The Cost of Public Sector Union Laws

A comparison between California and North Carolina

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How much does a law cost? States legislate different rights to state and local government employees on whether they can collectively bargain, strike and go to arbitration. California and North Carolina sit on opposite ends of the spectrum, with collective bargaining mandated in California, and binding arbitration active in many cities, while North Carolina is one of two states to prohibit all collective bargaining by public employees. What are the costs of these choices?

After correcting for the statewide wage differences, Californians overpay their public employees by $49 billion each year. That is more than the entire California state income tax revenue [1] and is enough to eliminate all property taxes at the state and local levels in California [2]. It equates to over $3,800 for every individual tax filer, per year, in California [3]. Unfortunately, $49 billion is likely understating the gap.

Executive Summary

Extensive studies have tried to determine if public employees are overpaid. Some have compared public employees to private employees. Some have compared union to non-union workers within the public workforce. The thesis of this paper is that state and local employees are overpaid, but not uniformly. The legal environments in particular states and cities lead to more unionization, which leads to vastly higher compensation than in other areas. Examining the legal environment's effect on pay is an important step in recommending changes to legislation.

Additionally, public sector benefits, such as pension and retirement health coverage, are not correctly accounted for, leading to a general understating of public pay that will likewise grow in states with more favorable union laws. This paper will attempt to correctly account for benefits when calculating compensation.

To test this thesis, rather than looking at public employees across the nation, two states at the extremes of public union legislation were chosen: California and North Carolina. Testing the extremes will give an idea of how large the gap can be, as well as provide a more tractable set of data. This paper will look only at state and local government employees, who account for over 86% of the total civilian government workforce and roughly half of the spending at the state and local levels [4].

Public sector unions have some fundamental differences compared to unions in the private sector. Public unions, due to their deep pockets and large pool of constituents, can decide elections and force politicians to choose between the public good and their interest in re-election. Public sector unions are no different than other special interests in that they are able to influence government for favors at the cost of the general taxpayer, who is rationally ignorant of the details of government matters. In California, this

influence is seen in the compensation of state and local employees. Benefits are a particularly ripe area to be taken advantage of, as the favors can be given immediately, while the costs can be hidden and pushed off to future taxpayers and politicians.

The influence of public sector unions is not only seen in much wages and benefits, but also in the little details that generally go unnoticed, such as what salary figure is input into the pension calculation. By taking one year's highest salary rather than the average of four years, public employees can dramatically raise a pension payment. For example, a fire chief in California increased his pension by over $96 thousand per year[1] by "pension spiking". These are the types of favors that unions are sure to recognize, but that the taxpayer will ignore until the bill comes due. By the time that happens, legal bounds prevent any correction.

Public employees influence public pay in all states, but their voice is dramatically amplified in states with union-friendly laws. Their voices grow louder at the local level, where voter turnout is low, unionization is high and additional laws such as mandatory binding arbitration come into play.

This paper will start with an examination of how public employee benefits are accounted for and funded. Pay comparison studies will then be reviewed, first at the national level, reviewing the comparisons of public and private employees, as well as union and non-union public employees. The paper will then drill down into a statewide comparison between California and North Carolina, then further into an occupational comparison of firemen wages in the two states. It will finish by going all the way down to examine the city of Vallejo, where a bloated budget driven by personnel costs led the city to bankruptcy. At each level, assumptions can be removed and more definitive data can be used, allowing a more accurate comparison of compensation.

Along the way, basic supply and demand analysis, which predicts oversupply of labor at above equilibrium wages, will be discussed. These dry graphs will spring to life in the form of prospective firemen camping out and pushing and shoving to get a lottery ticket, which in this case is a job application at a local fire department. If they win, they join one of the highest compensated occupations in the state.

The paper will conclude with a discussion of how wages are set privately and publicly, the difficulty of determining a "fair" wage, some recommendations for a solution and where this research can be expanded.

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[1] 26 years at 3% of his $185,000 annual salary is a pension of $144,300. His pension is $241,000.

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I. Public Employment Retirement Benefits Accounting

Public employees receive retirement benefits primarily in two forms: a fixed income pension and retirement health care coverage.

Accounting for pension benefits requires actuarial calculations on the government workforce. These calculations involve several variables, including the predicted lifespan of retirees, their likely retirement date, their projected salary increases and the discount rate.

There has been a great deal of controversy around the discount rate, which governments typically set at between 7% and 8%, which is their expected rate of return on their pension investments. This is different than corporate pension plans, which are required by law to use market valuation methods, which use lower, risk-adjusted discount rates [5].

Robert Novy-Marx and Joshua Rauh have studied these pension liabilities closely, and had this to say in their recent paper, *The Liabilities and Risks of State-Sponsored Pension Plans* [6]:

> We show that government accounting standards require states to use procedures that severely understate their liabilities. States project the payments they owe to retirees, but in calculating how much those payments are worth today, the states use discount rates that are unreasonably high. In particular, government accounting standards require them to discount their liabilities at the expected return on their assets. This approach is analytically misguided: the magnitude of pension liabilities and how a pension's funds are invested are two separate issues that should be considered independently. In practice, the accounting standard being used sets up a false equivalence between pension payments, which are extremely likely to be made, and the much less certain outcome of a risky investment portfolio.

In a majority of states, pension payments are protected by state constitutional provisions. In those that are not, there is generally language restricting the legislature from interfering with existing contractual agreements, which would protect pension payments [7]. History has proven the reliability of pensions, as even in cases of severe financial distress, governments have consistently protected pension payments.

For example, in 1975, New York City was unable to complete a bond offering, forcing massive layoffs and wage deferrals, but still met their pension obligations. In 1994, Orange County filed bankruptcy, cut the budget by 40% and laid off over 1000 workers. However, they met their pension obligations in full [7]. Since the payment of pensions are virtually guaranteed, accepted financial theory suggests that streams of payment should be discounted at a risk-free rate.

Using a risk-free rate of discount, Novy-Marx and Rauh found that at the end of 2008, state and local pension plans had $5.17 trillion in liabilities, while governments were only reporting $2.98 trillion in liabilities. The pension liabilities calculated with a risk-free discount rate were 73% higher than reported by governments.

There is an implicit guarantee by taxpayers to fund public pension plans, regardless of investment performance, that is unaccounted for by government reporting. Andrew Biggs of the American Enterprise Institute equated this guarantee to a "put option" that is common in financial markets. A put option gives someone a right to sell an asset at a given time at the "strike price". What the taxpayer provides is essentially a put option for the pension fund, which guarantees the funding of the pensions at the full pension value (i.e. the "strike price") when the pension benefits are due. Using the Black-Scholes method for pricing this put option raises the liabilities of pension funds even further than the Novy-Marx and Rauh method described previously [8].

Recent changes to government accounting standards[2] have required state and local governments to calculate and report the actuarial liabilities for not only pension benefits, but also Other Post-Employment Benefits (OPEB) such as retirement health care. Previously, the costs were accounted for years later on a "pay as you go" basis, when the benefits were paid. This meant that increasing benefits for current employees had zero cost, as the employees were not yet drawing on these benefits. This kept these liabilities mostly "off the books" and gave officials more latitude in giving generous health benefits to unions.

It is important to note that governments are not required to pay the actuarially recommended amount for their pension and retirement health benefits. Many governments underfund their pension and retirement health plans. This allows benefit promises made by today's elected officials to be pushed off into the future, increasing the incentive to give overly generous benefits to unions as some of the up-front costs can be avoided. A recent Pew study (2010) had this to say about government funding of benefits [9]:

> Our analysis found that many states shortchanged their pension plans in both good times and bad, and only a handful have set aside any meaningful funding for retiree health care and other non-pension benefits.

The Pew study found that twenty states have funded none of their liability for non-pension benefits, such as retirement health care. Nationwide, only 5.4% of the non-pension liabilities have been funded [9].

Most states still underfund their pension plans[3], even when using the low liability estimate discussed previously. Twenty-one states are under 80% funded, with eight

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[2] In 2004, the Governmental Accounting Standards Board (GASB) issued statements 43 and 45 regarding the accounting of Other Post-Employment Benefits (OPEB).
[3] Only four state pension plans are 100% funded [9].

below 65% [9]. Using the Novy-Marx and Rauh liability estimate, state government pensions are over $3 trillion underfunded. Including this figure in the state's debt would cause state debt to grow by 343% [6]. This figure does not include local government pension plans.

Additionally, governments have been fighting against more accurate actuarial methods as it exposes the true liabilities of pension plans to taxpayers. This forces them to raise contribution rates, cut benefits or expand their budget. For example, Montana made it clear in a recent solicitation for actuaries that they are not interested in hiring any who would recommend market valuation of their pensions. The National Association of State Retirement Administrators concurs, not due to any specific demerits of the market valuation technique, but rather that the effect of reporting higher liabilities might harm the support of defined benefit pension plans [5].

Understanding the inadequacy of governmental accounting of benefit costs is crucial when examining pay comparisons that use those figures as inputs.

II. A Review of Compensation Comparisons

Public Versus Private

There have been scores of studies that have examined public versus private compensation. Given that the two workforces are vastly different, sophisticated econometrics have been used to try and correct for the differences to provide an "apples to apples" comparison.

Most of these studies are done at a national level and have shown varying degrees of overcompensation for public employees, some slight, some substantial. Many of these studies look only at wage data, and the ones that examine total compensation do not correct for the misreporting of benefit costs by government.

