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LIVING WAGES: PROTECTION FOR OR PROTECTION FROM LOW-WAGE WORKERS?

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Working Paper 8393
<http://www.nber.org/papers/w8393>

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
July 2001

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NBER Working Paper No. 8393

July 2001

JEL No. J51, J58, J38, J45

ABSTRACT

Living wage laws, which were introduced in the mid-1990s and have expanded rapidly since then, are typically touted as anti-poverty measures. Yet they frequently restrict coverage to employers with city contracts, and in such cases apply to a small fraction of workers. This apparent contradiction leads to the question of whether there are alternative motivations for various economic and political actors to seek passage of living wage laws. This paper considers the hypothesis that unions representing municipal employees work for the implementation of living wage laws to maintain or increase rents. By raising the wages that city contractors would have to pay, living wage laws may reduce the incentives for cities to contract out work that would otherwise be done by municipal employees, hence increasing the bargaining power of municipal unions and leading to higher wages. The empirical analysis leads to evidence that the wages of unionized municipal workers are increased as a result of living wages. This evidence does not imply that living wages offer no assistance to low-wage workers or low-income families. However, it suggests that alternative policies intended to achieve the goal of reducing urban poverty may be more effective, as living wage laws may result more from considerations of self-interest of narrow but politically-powerful groups of workers than from consideration of the optimal way of achieving this goal.

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I. Introduction

The 1990s have witnessed widespread implementation of living wage laws across cities in the United States. There are currently more than 50 living wage ordinances in effect in the United States (most in cities, but a few applied to counties or school boards), and numerous campaigns for more are under way. Living wage laws are pitched by advocates as anti-poverty programs. For example, the National Living Wage Resource Center, a web-site maintained by the Association of Community Organizations for Reform Now (ACORN), a leading force behind the living wage movement, states that “Our limited public dollars should not be subsidizing poverty-wage work.”¹ And the Economic Policy Institute, while noting that other anti-poverty tools are needed, argues that “the living wage is a crucial tool in the effort to end poverty.”² Reflecting this anti-poverty goal, existing living wage ordinances often mandate that covered employers must pay their workers a wage sufficient to lift a family above the poverty level. For example, the Detroit living wage is set to 100 percent of the poverty line for a family of four if health benefits are paid, and 125 percent without health benefits. Naturally such goals lead to relatively high living wages, with the mandated wage floor exceeding \$8 or \$9 in many cities.

However, rather than mandate higher wages for all workers—as a minimum wage does, except for minor coverage exclusions—a curious feature of living wage laws is their narrow coverage. In particular, the common feature of most of these laws is their coverage of employers that are contractors or subcontractors with the city; some laws also cover employers receiving business assistance from the city, and even fewer cover city employees. For living wage laws covering contractors or subcontractors, estimates of the percentage of workers directly affected by

¹See www.livingwagecampaign.org.

²See www.epinet.org/Issueguides/livingwage/livingwagefaq.html.

living wage laws—from a series of city-specific consulting reports—are often quite low (below one percent), although the percentage of workers affected by living wage laws with business assistance provisions may be considerably higher (see Neumark and Adams, 2001a). This raises the question of why—given the stated anti-poverty objectives—living wage laws are focused on raising wage floors for such narrow groups of workers, as opposed to creating more general wage floors at the local level.³

One possibility is that living wage laws serve other interests, offering protection of higher-paid municipal workers *from* low-wage workers, rather than offering protection *for* low-wage workers. In particular, by raising the wages that city contractors must pay, living wage laws may reduce the incentives for cities to contract out work that would otherwise be done by municipal employees. In this sense, living wage laws may parallel the Davis-Bacon Act and other state-level prevailing wage laws impacting public construction projects.⁴ It is natural to consider such restrictions as potentially enhancing union bargaining power, and hence in particular protecting or increasing rents for unionized municipal workers who are directly affected, as well as increasing the ability of these workers to prevent contracting out of their jobs. Indeed some evidence reported below suggests that unions representing municipal workers are particularly active in advocating living wage laws, and resolutions from the 1999 AFL-CIO convention note that lifting the wage floor via living wages and other mechanisms “enhances bargaining power and security for all workers.”⁵

³Local minimum wage proposals are rare. There is currently one under discussion in New Orleans, and a proposal in Houston was defeated in 1997. Santa Monica recently approved a living wage that while covering city contractors also has features like a minimum wage, applying to businesses above a certain size in a restricted geographic area.

⁴See Kessler and Katz (1999) for an analysis of prevailing wage laws. The less well-known 1965 Service Contract Act regulates wages paid by contractors providing services to the federal government.

⁵See www.aflcio.org/convention99/res1_1.htm.

