfunded liabilities came from the shortfall in State contributions to the systems." (from Policy Paper titled, "Is Welching on Public Pension Promises an Option for Illinois? An analysis of Article XIII, Section 5 of the Illinois Constitution," p. 2 at

http://www.senatedem.ilga.gov/phocadownload/PDF/PensionDocs/madiarrevisedpensionclausearticle.pdf

[33]. "These unfunded liabilities, though, are not the fault of public employees. Public employees have historically paid their fair share of the normal cost of benefits through payroll deductions" (Madiar, "Is Welching on Public Pension Promises an Option for Illinois?" p. 1)

[34]. Those who contribute more are Alaska, Arizona, Colorado, Kentucky, Mississippi, Montana, Nebraska, New Mexico, Nevada, Ohio, and Pennsylvania: *Issue Brief: Employee Contributions to Public Pension Funds*. National Association of State Retirement Administrators January 2013, available at http://wikipension.com/images/8/8e/Issuebrief130102.pdf.

[35]. Retirement benefits also account for a substantially greater share of public employee compensation, 8.1 percent compared to 2.5 percent to 4.8 percent in the private sector (Jeffrey H. Keefe, *Debunking the Myth of the Overcompensated Public Employee The Evidence*, Economic Policy Institute, September 15, 2010, p. 11, supra note 31).

[36]. Virginia Reno and David John, *Option: Cover All Newly Hired State and Local Government Workers*. AARP Public Policy Institute, June, 27, 2012, at http://www.aarp.org/content/dam/aarp/research/public_ policy_institute/econ_sec/2012/option-cover-all-newly-hired-government-workers-AARP-ppi-econ-sec.pdf.

[37]. Dawn Nuschler, Alison M. Shelton, and John J. Topoleski, *Social Security: Mandatory Coverage of New State and Local Government Employees*. Congressional Research Service, July 25, 2011, at http://www.nasra.org/resources/CRS %202011%20Report.pdf.

[38]. *State of Illinois: Report of the Pension Modernization Task Force*, p. 31.

[39]. Christian E. Weller, "What Does the Literature Tell Us About the Possible Effect of Changing Retirement Benefits on Public Employee Effectiveness?" Political Economy Research Institute at the University of Massachusetts Amherst, Workingpaper Series, No. 270, October 2011, at http://www.employmentpolicy.org/sites/www.employmentpolicy.org/files/field-content-file/pdf/Christian%20E.%20Weller/PERI%20WP270,%20teacher%20pensions.pdf.

[40]. *Premiums, Cost-Sharing and Coverage at Public, Private and Non-Profit Employers: A View from the 2012 Employer Health Benefit Survey*. Kaiser Family Foundation, November 2012 at www.kff.org.

[41]. Keefe, *Debunking the Myth of the Overcompensated Public Employee The Evidence*. Economic Policy Institute, p. 7. Supra note 31.

[42]. Illinois' overall unionization rate is 14.5 percent and 15.5 percent of workers are covered by labor agreements (*Bureau of Labor Statistics Report*, U.S. Department of Labor, Washington, D.C., January 23, 2013); State union membership data is from Barry T. Hirsch, Georgia State University, and David A. Macpherson, Trinity University, *Union Membership and Coverage Database from the CPS* 2013 at www.unionstats.com.

[43]. Cathy Schoen, Ashley-Kay Fryer, Sara R. Collins, and David C. Radley, *State Trends in Premiums and Deductibles, 2003–2010: The Need for Action to Address Rising Costs*, The Commonwealth Fund, November 2011.

[44]. Authors' analysis of internal healthcare database documents graciously provided, upon request, from the American Federation of State, County, and Municipal Employees Council 31 (AFSCME 31) for 2012.

[45]. Union coverage data for both sectors derived from the authors' analysis of the *Union Membership and Coverage Database from the CPS* for 2013 by Barry Hirsch, Georgia State University, and David Macpherson, Trinity University, supra note 42.

[46]. Authors' analysis of internal healthcare and membership documents graciously provided, upon request, from the International Union of Operating Engineers Local 150 (IUOE 150) for 2012 and the Chicago Area Laborers-Employers Cooperation and Education Trust (LECET) for 2012. Data on health and wellness costs per hour for both operating engineers and laborers are readily available from the Illinois Department of Labor in the form of Prevailing Wage rate breakdowns, at http://www.state.il.us/agency/idol/rates/rates.HTM.

[47]. Ilana Boivie, *Pensionomics: Measuring the Economic Impact of DB Pension Expenditures*. National Retirement Security Institute, March 2012 at http://www.nirsonline.org/storage/nirs/documents/2012_pensionomics_report.pdf.