One way to avoid the issue of correctly accounting for benefits is to look directly at how public and private employees behave. Traditional supply and demand analysis predicts that if compensation is above the "equilibrium" value, that there will be an excess supply of workers willing to work at that given compensation. This would cause public employees to be less likely to leave their job, because they would be unlikely to receive the same compensation in the open market. The Bureau of Labor Statistics (BLS) has data on employee quit rates across industries, and between 2001 and 2009, pubic employees have quit at less than one-third the rate of private employees [10].

However, differences in the composition of the workforces could again skew the analysis. Government workforces are generally older and better educated [11], so a better comparison would be between the quit rates of the public workforce and a private workforce of similar composition. Additionally, there could be a selection bias of workers who prefer longer employment in government jobs. That being said, the government quit rate is substantially lower than all twenty-one private industries in the

BLS Job Openings and Labor Turnover Survey. The closest industry is private educational services, whose workers are still 57% more likely to quit than government workers [10].

However, all of these studies and datasets are aggregated to the national level, which would hide any state-specific characteristics that could lead to higher public employee compensation. One of the only studies to examine compensation at the state level is by Belman and Haywood (1995). They examined pay differentials among seven states, and found significant variation in the differentials between public and private pay by state [12].

In summary, public employees appear to be overcompensated at a national level, and there is evidence of significant variance at the state level. What might cause one state to overcompensate more than another? An examination of the unionization rates and laws within states provides the answer.

Union Versus Non-Union Public Pay

Many studies have examined the effect of unionization on the wages of public employees. Lewis (1988) examined 23 studies and estimated the wage gap between union and non-union public employees at 8% to 12% [13]. A more recent study by the Center for Economic and Policy Research (2010) examined the wage gap at a state level and after controlling for age, education, gender and industry, found the wage gap to be anywhere between 5 and 23%, with the median state having a 14% gap due to unionization. They also found that unions affected health insurance coverage from 9% to 30%, with the median state having a 19% effect due to unionization [14].

However, strictly looking at union versus non-union compensation can mask some of the subtleties of the union effect. For example, in states with a high union density, non-union public employees also receive higher wages [15]. This could be because officials set the general wage off the union wage to avoid morale problems or the threat of further unionization. This spillover effect would reduce the perceived union effect on wages, as non-union wages are higher as well.

Union density also has a significant effect on the extent of the wage gap for union members. Belman, Haywood and Lund (1997) found that a 10% increase in union density raises the wage by 5%. They hypothesize that this is due to the increased political power of larger unions, the inability for governments to substitute to non-union labor in states with high union densities and other factors [15].

Additionally, Tracy (1988) finds that the wage differential is dependent on the legal environment. When controlling for union density, as the union laws get stronger, the wage gap becomes more pronounced. For examples, in states where collective bargaining is prohibited, there is no significant wage gap. When states move from weaker “Meet and Confer” laws to “Duty to Bargain” laws, the differential grows [16].

Again, traditional supply and demand analysis predicts that if a wage is above the market value, that there will be an excess supply of workers willing to work at that given wage. Mohanty (1995) builds a queue model and uses data from the 1983 Current Population Survey to compare the queue size for union versus non-union local government jobs. He finds that a queue exist for both, indicating they are both more desired than private sector jobs, and that the queue for union jobs is twice as long as for a non-union job [17]. Later in this paper, strong anecdotal evidence will be presented to support this finding.

In summary, we see that a compensation gap exists between unionized and non-unionized public employees and is exacerbated by union density and the legal environment. However, without correctly accounting for the cost of benefits, these studies cannot give a reliable estimate of what that overcompensation costs the taxpayer. This paper will attempt to correct for this. Before doing so, I will examine why some states have higher unionization rates, and how unions affect compensation.

III. Unionization Within States

Legal Environments for Public Employees

State and local laws differ widely on the fundamental issues of collective bargaining within the public sector. Twenty-six states guarantee collective bargaining rights for all public employees, either implicitly or explicitly. Twelve states only guarantee collective bargaining rights for specific groups of public employees. Ten states provide no legal guarantees for collective bargaining, while two states prohibit collective bargaining. [18][19]

Additionally, states differ on whether strikes are allowed and whether disputes should be settled with binding arbitration, voluntary arbitration or neither.

These differences provide a natural experiment to examine whether union laws correlate with higher compensation. However, an important question is whether union laws lead to high rates of unionization, or do strong unions lead to pro-union laws? The evidence indicates it is the former.

State and local bargaining laws for public employees changed mostly in the 1960s and 1970s, and were followed by a rapid growth in unionization. These laws varied in type, from weaker "meet and confer" laws to stronger laws that required bargaining and binding arbitration to resolve disputes. Richard Freeman, in his essay, *Unionism Comes to the Public Sector* [20], summarizes eight studies on the effect of laws on unionization:

> Studies of the spurt in public sector unionism uniformly show that these laws were a major factor in the growth of public sector unionization. States that enacted laws had rapid increases in unionization in ensuing years. States that did not had no such growth. The more favorable the laws were to unions the greater the growth of unionization.

Table 1 shows from greatest to least, the union density in states, grouped by legal environment.

Table 1 – Estimated Union Shares of State/Local Government Employment, Ordered by Union Share, Grouped by Bargaining Rights, 2008

Rank	Collective Bargaining for All Public Employees	Collective Bargaining for Select Groups	No Guaranteed Collective Bargaining	Collective Bargaining Prohibited
1	New York **75.5%**			
2	Rhode Island **68.8%**			
3	Hawaii **68.1%**			
4	New Jersey **67.3%**			
5	Connecticut **66.7%**			
6	Alaska **66.4%**			
7	Massachusetts **65.9%**			
8	Oregon **65.1%**			
9	California **61.9%**			
10	Michigan **61.4%**			
11	Pennsylvania **58.5%**			
12	Minnesota **58.2%**			
13	Washington **55.9%**			
14	Illinois **53.8%**			
15	New Hampshire **51.4%**			
16	Wisconsin **49.8%**			
17	Maine **48.2%**			
18	Vermont **42.5%**			
19	Montana **42.3%**			
20	Ohio **42.2%**			
21	Delaware **40.2%**			
22		Nevada **37.9%**		
23		Maryland **33.0%**		
24	Iowa **31.6%**			
25			Alabama **30.2%**	
26	Florida **27.9%**			
27		Indiana **27.3%**		
28	Nebraska **27.2%**			
29			West Virginia **24.8%**	
30		Missouri **22.1%**		
31			Colorado **20.7%**	
32			Arizona **17.3%**	
33		Oklahoma **15.5%**		
34		Kansas **14.6%**		
35		Idaho **14.3%**		
36		Kentucky **14.2%**		
37			Arkansas **14.1%**	
38		North Dakota **13.9%**		
39		Tennessee **13.4%**		
40	South Dakota **13.4%**			
41			Texas **12.6%**	
42			New Mexico **12.5%**	
43	Utah **12.3%**			
44		Wyoming **10.8%**		
45			Louisiana **10.8%**	
46				North Carolina **8.2%**
47			South Carolina **8.2%**	
48			Mississippi **6.0%**	
49				Virginia **5.2%**
50		Georgia **4.2%**		

Source: Chris Edwards, based on BLS data compiled by www.unionstats.org [4]. Legal information provided by the GAO and Washington Post [18] [19].

How Unions Influence Government

Special interests are a powerful force in government, as they provide monetary and voting support to politicians in exchange for backing on specific issues. The costs to the general taxpayers are often so widely dispersed that they go unnoticed. The politician can thus gain financial support and blocks of voters with little downside by providing the "political goods" that the special interest is seeking. The common example is that of the sugar interests, who lobby heavily for tariffs that gain them large fortunes, while the general taxpayer is not aware of the extra few dollars they pay for sugar due to the tariffs. Even if the taxpayer is aware of the rent being exacted, it is unlikely to be an issue of enough significance to influence his vote.

Unions that represent public employees are a large and organized political force. The American Federation of State, County & Municipal Employees has been the second largest political donor in the United States since 1989. The National Education Association ranked seventh, the Service Employees International Union (SEIU) ranked ninth and the American Federation of Teachers ranked fourteenth [21]. The head of the SEIU was the most frequent visitor to the White House during the first half of 2009 [22], and was recently appointed by President Obama to the Deficit Commission [23].

In addition to being active financial contributors, public employees are more than 40% more likely to vote than private sector employees in national elections [24]. This influence is magnified at the local level, due to low voter turnout. For example, a study of city council elections in California showed that in a fifth of the elections, less than 30% of the voters turned out, with a low of 10%! The mean turnout for city council elections is 48% of registered voters and just 32% of the voting population [25].

California has just under 16 million registered voters and 2.1 million local and state government employees, of which 1.2 million are unionized. As shown previously, non-union public employees also benefit from union activities and therefore would be likely to support union-endorsed candidates. In a local election with just 20% voter turnout, public union members could represent almost 40% of the vote, and state and local employees could be two thirds of the vote. At the median, with a 48% turnout, the union could make up 16% of the vote and the total state and local employees 27%. In the most recent state-only election in California (2006), only 56% of registered voters cast ballots, meaning that the union would be a formidable voting block at the state level as well. [25][26][27][28][29]

These percentages assume full turnout by union members and public employees, which is obviously unrealistic. However, given that family members would be likely to support each other when compensation is involved, that number or higher could be possible. Additionally, due to the direct economic benefits at stake, a local government employee would be more likely to have interest in a local election. This is the opposite from an average voter, who is more likely to turn out in a national election. [25][26]

Unions have deep pockets and large voting blocks, which makes them of particular interest to politicians. The primary political goods unions are seeking are higher compensation for union members and more public employment to expand the power of their union. When successful, unions can play a primary role in electing their "boss" who can return the favor during labor negotiations.