This last quote succinctly captures the political economy puzzle posed by living wage laws. If the goal is to increase security for all workers—consistent with a broad anti-poverty agenda—why not push for broad measures? Or is a principal effect of living wage laws to benefit unionized municipal employees who might otherwise face competition from low-wage labor employed by city contractors and subcontractors? Other research considers the anti-poverty effects of living wage laws (Neumark and Adams, 2001b). In this paper, the differential effects of living wage laws on different groups of workers are explored, with a particular focus on whether unionized municipal workers gain from living wage laws.

II. Background on Living Wage Laws and Related Research

Living Wage Laws

Perhaps the defining feature of living wage laws is the high wage floors they set. Table 1 provides information on living wage laws for the largest cities in which these laws have been implemented. Specifically, Table 1 covers the 19 cities that are sufficiently large to study with the CPS.⁶ The wage levels associated with living wage laws are reported for these cities in the second column of Table 1.⁷ In many cases (e.g., Hartford and Minneapolis) these wages are pegged to the poverty level for a family of a specified size. In addition, as already noted the required wage is

⁶As explained below, the empirical analysis is restricted to city-quarter cells (for cities identified in the Current Population Survey) for which there are at least 100 observations in the Outgoing Rotation Group files. The 19 cities in Table 1 are those that have living wage laws and meet this criterion for at least some quarters.

⁷The analysis ignores county living wages, which are currently on the books in 14 counties. In many cases the counties covered are small, and in general county living wage laws have not attracted a great deal of attention, perhaps because the number of workers covered may be quite low. In the analysis in this paper, county living wage laws are only relevant if they cover workers in cities included in the data set but classified as not having living wage laws. The only county living wage law that clearly covers a city included in those studied is in Miami-Dade County. In general, this problem should bias any estimated effects of city living wage laws toward zero, as the control group may actually include some individuals subject to living wages. Thus, the effects of living wage laws that are reported in this paper could be slightly understated.

sometimes higher if health insurance is not provided.⁸ The range of living wages—as of the end of calendar year 2000—is from a low of \$6.80 in Milwaukee to a high of \$9.92 in San Jose. To provide some perspective, the current federal minimum wage (as of the end of 2000) is \$5.15, and the highest state minimum wage is \$6.50 (Oregon). Thus, in many cities the living wage exceeds the prevailing minimum wage by 50 percent or more.

The other distinguishing feature of living wage laws is their coverage. As the last column of Table 1 shows, coverage is far from universal. The common element of most living wage laws is coverage of city contractors—usually general (e.g., Durham), but sometimes limited to service and perhaps construction contractors (e.g., San Jose, Baltimore), and in one case a much narrower set of contractors (Portland). In contrast, in only three of these cities (Dayton, Minneapolis, and San Antonio) do living wage laws fail to cover contractors. In addition, coverage is extended to city employees in only three of the cities in Table 1 (Dayton, Durham, and San Jose). On the other hand, in nine of the cities coverage is also extended to employers receiving some form of “business assistance”—in the form of subsidies, tax breaks, financial assistance, etc.⁹

The Effects of Living Wage Laws—Predictions of Standard Theory, and Evidence

Standard economic theory predicts that there will be winners and losers from living wage laws. On the one hand, the higher wages mandated by living wage laws may make some workers better off. On the other hand, in the standard labor market model a government-mandated increase

⁸In the empirical analysis reported in this paper, the lower wage with health insurance (if there is one) was used, but the qualitative conclusions were not sensitive to using the alternative higher wage.

⁹The living wage law in Minneapolis is classified in Table 1 as covering employers receiving business assistance. Interestingly—making the link between living wage laws and the deterrence of contracting out explicit—the Minneapolis law also states that “Work presently being performed by City employees may not be contracted out unless the contractors pay employees performing that work a living wage or the current City wage and benefits, whichever is higher.” Because this does not apply to all contractors but only those doing newly-privatized work—making it unclear how wages are regulated over the longer-run after work is contracted out—this law should be weaker, and is therefore not classified as generally covering contractors. However, the results were not qualitatively affected by this classification.

in the wage floor induces two types of effects, both of which reduce use of low-wage labor. The substitution effect occurs as employers substitute away from now-more-expensive low-wage labor, toward higher-wage labor or other inputs. The scale effect occurs because this substitution away from low-skilled labor and toward other inputs raises costs of production and hence prices, reducing demand for the product and therefore the overall scale of operation of the employer. The identities of the winners and losers, and the magnitudes of their gains and losses, therefore depend on the strengths of these effects and their incidence.