[48] . Ilana Boivie and Beth Almeida, *Pensionomics: Measuring the Economic Impact of State and Local Pension Plans.* National Institute on Retirement Security, February 2009 at http://www.nirsonline.org/index.php?option=com_content& task=view&id=189&Itemid=48. As noted by the authors, the study measured the economic "footprint" of pension benefits paid by state and local pension plans both on a national basis, and within each state economy. The study further addresses the expenditure effects of state and local pension benefits by assessing the economic impact that results when spending by retirees "ripple throughout the economy" (p. 3).

[49]. Authors' analysis of the 2011 Annual Survey of Public Pensions: State & Local Data by the U.S. Census Bureau. Data used can be found at http://www.census.gov/govs/retire/.

[50]. The Urban Institute-Brookings Institute Tax Policy Center reports that the effective federal tax rate (i.e., average tax rate) faced for those aged 65 and older was 8.9 percent on average. For more on effective federal tax rates, see the January 17, 2013 preliminary results at http://www.taxpolicycenter.org/numbers/Content/PDF/T13-0044.pdf. Factoring this average income tax rate into the total payments figure yields $12.22 billion in disposable income. We assume the average recipient of a public pension faces the average effective federal tax rate for the entire population aged 65 and older. In the disposable income analysis, we do not need to take Illinois income taxes into account, as pensions are not subject to Illinois income taxes. For more, see http://tax.illinois.gov/individuals/pension.htm.

[51]. To estimate retiree migration across state lines, we use data from the Integrated Public Use Microdata Series (IPUMS) of the Current Population Survey (CPS), supra note 18. This dataset provides information on age, current state of residence, and residence one year ago. From this information, we calculate recent net migration of people aged 65 and older for Illinois and assume the migration patterns for state and local government retirees are the same as those of all other older Illinois retirees.

[52]. As described by the NIRS study authors: "The direct impact occurs when the initial benefit payment is spent by the retiree. The indirect impact occurs as a result of the additional income generated through the purchase of more goods and services by merchants receiving direct expenditures from retirees. The induced employment impact is attributable to the additional income generated through the purchase of goods and services by employees hired as a result of the direct and indirect impacts (p. 6)".

[53]. Gross domestic product (GDP), the standard economic measure for the health of an economy, is the summation of the following components: domestic consumption, individual and business investment, government spending and investment, and net exports. Although many of the benefits public sector workers provide are not captured in these components, often lost in the debate about cutting public sector employment is the fact that cutting spending lowers GDP, all else equal.

[54]. Likewise important to consider is the fact that these results take the form of total benefits and total costs, and neglect analysis through the typical microeconomic lens of marginal benefits, marginal costs, and Pareto optimality. However, input-output economic impact analyses provide insight on net benefits of a particular policy. In this case, the net benefits of employing 788,051 state and local government workers in Illinois are quite positive to the state.

[55]. The follow is a list of such literature, but is not meant to be comprehensive:

Keith A. Bender and John S. Heywood, "Out of Balance? Comparing Public and Private Sector Compensation over 20 Years." Center for State and Local Government Excellence and National

Institute on Retirement Security, April 2010, at http://slge.org/wp-content/uploads/2011/12/Out-of-Balance_FINAL-REPORT_10-183.pdf;

George Borjas, "The Wage Structure and the Sorting of Workers into the Public Sector." National Bureau of Economic Research, November 2002, at http://www.nber.org/papers/w9313.pdf;

Jeffrey H. Keefe, "Debunking the Myth of the Overcompensated Public Employee The Evidence." Economic Policy Institute, September 15, 2010, at http://www.epi.org/publication/debunking_the_myth_of_the_overcompensated_public_employee/;

Alan Krueger, "Are Public Sector Workers Paid More Than Their Alternative Wage? Evidence From Longitudinal Data And Job Queues?" National Bureau of Economic Research, January 1988, at http://www.nber.org/papers/w2500.pdf?new_window=1;

Gregory Lewis and Chester Galloway, "A National Analysis of Public/Private Wage Differentials at the State and Local Levels by Race and Gender." Andrew Young School of Policy Studies Research Paper Series No. 11-10 at http://papers.ssrn.com/sol3/papers.cfm?abstract-id=1768190;

Michael Luo and Michael Cooper, "In Battle Over State Payrolls, Data Show a Mixed Picture." *The New York Times*, February 25, 2011, at http://www.nytimes.com/2011/02/26/us/26salaries.html?pagewanted=2&ref=us;

John Schmitt, "The Wage Penalty for State and Local Government Employees." Washington, D.C.: Center for Economic and Policy Research, May 2010, at http://www.cepr.net/documents/publications/wage-penalty-2010-05.pdf.

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