The forces at play in labor negotiations between a bureaucrat and a union are far different from those seen in private industry. In a private company, the person responsible for negotiating the union contract will likely have direct interest in the profitability of the company, either through ownership, stock options or other mechanisms to align management incentives with ownership. That person would have an incentive to negotiate the least costly employment terms to keep company profits, and therefore their direct income, as high as possible.

Contrast that to the public sector, where the negotiator is a bureaucrat or elected official who has far weaker incentives to negotiate the least costly employment terms possible. In fact, a public negotiator has incentives to give generous compensation to public employees. Increasing pay and staffing increases their power as government officials. Appeasing union demands gives them an active and powerful political supporter. In some cases, a bureaucrat can receive a direct financial benefit from meeting a union request. For example, in San Luis Obispo county, the local police asked that more wealthy nearby counties be used as comparables for setting their compensation. By granting this request, administrators could argue that their compensation should also be compared to the same counties [30].

Particularly enticing are the incentives for giving generous benefits to unions. As discussed previously, the costs of these benefits are under estimated and payment is optional. Officials can thus gain union support with little or no "up-front" cost that is noticed by the taxpayer. By the time the bill comes due, the official is likely to be long gone.

The taxpayers are the only entity that have a direct incentive to keep public employee costs low, as that minimizes their taxes. However, most taxpayers are rationally ignorant of the budgetary details of their local and state governments. It is not obvious how much public employees are being overcompensated or how that might affect the taxes of an individual. It is not worth the time and effort of an individual taxpayer to pore over the details of union contracts to calculate the rent being extracted. This is unlike a private company, where ownership can be concentrated enough for an individual to have an incentive to participate and examine management decisions.

These factors make the feedback loop from the taxpayer to the negotiating bureaucrat extremely weak until the situation becomes so dire that taxes must be dramatically raised or public services cut. Additionally, union agreements are legally protected so that voters cannot change benefits that have already been promised.

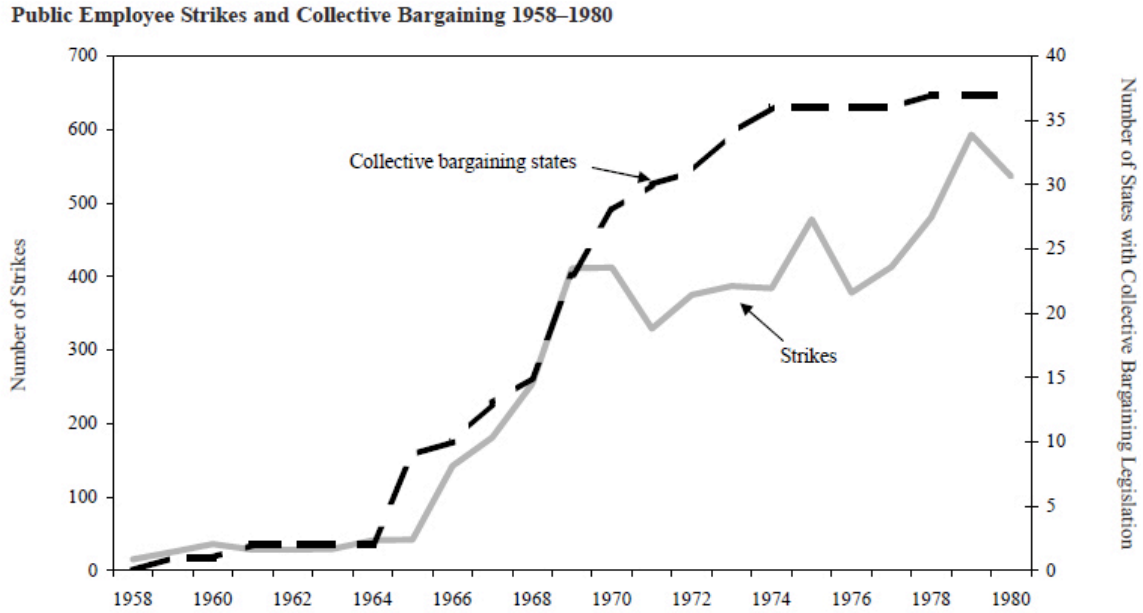
Unlike the private sector, government officials have no direct incentive to drive efficiency except for the potential of public approval. However, the public is unlikely to notice an efficiency gain and reward it, while the unions are guaranteed to notice a compensation bump and reward it. This is in contrast to private firms, where the profit motive drives the punishment of managers who do not effectively manage costs.

In the private sector, competition also provides a powerful evolutionary force to keep compensation costs in check. If a private company were to poorly negotiate a union contract, they would face a competitive disadvantage that could drive them out of business. In this manner, only companies that negotiate well survive. However, this effect is muted in government, as only in the most extreme cases would residents consider moving due to a poor contract with the public employees. The costs of moving residences are too high. Additionally, competition between governments is weak, as government officials have limited incentive to attract new residents by offering a better "product" in government services.

Non-unionized public employees can also exert political influence. However, the organization of a union provides a cohesive group that can pool its resources as well as enable a central point of contact with bureaucrats and elected officials. Additionally, collective bargaining provides a mechanism for bureaucrats and elected officials to deliver political goods in exchange for union support.

Unions have more than just political tools at their disposal. For those officials less inclined to cooperate, compensation increases can also be driven through strikes and the use of binding arbitration.

Figure 1



Sources: "Vallejo Con Dios", Bellante, Denholm, and Osorio, Cato Institute, 2009, Bureau of Labor Statistics

Strikes in the public sector are unique from private sector strikes, as a public sector union can deprive the public of a monopolized government service. Unlike private services, the public cannot easily switch to an alternative provider. This gives unions a great deal of leverage when using strikes during negotiations. Figure 1 shows that as the number of states that mandate collective bargaining has increased, so has the use of public sector strikes. Perhaps more advantageous than the strike resolution itself is that strikes have led to the creation of mandatory binding arbitration laws to avoid future strikes.

Imagine that you own a restaurant, and that the law states that you have to negotiate with the United Waiters Association (UWA) and come to an agreement on pay. You are not allowed to use any waiters other than those of the UWA. Additionally, at any time in your negotiation with the UWA, they can decide to invoke binding arbitration, which allows someone else to decide how much you pay and on what terms you hire your waiters. The history of this sort of binding arbitration has stories of immediate 80% raises and increases in benefits that can cost you tens of thousands of dollars per year per employee. What do you do?

That story is the reality for government negotiations where binding arbitration is mandated to resolve disputes. Decisions about staffing, pay and benefits are taken out of the government's hands and given to an arbiter. In Northern California alone, binding arbitration has led to 60% to 80% raises for computer workers in San Francisco [31], pension boosts for firefighters in San Jose that can cost upwards of $10,000 per year per employee in retirement [32] and 22% to 28% raises for police officers and dispatchers in San Luis Obispo [33]. Later in this paper, I will examine in depth how a strike and series of binding arbitration rulings and threats forced the city of Vallejo to become California's largest city to file for bankruptcy.

In binding arbitration, unions are guaranteed no worse than management's final offer, and often win far better. The potential worse case of an arbiter's ruling makes binding arbitration a powerful threat against governments during union negotiations.

When deciding cases, arbiters are supposed to examine compensation of comparable agencies and the government's ability to pay [34]. Ignored would be what any owner would consider first. What is the lowest cost to obtain the service needed? The fact that there can be literally thousand of applicants begging for jobs at these departments is not considered applicable to a ruling on compensation in arbitration.

Given the political strength and negotiating power that some state laws have granted public sector unions, the next question is, what magnitudes of rent do they extract? To answer that, two states on the extremes of unionization and legal environments were examined.

Why California and North Carolina?

The primary reasons for choosing California and North Carolina were the contrasting legal environments, the public and private union concentrations and the availability of data.

California mandates collective bargaining for all public employees, and has binding arbitration active in twenty-four cities and counties [35]. The California Supreme Court struck down the statewide binding arbitration law in 2003 [36], but it did not affect local governments who mandated binding arbitration. On the other hand, North Carolina prohibits all collective bargaining by public employees [19].

When examining union concentration, the ideal pro-union state had a high public union concentration, but a relatively low private union concentration. Private union concentration is of importance in the calculation of comparable private wages between the two states. Since private unionization also causes a wage gap, a high concentration of private union workers could skew the private wage when compared to a state with low private union concentration. California's private unionization is 11% as of 2008, which is lower than a state like New York, which has a higher public unionization but also almost 16% private unionization. North Carolina has some of the lowest unionization in the nation, with under 3% private unionization [37].

Additionally, a primary reason California was chosen was the high availability of public salary and pension data. Public pay is a front-page topic in California. Much of the groundwork of obtaining public pay and pension data has been done and exposed via the web. Unfortunately, North Carolina's pension data is not available, but there are several databases exposing public salary data.

IV. State and Local Employee Compensation in California and North Carolina

Benefit Cost Calculation

The primary challenge in calculating an estimate for state compensation of public employees is correctly accounting for the fringe benefits, particularly the pension and retirement health benefits. While the BLS publishes public employee wage data by state, they do not publish total compensation for public employees by state. Compensation data for public employees is only published at the national level. Additionally, the misreporting of costs discussed previously has to be corrected for.

To pay for pension and retirement health benefits, governments have an Annual Required Contribution (ARC) that is composed of an amortized portion of their unfunded liability and the "normal cost". The unfunded liability represents the difference between the liabilities of employee and retiree benefits and the assets available to pay for them. It represents how well the government has saved and invested assets in previous years. The normal cost is the present value of future benefits earned by employees in the current fiscal year. The normal cost is the only piece applicable to calculating the cost of the current employees.

The normal costs have to be retrieved for both pension and retiree health benefits, for both state and local employees. State employees are relatively straightforward, as benefits appear to be fairly uniform for all employees and their costs are accounted for by various statewide reports. Accounting for the benefit costs of local employees is more difficult, as it is up to the local city or county to decide which benefits are available and these costs are not always aggregated across the state.

Luckily, in both California and North Carolina, local governments often choose to contract their pensions through a state agency, which allows for a statewide normal cost for local employees who are participating. Not all local governments participate, but the participation appears high enough to function as a good estimate for the cost of all local employees' pensions. In California, 3,026 local government agencies contracted to have CalPERS maintain their pension funds [38]. In North Carolina, 874 cities, towns and local commissions are participating in the Local Government Employees' Retirement System (LGERS) [39].

Retiree health benefit costs at the local level are harder to estimate. There is far greater variance in the level of retiree health benefits than pension benefits among local governments. Additionally, there is no aggregated accounting to estimate a normal cost at the state level. Even at the city or county level, actuarial reports of the retiree health benefits were not found.

However, surveys on local government retiree health benefits in California and North Carolina will provide some indication of the differences in retiree health benefits and how that might affect the compensation gap.

There are other components of compensation, such as paid leave, health and other insurance and legally required employee costs. These components were estimated using national union and non-union compensation estimates for state and local government employees multiplied by the union densities in each state. Details are in Appendix A.

Statewide Private Sector Compensation Comparison

In order to compare the pay of California and North Carolina, a pay comparable had to be created using private sector pay data.

The BLS publishes pay comparables only by metro area, and an input into that comparable calculation is the difference in union density. For this paper, it was crucial to see wages without any adjustment for union presence. Additionally, the goal was to compare the entire state's public workforce, rather than just a particular metro area.

To accomplish a state to state public employee comparison, private sector wage data [40] was used as well as the composition of state and local government workforces [41]. An attempt was made to equate fifteen of the most popular state and local government occupations with a similar private sector occupation.

For state employees, the relative compensation difference between North Carolina and California was calculated to be 25.8%. For local employees, the difference was calculated to be 22.3%. For reference, the total compensation difference between all private occupations was 31.4%. The 31.4% overall private compensation difference will be applied alongside the weighted comparables for comparison purposes.

Appendix B provides details on the occupations used and the calculation of the comparable percentages.

Benefit Comparison

Table 2 presents the benefits available to state and local government employees in California and North Carolina.

Table 2 – Retirement Benefits in California and North Carolina

	California	North Carolina
Pension	Depending on state department or local contract: 1.25% at 65, 2% at 50, 55 or 60, 2.5% at 55, 2.7% at 55, 3% at 50, 55, 60 - most with a minimum of 5 years of service	**(State)** 1.82% with 30 years service or at 60 with 25 years or at 65 with 5 years 1.82% with 30 years service or at 55 with 5 years **(Local)** 1.85% with 30 years service or at 60 with 25 years or at 65 with 5 years 1.85% with 30 years service or at 55 with 5 years
Cap	80% or 90%	No Cap
Post Retirement Benefit Increase	For State and Schools, 2% or 3% compounded annually For Public Agencies, 2% to 5% compounded annually, depending on the agency plan provisions	Decided by legislature, recently set at 2.2%
Salary calculated?	Highest 1 or 3 year salary. State and School members use the 1 year period. Local members are by contract.	The average of salary during the four highest-paid years in a row.
State Employee Retirement Health Care	After 1989, retirement health is funded as follows, based on years of service: Less Than 10 Years - 0% 10 Years - 50% 11 Through 19 Years - 50%, Plus 5% added Per Year 20 or More Years - 100%	After 2006, retirement health is funded as follows, based on years of service: 5 to 10 Years - 0% 10 to 20 Years - 50% 20 or More Years - 100%
Local Employee Retirement Health Care	County survey 98% county retirees eligible for health benefits 91% provide benefits after 65 96% offer coverage to dependents 89% offer coverage to survivors 70% provide same premium rate for active and retirees	County survey 91% provide benefits before 65 43% provide benefits after 65 City survey 63% provide benefits before 65 51% pay part of the premium before 65 34% provide benefits over 65 23% pay part of the premium over 65

Source: CalPERS, North Carolina State Treasurer, California State Association of Counties [42] [43]

Pensions are calculated by taking the benefit percent and multiplying it by the years of service, and then applying that percentage to the qualified salary value. For example, a 3% at 50 pension means that 3% of salary is added to the pension for each year of service, and that full pension benefits are available at age 50 or above. An employee with

a 3% at 50 pension, 25 years of service and a highest year salary of $100 thousand will have the following pension:

3% x 25 years = 75% of $100 thousand = $75 thousand yearly pension
(available at age 50)

There are a couple of key differences in the pension benefits. The most obvious is that the pension benefit in California can be as high as 3% for every year of service, as compared to 1.85% in North Carolina. An employee who works 30 years and retires at 50 in California receives 90% of his highest year salary as compared to the same employee in North Carolina receiving 55.5%. Calculating that against a salary of $100,000 would have a pension benefit difference of over $34 thousand per year until the employee dies. Given an expected life span of 83 years [44], the difference amounts to over $1.1 million of benefit difference for one employee.

Another more subtle difference is the method of obtaining the applicable salary used in the pension benefit calculation. In California, it is the highest average salary over a one year period for state and school employees [45]. For local employees it varies by contract, but it is either the highest salary over a one or three year period. This is in contrast to North Carolina, where it is the highest average over a four year period. While it might not seem like a major difference, California's method gives a greater opportunity for "pension spiking", which is where the employee engineers a big jump in their final year's salary in order to increase their pension.

An example of this was reported in the Wall Street Journal, where Pete Nowicki, chief of the Moraga Orinda Fire District, was able to turn his $186 thousand annual salary into a $241 thousand annual pension. He did this by utilizing an option to sell back unused vacation once per calendar year. The pension calculation looks not at the final calendar year of income, but the final twelve months of income. By selling vacation at the end of one calendar year and early in the next, Nowicki had both payments included in his last twelve months of salary. Additionally, after selling back vacation twice, Nowicki (accruing 8.4 weeks of vacation per year) had vacation time left, which was paid out at retirement and also counted as income for his pension. After retirement, Nowicki went back to work for the district as a contractor with an annual salary of $176 thousand. [46][47]

Assuming a life span of 83 years, Nowicki's $74.5 thousand pension boost will cost taxpayers over $2.4 million in additional benefit payments (not including the yearly cost of living increase). It would literally be cheaper to send him home and continue to pay his regular salary until he died than to let him collect his pension.

In addition to vacation time manipulation, employees can qualify for special pay in their final year, or even drive their own car to qualify for an auto allowance that is included in

their pension calculation. Driving their car for one year on the job could boost their pension by over $225 thousand over its lifetime [48]. [4]

All of these spiking schemes would be mitigated by calculating pension salary over a longer period of time, such as North Carolina does. These details are a great example of the power of special interests, as they are unlikely to be noticed by the general taxpayer, but are sure to score big points with union interests.

Yearly pension payments of over $100 thousand are not rare in California. The California Foundation for Fiscal Responsibility publishes a database that shows 9,111 CalPERS members receiving over $100 thousand in yearly pension payments. The top 10 pension earners all receive over $235 thousand per year, with the highest current pension payment clocking in at $509 thousand. Another 3,065 teachers and administrators receive over $100 thousand in pension payments from the California State Teachers Retirement System (CalSTRS) [49]. Unfortunately, the North Carolina pension payments are not publicly available for comparison, but the lower percentage per year of service and the four year average salary stipulation make it far harder to receive such a generous amount.

The $49 Billion Rent

Calculating the total compensation for state and local employees required using a variety of data sources. The highlights are provided below, with the full details in Appendix C.

Average Full-Time Yearly Wages – The average wage for state and local employees was calculated by taking the aggregate wage data published by the Bureau of Economic Analysis (BEA) for 2008 and dividing it by the Full-Time Equivalent (FTE) employee numbers published by the Census for 2008. [50][51]

Retirement Health – For state employees, this cost was retrieved from the State of California Actuarial Valuation in 2007 and from the Fiscal Research Division of North Carolina's Fiscal Brief in 2007, which covered retiree health costs in 2005.

At the local level, there is great deal of variance in the availability and benefits provided for retiree health care. For that reason, a cost component was not calculated for local employees. However, survey data on the availability of retiree health care for local employees will be discussed.

Defined Benefit Retirement Plan – This is calculated using the normal cost of the pension plan. For California, the normal cost was 10.699% as listed in the CalPERS 2009 annual report, which covers both state and local employees [38]. In North Carolina, the normal cost was found in the North Carolina Retirement Systems Actuarial Audit in 2009. State and local employees are divided into different pension systems, so a normal cost can be

[4] Assuming a 90% pension, retiring at age 50, with an expected lifespan of 83 years having an auto allowance of $7,600/year.

retrieved for each. For state employees, a 6% normal cost was used, and for local employees, a 4.28% cost was used.

Defined Benefit Retirement Adjustment – This component is to account for the under-reporting of pension liabilities by the state due to an unreasonably high discount rate as discussed previously. Novy-Marx and Rauh [6] estimate that when changing the discount rate from 8% to a risk-free rate that the liabilities owed to current employees would grow by 129%. California discounts at 7.75% and North Carolina discounts at 7%, so this number would be slightly lower in those states. For this estimate, a 120% addition was made to the normal cost of employees.

Table 3 shows the total compensation for state and local employees in California and North Carolina. No comparable is applied.

Table 3 – Compensation Costs for State and Local Government Employees (No Comparable Applied)

	California		North Carolina	
	State	**Local**	**State**	**Local**
Wages	$71,900	$65,717	$57,410	$41,128
Paid Leave	$9,203	$8,412	$6,717	$4,812
Health Insurance	$10,042	$10,042	$6,870	$6,870
Other Insurance	$378	$378	$267	$267
Retirement Health	$4,857	?	$3,238	?
Defined Benefit Retirement	$7,693	$7,031	$3,445	$1,760
Defined Benefit Retirement Addition	$9,231	$8,437	$4,134	$2,112
Defined Contribution Retirement	$135	$0	$281	$281
Firemen Fund			$17	$17
Legally Required	$6,543	$5,980	$5,224	$3,743
	$119,982	**$105,997**	**$87,602**	**$60,990**

After correcting for the true pension costs, the annual pension compensation in California is almost $17 thousand a year for state employees and over $15 thousand a year for local employees. Also noticeable is how a wage difference of 25% and 60% at the state and local levels grows to a compensation difference of 37% and 74%. Looking strictly at wage differences hides a large portion of the disparity.

In Table 4, the compensation data of North Carolina is adjusted using the state and local comparables.

Table 4 – California versus North Carolina with Comparable Applied

	State Compensation	California Advantage	Local Compensation	California Advantage
California	$119,982		$105,997	
N. Carolina no adjustment	$87,602	37.0%	$60,990	73.8%
NC adjusted at weighted comparable	**$110,214**	**8.9%**	**$74,589**	**42.1%**
NC adjusted at 31.4%	$115,109	4.2%	$80,141	32.3%

The first observation is how much more California local government employees receive as compared to state employees. While a 9% advantage is significant, a 42% boost in pay is startling. Why is that?

First, unionization is more prevalent among local government employees across the nation, with more than 46% unionized, as compared to 35% among state employees, meaning that local employees are over 30% more unionized [38]. State and local unionization statistics are not available at the state level, but there is no reason to think this trend would not apply in California.

Second, the laws in California are different at the local level, with twenty-four cities and counties in California having mandatory binding arbitration, while state employees have no binding arbitration. There is a spillover effect of binding arbitration at the local level, as pay is often determined by looking at nearby areas. So if an area with binding arbitration has high compensation, then nearby areas would also boost compensation because of the comparison, regardless of whether they had binding arbitration.

Referring back to the studies of Belman, Haywood and Lund [15] and Tracy [16], local employees have both higher density and more favorable union laws, both of which point to higher compensation.

From a political standpoint, combining a more highly unionized workforce with general voter apathy at local elections would magnify the voting power of local unions. Strikes should also be more effective at the local level, with voters being more aware of disruptions in police, fire and transit services.

All of these factors would predict a larger compensation gap at the local level, which is precisely what is seen.

What does this compensation gap cost the taxpayers of California? Table 5 presents that by multiplying the compensation difference by the number of employees at each level.

Table 5 – Total Taxpayer Cost in California

	by Weighted Comparable	by 31.4% Comparable
State Government		
Per Employee Compensation Difference	$9,768	$4,873
# Employees	393,989	393,989
State Level Overcompensation	$3,848,632,602	$1,919,979,945
Local Government		
Per Employee Compensation Difference	$31,408	$25,978
# Employees	1,451,619	1,451,619
Local Level Overcompensation	$45,592,637,563	$37,710,403,363
Total Overcompensation	**$49,441,270,165**	**$39,630,383,309**

$49 billion in overcompensation is so large a number that it needs context. Given the Census estimate of population in California [52], it is $1,358 per every man, woman and child in the state. It is $3,805 for every individual tax filer [3]. It is larger than the entire revenue collected by the California state income tax in 2009 [1]. Eliminating the overcompensation would allow all California property taxes to be removed at the state and local levels [2].

Why $49 Billion Is Understated

In order to estimate each component of compensation by state, certain values had to be left out or taken from national datasets. This likely had the effect of understating the difference between California and North Carolina's compensation, particularly at the local level.

First, the retiree health benefits had to be left out of the local compensation due to the lack of an average normal cost. However, as seen in the survey data in Table 2, a comparison of retiree benefits at the county level shows substantially better benefits in California.

Also, national level union and non-union pay components (Appendix A) were used to estimate paid leave, health insurance and other insurance benefits. Studies referenced earlier show that the wage gap between union and non-union workers increases as the union density increases and the laws get more union-friendly. The same effect would be predicted to happen with other components of compensation. Taking the national union numbers and applying them to California, a state on the extreme of union density and legal environment, will likely understate the value of the union effect. Additionally, all spillover effects into non-union public employees in California go unaccounted for in these components. State-level compensation data from the BLS, which is currently unpublished, would provide a more accurate estimate.

This comparison also does not address the possibility of the number of employees being relatively higher due to the union presence in California. While increasing the level of

employment would certainly benefit unions, there is some disagreement on whether unions are able to influence the total employment in government [15]. If unions are able to affect the total number of public employees, this would increase the cost of union-friendly laws as well.

Possible Objections

There are some possible objections to this calculation that I will try to address.

First, the North Carolina and California compensation comparable could be significantly off, due to several factors. Compensation is generally defined more by metro area than state boundary, which is why the BLS pay comparables are done at the metro level. It is possible that the private occupations were geographically distributed within the state far differently than the public occupations, which would skew the comparable.

For example, if all the state employment was in San Francisco and Greensboro, the pay comparable would be expected to be larger than a state-wide private comparison, as the two cities have a wider disparity than the state as a whole. However, this effect would be more likely seen for state level employees, who might fall within a more defined area of the state (such as the capital), than for local employees, who are generally spread more widely. The compensation comparison showed the opposite, with local employees having a wider disparity than state employees.

What if one state is simply more urbanized, so that the local government employees have to be paid more? This would only affect this comparison if the urbanization affecting local government employees was significantly different than that affecting private employees. If the state is simply more urbanized, the pay comparable would reflect it due private employees being urbanized as well.

Another possible problem is the assumption that the two states employ workforces who have similar duties. It is certainly possible that one state, due to different government programs, requires higher skilled labor that would make a state to state comparison invalid. However, one would think a disparity of this type would be more likely at the state level than the local level. This possibility leads to the next examination, which compares just one specific occupation that is primarily seen at the local level.

Many of these objections could be addressed by comparing additional states to see if the trend continues, which is the likely next step of this research.

A Look at Firemen

Diving deeper into the data reveals even more glaring differences. Firefighters are mostly local government employees, are heavily unionized, and have notoriously strong unions. The BLS Occupational Employment Statistics [41] breaks out wages by occupation at the state level. While the BLS does not provide public versus private

breakouts, it is assumed that the fire-related occupations represent government employees.

Total compensation could not be calculated due to the lack of a reliable estimation of retirement health costs for firemen in each state. The components that were calculated are detailed in Appendix D.

Unfortunately, there is not a good comparative occupation to a firefighter in the private sector to calculate a compensation multiplier between states. Instead, a broad skilled labor category was used that encompasses the following types of repair and maintenance occupations: automotive, electronic, precision machinery, computer, commercial and industrial machinery and personal and household goods. This category yielded a 16.5% compensation difference between states. The 31.4% wage difference between all private occupations is calculated for reference as well. The summary is presented in Table 6.

Table 6 – California versus North Carolina Firemen

	California	N. Carolina	Difference with 16.5% adjustment	Difference with 31.4% adjustment
Fire Superintendent/Manager	$142,111	$81,180	**50%**	33%
Firefighter	$98,960	$50,431	**68%**	49%
Fire Inspector	$129,742	$70,462	**58%**	40%

The 42% compensation advantage for local government employees across the state expands to between 50% and 68% advantages in the firefighting professions.

This is likely understating the difference significantly. Only the wage data is precise. All the other components of compensation had to be estimated from other data sources, which likely understate the compensation for firemen.

First, the normal cost used for California firemen pensions was the statewide normal cost provided by CalPERS [38]. That normal cost is the blended cost for all the different types of pensions available in California. From a review of eleven fire union agreements in Northern California, the vast majority received the 3% at 50 pension benefit [53], which is the most generous of all the California pensions. This would drive the normal cost substantially higher for firemen.

For reference, in Vallejo, the estimated normal cost for public safety pensions was 18% [54]. Given that the normal cost used in the calculation was 10.7%, if Vallejo is characteristic of the difference between firemen pensions and other public employee pensions, the pension values for California firemen would be over 68% higher than is currently estimated. For reference, a 68% increase in pension costs would change the California to North Carolina gap for a firefighter from 68% to 85%.

This is not the case in North Carolina, where the pension percentage and retirement ages are fairly uniform across all employee types. This would indicate that firemen pensions are not dramatically more costly than the average state or local employee.

Additionally, firemen are more unionized than the general state and local workforces nationally [37]. This most assuredly applies in California, meaning that the weights assigned to the compensation based on the California-wide union density are too low, pushing compensation down for paid leave and health insurance.

Also, similar to the caveat referenced in the statewide calculation, the general problem of using national union and non-union compensation data to estimate compensation in an extreme state like California applies here. California firefighters are more unionized and are in a better legal environment than the average union worker nationally. Thus, the effect on compensation would be higher than the average union worker.

Supplemental pay, such as overtime, and retiree health benefits, were completely left out of the calculation. However, as seen later in Vallejo, firemen earn a significant portion of compensation through overtime, and there's no reason to think the political strength of unions would not enhance the value of overtime and retiree health benefits when compared to North Carolina.

Another Look at Supply and Demand

If the supply and demand analysis from before is correct, there should be evidence of an excess labor supply of firemen at such an above market wage. A review of newspaper reports and other information provides strong evidence that this is true.

Many California fire departments have to set application limits due to the flood of applications submitted for the few available positions. This causes applicants to literally camp out to be early enough in line to just submit an application.

In 2007, the city of Oakland opened up twenty-three positions in their fire department. The camping out began two nights before, and shoving and fighting occurred by the over 2,000 applicants jockeying for line position to be one of the 1,000 applications accepted. The Fire Department representatives picked applicants not by line order, but seemingly by whether they were friends or relatives, with four sons of Fire Department employees, including the chief's, being selected. The Oakland Mayor had to get involved to try and restore fairness. [55][56]

This is not a unique story, not even in Oakland, where 50 job openings in 1994 attracted over 14,000 applicants [57]. In Los Angeles County, in 2007, more than 22,000 applicants applied for 350 openings [58]. Elsewhere in California were reports of 2,500 applications for 12 jobs nearby San Francisco [59] and 2,000 applications for 8 jobs in Stockton [60]. On the City of Davis' website, they warn prospective applicants that it is normal for hundreds of job-seekers to camp out overnight to enhance their chances of getting an application submitted [61].

These stories provide a vivid representation of the gap between the supply and demand curves at the current fireman's wage in California.

V. A Closer Look at Vallejo

History of Public Labor Relations

On May 23rd, 2008, Vallejo, California became the largest city in California history to file for bankruptcy. Police and firefighting salaries consumed almost 80% of the general fund budget, significantly more than the average of 60% for other cities in California [62].

While Vallejo's bankruptcy has been heavily covered by the popular news media, the path of how Vallejo arrived at bankruptcy court has been mostly ignored.

I will pick up the story in 1969, when Vallejo's firefighters and police walked off their jobs. The strike occurred just after the Zodiac serial killer had sent letters to local media, including the Vallejo newspaper, bragging about his exploits. This was only the second time in American history that both the police and firefighters struck together, and it left the citizens of Vallejo in a panic. Former Mayor Gloria Exline explains. "People went berserk here, they really did. Everyone thought they would get robbed."

The strike lasted for five days and was resolved by giving 1% yearly raises on a three-year contract. Shortly thereafter, binding arbitration was added to the city charter to provide a resolution mechanism to avoid future strikes [63].

Binding arbitration was first invoked in 1988, by both the fire and police unions, who won. The police union threatened binding arbitration in 1996 and 1999, but were able to reach agreements before binding arbitration was used. [64] [65]

In 2007, with large budgetary problems looming, the city attempted to make cuts to fire department staffing to save an estimated $9 million dollars over six years [66]. The fire union disagreed, and the dispute went into binding arbitration. The city lost, while also spending another $500 thousand on attorney fees [67]. Less than 12 months later the city filed for bankruptcy.

A Place Where Firefighters Make More Than Doctors

How did the budget get so out of control?

City employee benefits in Vallejo include 3% at 50 pension plans for police and fire, and uncapped 2.7% at 55 plans for most other "miscellaneous" city employees. This greatly exceeds the 2% at 55 capped plans available to state miscellaneous employees [68]. Employees also receive a generous health plan that costs an average of $12,000 per

employee and a full retirement health plan after 5 years of service (as compared to 20 years at the state level) [69].

In 2007, the city employed a total of 615 full and part-time employees [69]. 292 city employees made over $100 thousand per year. The average firefighter compensation was $171 thousand, with 21 firefighters making over $200 thousand per year [70]. Also on the payroll was a police captain making $306 thousand and a police lieutenant making $247 thousand.

Additionally, 64 pensioners from the city of Vallejo had over $100 thousand in yearly pension benefits (with a high of $197 thousand) [49].

A much smaller dataset allowed retrieval of more of the compensation data, including accurate estimates for overtime, health insurance costs and retiree health benefits. Using a similar calculation as before, the average Vallejo fireman compensation is presented in Table 7. Details are provided in Appendix E.

Table 7 – Average Vallejo Fireman Compensation

Wages	$130,112
Paid Leave	$17,695
Supplemental Pay	$40,888
Health Insurance	$12,000
Other Insurance	$244
Retirement Health	$4,857
Defined Benefit Retirement	$23,420
Defined Benefit Retirement Addition	$28,104
Legally Required	$11,840
Total	$269,161

The average fireman in Vallejo cost almost $270 thousand in 2007. Comparing that to the top-paying private occupations in California, a Vallejo fireman comes in at number two overall, as seen in Table 8.

Table 8 – Total Compensation of a Vallejo Fireman Compared to the Top-Paying Private Occupations in California

Chief executives	$271,371
VALLEJO FIREMAN	**$269,161**
Obstetricians and gynecologists	$259,314
Physicians and surgeons, all other	$259,014
Orthodontists	$247,600
Internists, general	$246,514
Dentists, all other specialists	$241,586
Pediatricians, general	$224,043
Psychiatrists	$221,700
Judges, magistrate judges, and magistrates	$221,586
Oral and maxillofacial surgeons	$219,857
Lawyers	$205,500
Family and general practitioners	$203,743
Natural sciences managers	$201,557

Source: Estimate from BLS May 2008 State Occupational Employment and Wage Estimates, BLS Employer Costs for Employee Compensation - June 2008 [41][71]

How Did It Get So Bad?

The political power of the unions played an important role in achieving the compensation seen in Vallejo. According to campaign finance records, the firefighters put more than $50 thousand into the campaigns of candidates the 2008 local council elections, winning two seats [72]. At the state level, a major victory was won for the labor unions by Governor Gray Davis in 1999. With the support of union interests, he successfully passed legislation bumping pension percentages for public safety officers to 3%, with a retirement age of 50. Most counties and cities followed suit, with Vallejo passing the pension increase in 2000, which included the benefits being retroactively applied to previous years of service [73][74].

In the 2000-2005 agreement between Vallejo City and the firefighter union, compensation is determined by calculating the average fire department compensation at 14 nearby counties and cities and then adding 10% [75].

In the fire union agreements in the 14 other areas, three (Hayward, Santa Clara and San Mateo) had similar "nearby comparison" clauses, but with different comparable areas and bumps [76]. Fremont had a clause that if any other city department gets a raise, they do as well. Fremont also had creative longevity compensation bumps in years 26, 27 and 28, which appears to be a way to boost salary for pension calculation right before retirement. Other areas such as Palo Alto, Mountain View, Pleasanton, Richmond had significant yearly raises, from 3% to 11.5%. Richmond firefighters received a lump sum of 3% plus a 5% raise in 2006, followed by raises of 5%, 8% and 6.5% in the following years.

Looking at comparable compensation is common in union negotiations, either written into the contract, as a point of emphasis during discussions, or directly by arbitrators.

This causes a "ratchet" effect, where one county or city's pay raise pulls up other areas as well. If one area can get especially favorable terms, either through political maneuvering or binding arbitration, that pay level can become the new "standard" by which other departments' pay is judged. In this way, binding arbitration's benefits can be seen in areas that do not have it.

From reviewing the labor agreements, Vallejo does not stand out as unique in its salary benefits. Other areas have shown rapid pay and benefit growth, including Oakland, where the average pay and pension benefits for fire and police have tripled since 2000 [73]. This does not bode well for the finances of other areas in California.

Vallejo Continues On

The bankruptcy process in Vallejo is still in progress. The bankruptcy judge ruled in favor of Vallejo, granting them the right to void union contracts and reorganize. Staying true to the history of Orange County and New York, Vallejo has not attempted to change existing pension benefits. Instead, they have raised employee contributions as well as set the new pension level at 2% at 50 for new firefighters [77]. Vallejo has not attempted to modify pensions for police or other city workers. Vice Mayor Stephanie Gomes stated, "the majority [of council members] did not have the political will to touch the pink elephant in the room—public safety influence, benefits and pay." [78]

Vallejo has cut services dramatically. Even with a higher crime rate than comparable cities, Vallejo cut police services and asked for residents to use the 911 service only as needed. Vallejo also cut funding for a senior center, youth groups and arts organizations [79].

Measure A, which removes binding arbitration from the city charter, is on the June 8th ballot in Vallejo. The unions have come out strongly opposed to it, creating the "Citizens for a Safe Vallejo", represented online at www.votenoonmeasurea.com.

Unions also took the battle to the state level, concerned that bankruptcy might be further used by other cities and counties trying to void their public union contracts. Unions supported an attempt to pass legislation that would force cities to get approval from a state commission before declaring bankruptcy, but the measure failed [77].

VI. Conclusion

In discussions around compensation, the term "fair" is often mentioned. That is a fair wage, this is not. I would ask, what or who determines fair?

If one were to try and determine it, they would probably ask questions such as, how hard or easy is the job? How much training is required? Do people like the work? What do people with comparable skills make?

Coincidentally, these are the exact factors that go into how the market wage is

determined. Difficult jobs with a lot of required training create a lot of value and have fewer candidates, causing the wage to be relatively high. If a job is a lot of fun, people will be attracted to it, which raises the labor supply for the job, resulting in a lower wage.

Comparable occupations with similar skills are also a factor. For example, if a sales job in the clothing industry has a higher wage than a comparable sales job in the shoe industry, people will flow towards work in the clothing industry, pushing its wage down. This will lower the supply of labor in the shoe industry, which will raise the wage, until the two comparable industries are relatively equal.

In these ways, the market coordinates the collective voices of what type of labor people want. If massage therapists suddenly become in demand, their wage will initially spike, attracting more people to train in massage, which lowers the wage until it is relatively in line with other occupations that require similar talent, training and provide similar job satisfaction.

When thousands of applicants are camping out for jobs, it is a good indication that the compensation could be lowered and the jobs would still be filled. How can a wage be considered "fair" if one class of workers receives it, while a much larger class of workers is left on the outside, presumably willing to do the same job for less? Creating a class of have's and have not's that is not based on merit can hardly be considered "fair" by any definition of the word.

Supply and demand teaches us that only in a small portion of the transactions at the margin does the buyer pay a price which is equal to his value for the good. For example, I am willing to spend most of my money on necessities like food and water, but I do not have to. If I had to only buy food and water from one grocery store, they could force me to pay a price that equals my value for the good, because I would not have the option to shop elsewhere.

That is how governments in California have to buy their labor. By law, they have to negotiate with one union, and are not allowed to shop outside the union for labor. This makes their labor cartel stronger than any private cartel.

In a private cartel, the producers might secretly agree on a higher price, but each has an incentive to cheat on the agreement, selling a higher volume at a lower price to make more money. If they cheat, their cartel partners have no legal recourse. That is unlike California, where a government official would break the law if he arranged terms for labor outside the union.

In areas with binding arbitration, governments do not even have the power to sign off on terms. The terms are decided by an arbiter, enforced by law. This arbiter does not mimic the market, looking at the supply of labor compared to the demand to determine a wage. Instead, among other things, he looks at the government's ability to pay, which sounds analogous to how a grocery store would set my price if I could shop nowhere else.

Politics and the monopoly power of government differentiate public unions from private ones. The political power of unions means that the person negotiating with the union is torn between serving the public and his own interests. Unlike a private negotiation, where the owner loses profit if he pays too much for labor, a politician often makes more by paying too much for labor.

There is also an evolutionary force that exists in the private sector that is missing from the public sector. Some private companies poorly negotiate with unions and go out of business. Others move operations to where the laws are more favorable. This force naturally eliminates both inefficient companies and industry from inefficient legal environments.

State and local governments do not generally go out of business, although California's situation is beginning to test that premise. Governments face limited competition, as elected officials and bureaucrats do not have a profit motive to attract new residents like a company has to attract new customers. While taxpayers can vote with their feet, the costs of moving residences, both financial and social, are so high that it takes extreme government inefficiency to warrant it. The combination of these characteristics severely weakens the evolutionary effect on government that drives efficiency in private industry. That means that gross overcompensation of labor, which would disappear due to competition in private industry, can continue and thrive in government.

If the Oakland fire department were a private organization, the owner would see the lines of applicants outside and realize he could dramatically cut labor costs to raise profits. Without the profit motive, this discipline is lacking, in both California and North Carolina. By mandating collective bargaining and binding arbitration, California exacerbates the problem by unleashing a system of incentives that drives $49 billion of excess tax on Californians every year. Lines of applicants are literally climbing over each other to get a government job, yet the compensation is not lowered to save the taxpayer money. However, when you examine the incentives in play, it is not surprising. The taxpayer would have to be uncommonly informed to overcome labor interests and impose that sort of fiscal discipline.

Collective bargaining laws could soon expand to include every nation in the state, as there is currently a federal bill in the Senate that would mandate bargaining rights for state and local public safety departments such as police, fire and rescue personnel [80]. Not surprisingly, the national unions are strong supporters of the effort.

Given the issues discussed in this paper, at a minimum I would recommend a change to the law to give government officials the right to choose to negotiate with the established union, a different union, or to negotiate with employees directly. Rather than facing binding arbitration or strikes, governments would have a choice to go elsewhere for their labor. However, given the direct benefits unions can give to politicians, it is not clear that they would want to go elsewhere. A further step would be to prohibit collective bargaining within all levels of government, which would greatly alleviate the incentive

problem facing politicians today. As Tracy found in his study, there is no union wage gap in states that prohibit collective bargaining [16].

The discussion of public overcompensation will grow louder over the coming months and years, as higher wages and the true costs of pensions and retiree health care force state and local governments to raise taxes or cut services. It is crucial to understand how the legal environment affects these issues, as it might also provide a path to a solution.

Next Steps

The findings of this paper naturally lead to further questions. Does this trend continue for other states on the extremes of legal environments? Which state pays the most and least for its state and local employees?

Answering those questions with more in-depth data on retirement health benefit costs at the local level, compensation costs by state, quit rates by state and accurate pension liabilities by state, would enhance the reliability of these findings.

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Appendix A

In these estimates, the paid leave, pension and legally required components of compensation function as a percentage of wage. Employer-provided insurance is estimated as a fixed cost that does not increase as the wage increases.

Table 1 shows selected components of the raw BLS compensation data, per hour.

Table 1 Compensation – Dollars per Hour Worked, June 2009

	State and Local Nonunion	State and Local Union
Paid Leave	$2.63	$4.06
Health Insurance	$3.07	$5.91
Other Insurance	$0.12	$0.22
Legally Required	$2.09	$2.70
Wages and Salaries	$22.86	$29.90

Source: Public Sector Unions and the Rising Costs of Employee Compensation, Chris Edwards, Cato Journal, 2010 [4], U.S. Bureau of Labor Statistics, Unpublished data, June 2009

Table 2 takes the data from Table 1 and calculates percentages and yearly totals. Paid leave and legally required were calculated as percentages of wage, while insurance costs were calculated as fixed costs, taking the hourly rate times 40 hours times 52 weeks.

Table 2 Components Used in Compensation Estimate

	State and Local Nonunion	State and Local Union
Leave as a % of Wage	11.5%	13.6%
Legally Required as % of Wage	9.1%	9.0%
Health Insurance Yearly Cost	$6,385.60	$12,292.80
Other Insurance Yearly Cost	$249.60	$457.60

The components from Table 2 were weighted for California and North Carolina by the union densities in those states, which were 61.9% and 8.2% respectively. Table 3 shows the figures after the weights are applied.

Table 3 Compensation Components Weighted by Unionization

	North Carolina	California
Leave as a % of Wage	11.7%	12.8%
Legally Required as % of Wage	9.1%	9.1%
Health Insurance Yearly Cost	$6,870.00	$10,042.00
Other Insurance Yearly Cost	$267.00	$378.00

Appendix B – Pay Comparables

The fifteen occupations used in the comparable index can be seen in Table 1. They comprise over 80% of state and local government employment.

Table 1 – Occupations Used To Calculate State to State Compensation Comparison

Private Occupation	Public Occupation	% of state gov't	% of local gov't
NAICS 54111 Offices of lawyers	Legal Occupations	3.43	1.85
NAICS 5412 Accounting and bookkeeping	Accountants and Auditors	1.56	0.77
NAICS 55 Management of companies and enterprises	Management Analysts and Operations Specialists	4.5	1.06
NAICS 54133 Engineering Services	Architecture and Engineering Occupations	3.68	1.58
NAICS 23 Construction	Construction and Extraction Occupations	3.05	6.53
NAICS 5415 Computer systems design and related services	Computer and Mathematical Science Occupations	3.29	1.33
NAICS 5417 Scientific Research and Development Services	Life, Physical, and Social Science Occupations	3.62	1.35
NAICS 811 Repair and Maintenance	Installation, Maintenance, and Repair Occupations	2.12	4.53
NAICS 61 Educational services	Education, Training, and Library Occupations	1.57	2.8
NAICS 6241 Individual and Family Services	Community and Social Services Occupations	10.5	4.22
NAICS 621 Ambulatory Health Care Services	Healthcare Practitioner and Technical Occupations	4.35	2.99
NAICS 5616 Investigation and Security Services	Protective Service Occupations	17.39	24.22
NAICS 5617 Services to Buildings and Dwellings	Building and Grounds Cleaning and Maintenance Occupations	1.16	3.79
NAICS 561 Administrative and Support Services	Office and Administrative Support Occupations	19.66	19.17
NAICS 484 Truck Transportation	Transportation and Material Moving Occupations	1.8	5.76
	Total	81.68	81.95

Source: BLS OES National Data – May 2008 [41]

Table 2 shows the percentage weight of each occupation in the index.

Table 2 – Occupation Weights

Public Occupation	% of State Index	% of Local Index
Legal Occupations	4.20%	2.26%
Accountants and Auditors	1.91%	0.94%
Management Analysts and Operations Specialists	5.51%	1.29%
Architecture and Engineering Occupations	4.51%	1.93%
Construction and Extraction Occupations	3.73%	7.97%
Computer and Mathematical Science Occupations	4.03%	1.62%
Life, Physical, and Social Science Occupations	4.43%	1.65%
Installation, Maintenance, and Repair Occupations	2.60%	5.53%
Education, Training, and Library Occupations	1.92%	3.42%
Community and Social Services Occupations	12.86%	5.15%
Healthcare Practitioner and Technical Occupations	5.33%	3.65%
Protective Service Occupations	21.29%	29.55%
Building and Grounds Cleaning and Maintenance Occupations	1.42%	4.62%
Office and Administrative Support Occupations	24.07%	23.39%
Transportation and Material Moving Occupations	2.20%	7.03%
Total	100.00%	100.00%

Benefit percentages from the BLS were used to estimate total private compensation in each occupation [71]. This data is only published by region, so the Pacific region was used to approximate California while the South Atlantic region was used for North Carolina.

Details on benefits as a percent of compensation

Averaging four quarters of data for 2008, from Q1 2008 to Q4 2008 (to align with the 2008 wage data), benefits were 29.6% of private compensation in the Pacific and 28.1% of private compensation in the South Atlantic. These figures were used to estimate total compensation from wage data.

Table 3 shows the estimated compensation differences of each of the fifteen occupations. The compensation difference for each of the fifteen occupations was weighted by the percentage of employees in the state or local sector in that occupation. That allowed for a compensation comparable that was weighted by the most popular government occupations. For state employees, the relative difference between North Carolina and California was calculated to be 25.8%. For local employees, the difference was calculated to be 22.3%.

Table 3 – Calculated Compensation Differential for State and Local Government Workers

	CA Estimated Comp	NC Estimated Comp	Difference	Weighted by State Govt Index	Weighted by Local Govt Index
All Private Occupations	$72,002	$54,816	**31.4%**		
NAICS 54111 Offices of lawyers	$135,531	$84,731	60.0%	2.5%	1.4%
NAICS 5412 Accounting and bookkeeping	$85,905	$62,203	38.1%	0.7%	0.4%
NAICS 55 Management of companies and enterprises	$126,677	$116,407	8.8%	0.5%	0.1%
NAICS 54133 Engineering Services	$128,069	$94,845	35.0%	1.6%	0.7%
NAICS 23 Construction	$77,282	$54,786	41.1%	1.5%	3.3%
NAICS 5415 Computer systems design and related services	$150,146	$100,387	49.6%	2.0%	0.8%
NAICS 5417 Scientific Research and Development Services	$157,291	$117,668	33.7%	1.5%	0.6%
NAICS 811 Repair and Maintenance	$51,224	$43,959	16.5%	0.4%	0.9%
NAICS 61 Educational services	$57,755	$56,146	2.9%	0.1%	0.1%
NAICS 6241 Individual and Family Services	$41,064	$30,697	33.8%	4.3%	1.7%
NAICS 621 Ambulatory Health Care Services	$79,452	$67,241	18.2%	1.0%	0.7%
NAICS 5616 Investigation and Security Services	$38,985	$34,910	11.7%	2.5%	3.4%
NAICS 5617 Services to Buildings and Dwellings	$38,131	$29,729	28.3%	0.4%	1.3%
NAICS 561 Administrative and Support Services	$48,878	$38,325	27.5%	6.6%	6.4%
NAICS 484 Truck Transportation	$60,247	$55,847	7.9%	0.2%	0.6%
			27.5%	**25.8%**	**22.3%**

Source: BLS Quarterly Census of Employment and Wages - 2008, BLS Employer Costs for Employee Compensation – 2008, BLS OES National Data - May 2008

Appendix C – Details on Compensation Calculation

Average Full-Time Yearly Wages – The average wage for state and local employees was calculated by taking the aggregate wage data published by the Bureau of Economic Analysis (BEA) for 2008 and dividing it by the Full-Time Equivalent (FTE) numbers published by the Census for 2008. [50][51] The BEA wage data is derived from the BLS Quarterly Census of Employment and Wages with adjustments made to enhance accuracy. The Census numbers were used to get an accurate number of full-time employees because both the BEA and BLS Quarterly Census of Employment and Wages employment numbers lump part-time and full-time workers together.

Paid Leave – Paid leave is calculated as a percentage of wages. The percentage used is from the BLS data on union versus non-union compensation provided in Appendix A - Table 1 weighted by the union percentage in each state. In Appendix A - Table 1, paid leave is 13.6% of the union wage (4.06 divided by 29.90) and 11.5% of the non-union wage. These values were weighted by the union densities in each state to give a rate of 12.8% for California and 11.7% for North Carolina.

Supplemental Pay – Supplemental pay, which includes overtime, is included in the BEA figures and aggregated into wages and salary.

Health Insurance - Health insurance was calculated using the per hour cost for union and non-union workers from Appendix A - Table 1 ($5.91 and $3.07), multiplying it by 40 hours/week and 52 weeks/year and then weighting it by the unionization in each state.

Other Insurance – While life insurance can be related to wage, it also can be a flat amount per employee. Additionally, disability insurance is not related to the wage. For these reasons, the other insurance cost was calculated in the same manner as health insurance.

Retirement Health – For state employees, this cost was retrieved from the State of California Actuarial Valuation in 2007 and from the Fiscal Research Division of North Carolina's Fiscal Brief in 2007, which covered retiree health costs in 2005. The discount rate used by California was 4.5% and by North Carolina was 4.25%.

A significant estimate in the actuarial evaluation is what the long-term trend of health care costs will be. California assumed an initial trend of a 10% increase decreasing to the ultimate trend of a 4.5% yearly increase. North Carolina was similar, assuming an initial trend of 11% decreasing to an ultimate trend of 5%. These assumptions are quite optimistic about the long-term trend of health costs, assuming that the percentage increase in costs will fall steadily from the recent trend.

There is a need to correct for these assumptions, since these evaluations were done with different assumptions at different times in each state. The higher discount rate would underestimate the cost in California as compared to North Carolina. However, the actuarial evaluation for California was in 2007, while for North Carolina was in 2005,

which would underestimate North Carolina's costs in comparison. Additionally, California assumes better health care cost trends. Because these forces work in an opposite directions, and a reliable method for equating them was not found, they are presented unaltered.

Another factor in estimating the cost of retirement health is the participation rate. California and North Carolina offer similar retiree benefits, with the exception of California paying 90% of the cost of dependents while North Carolina does not cover any of the costs of dependents. A GAO report to the Senate in 2007 estimated the California participation rate at 70%. The North Carolina retiree participation rate could not be found, so the California participation rate of 70% was used. With North Carolina's benefits being inferior, the 70% value should overestimate participation.

At the local level, there is great deal of variance in the availability and benefits provided for retiree health care. For that reason, a cost component was not calculated for local employees. However, survey data on the availability of retiree health care for local employees will be discussed.

Defined Benefit Retirement Plan – This is the normal cost of the pension plan. For California, the normal cost was 10.699% as listed in the CalPERS 2009 annual report. In North Carolina, the normal cost was found in the North Carolina Retirement Systems Actuarial Audit in 2009. State and local employees are divided into different pension systems, so a normal cost can be retrieved for each. For state employees, the original actuarial report had a normal cost of 6.27%, while the audit had a normal cost of 5.77%. The difference was split and 6% was used in this paper. For local employees, the normal cost was 4.53% for police and 4.26% for others. Weighting for the number of police in the local workforce from the Census data gave a blended normal cost of 4.28% for local employees. For the reasons discussed previously, these normal costs will be assumed for all local employees even though some of them are outside the state-run retirement systems.

Defined Benefit Retirement Adjustment – This component is to account for the under-reporting of pension liabilities by the state due to an unreasonably high discount rate as discussed previously. Novy-Marx and Rauh estimate that when changing the discount rate from 8% to a risk-free rate that the liabilities owed to current employees would grow by 129% [6]. California discounts at 7.75% while North Carolina discounts at 7%, so this number would be slightly lower in those states. For this estimate, a 120% addition was made to the normal cost of employees.

Defined Contribution Retirement Plan – Defined contribution plans, which are common in private industry, are used sparingly to supplement pension plans in California and North Carolina. The per-employee cost of these plans was calculated by taking the total employer contributions [38][39] and dividing by the number of full-time equivalent employees.

Firemen Fund – The Firemen Fund is a retirement fund for eligible firefighters in North Carolina. The cost of this benefit was divided among the full state and local workforce by taking the total state appropriation [39] and dividing it by the total number of full-time equivalent employees.

Legally Required Costs – The legally required costs borne by the employer include social security, medicare, unemployment insurance and workers compensation payments. These costs function as a percentage of wages and are close to equal for union and non-union workers. Much like the calculation for Paid Leave, the percentage of wage of these costs was determined from Appendix A - Table 1 and then weighted by union percentage in each state.

Appendix D – Fire Occupation Comparison

	California			North Carolina		
	Fire Super	**Firefighter**	**Fire Inspector**	**Fire Super**	**Firefighter**	**Fire Inspector**
Wages	$90,610	$60,920	$82,100	$56,110	$32,470	$47,870
Paid Leave	$11,598	$7,798	$10,509	$6,565	$3,799	$5,601
Supplemental Pay						
Health Insurance	$10,042	$10,042	$10,042	$6,870	$6,870	$6,870
Other Insurance	$378	$378	$378	$267	$267	$267
Retirement Health						
Defined Benefit Retirement	$9,694	$6,518	$8,784	$2,390	$1,383	$2,039
Defined Benefit Retirement Addition	$11,633	$7,821	$10,541	$2,868	$1,660	$2,447
DC retirement				$281	$281	$281
Firemen Fund				$779	$779	$779
Legally Required	$8,155	$5,483	$7,389	$5,050	$2,922	$4,308
	$142,111	**$98,960**	**$129,742**	**$81,180**	**$50,431**	**$70,462**

Appendix E – Details on the Vallejo Firemen Compensation Calculation

Average base salary was obtained from a court filing documented on calpensions.com [81] and average overtime was obtained from the Washington Post [70]. Health insurance costs were retrieved from the Vallejo Annual Report [69], and other insurance costs from the Vallejo Summary of Benefits [82]. The normal cost was estimated by taking the payroll deduction from the Vallejo Annual Report and backing out the unfunded liability portion to leave only normal cost remaining. The retirement health benefit was carried over from the California statewide estimate, and is likely undervalued, since the Vallejo retirement health benefits are superior to the state employee's. The paid leave and legally required components were calculated using the percentage value of wage for those benefits for union workers nationwide (Appendix A - Table 1).