There are some unique features of living wage ordinances that may lead to smaller reductions in labor demand than a standard, broader wage increase—such as an increase in the minimum wage. To begin, there are two reasons why the scale effects may be moderated. First, the scale effect ultimately stems from cost increases caused by the substitution induced by the living wage. The conclusion that costs must increase is based on the assumption that employers were minimizing costs in the first place, which implies that the input choices (conditional on output) after the imposition of the minimum wage requirement must be higher cost, or they would have been chosen initially. However, it is conceivable that government contracting is done in a less competitive environment in which pressures to minimize costs are mitigated, in which case employers may find ways to offset the increased labor costs for low-wage labor by reducing costs in other dimensions. This idea has its origins in the X-inefficiency theory of Leibenstein (1978).¹⁰ Second, the extent to which price increases reduce demand depends on the elasticity of demand for the product. Because the city is the purchaser of goods and services from contractors, this demand curve may be highly inelastic over some range, either because the city finds it possible to raise

¹⁰For evidence on efficiency in the private vs. public sector, see, e.g., Bhattacharyya and Parker (1994), Hollas and Stansell (1994), and Kuo-Ping and Kao (1992).

taxes to cover higher costs, or because some services have to be purchased in quantities that may be largely insensitive to price (such as snow plowing).¹¹

Aside from these reasons to expect moderated scale effects, living wage laws have limited coverage. This implies that some of the labor disemployed in the covered sector may shift into the uncovered sector, generating an outward shift in the supply of labor to the uncovered sector,¹² although the existence of a minimum wage may restrict the ability of wages to fall in this latter sector. In general, though, shifts to the uncovered sector have the effect of moderating overall employment losses, although also driving down wages, reducing both the gains and the losses associated with living wage laws. This may result in lower costs of production, leading to lower output prices and higher employment and output. However, employment will not expand enough in the uncovered sector to offset fully the employment decline in the covered sector.¹³

Despite these considerations, the standard theory nonetheless still predicts that a higher living wage will cause average wages of low-wage workers to increase, and employment (and hours) of workers who would be employed at low wages to fall. Evidence reported in Neumark and Adams (2001a) is broadly consistent with these predictions. In particular, positive wage effects are detected, although mainly in the cities in which living wage laws apply to employers receiving business assistance, rather than in the cities with narrower laws, while negative employment effects appear to arise in response to the wage increases stemming from living wage laws. Neumark and Adams (2001b) consider the effects of these living wage laws on family incomes, rather than

¹¹The “second-round” effects via tax increases, and subsequent impacts on businesses, are an unexplored area of research.

¹²An exception is when workers leave the uncovered sector to “queue” for covered-sector jobs in sufficient numbers (Mincer, 1976). However, this requires—among other conditions—that work in the uncovered sector deters search in the covered sector.

¹³Formally, this is because when the supply of labor shifts out in the uncovered sector, the decline in wages leads some workers to choose non-employment (or reduced hours).

workers, specifically asking whether these laws reduce urban poverty, and find some evidence of beneficial effects on net.

There are a few points to keep in mind in interpreting this earlier evidence coupled with the new evidence reported in this paper. First, there is not necessarily any contradiction between finding some beneficial effects for low-wage workers and low-income families, on the one hand, and gains for unionized city employees, on the other. Living wage laws could benefit low-wage workers or low-income families if the employment and hours responses to wage increases are sufficiently moderate, and the distribution of gains and losses across families tilts the benefits toward poor families. Rather, the rent-seeking perspective is meant to help clarify the political economy of living wage laws, asking whether there is evidence of gains for other groups that suggests alternative motivations for the passage of these laws. Second, though, it is the possibility or “threat” of higher wage floors for contractors that is likely to generate benefits for unionized city workers. Thus, contractor living wage laws are the focus of this paper. Because contractor-only living wage laws do not appear to be associated with benefits for low-wage workers or low-income families, evidence that these types of living wage laws benefit unionized city workers would tend to cast living wage laws structured to restrict wages paid by city contractors in a more negative light. Finally, the evidence that contractor-only laws do not result in detectable wage increases for low-wage workers does not imply that unionized municipal workers cannot gain from them. Indeed the gains to the latter workers would come about because contracting out is deterred, so higher wages paid to nonunion contractor employees need not be realized.

III. Union Support for Living Wages

The central evidence considered in this paper is the gains that accrue to unionized municipal workers from the implementation of living wage laws. However, as a “pre-condition” for such

gains, it would be expected that organizations representing unionized municipal workers would be involved in political efforts to pass living wage laws. This section describes some evidence of such activity.

As one method of assessing the involvement of unions with living wage campaigns, a simple set of Internet searches was conducted looking for joint mention of living wage campaigns and labor unions. This evidence is summarized in Table 2. Column (1) simply reports the number of hits for “living wage” and the name of each of the 19 cities listed in Table 1. Subsequently, names of various labor organizations were added to the list, beginning with the AFL-CIO, and then, based on preliminary searches of the first set of hits in column (1), specific unions that were mentioned often. As shown in columns (2)-(7), a relatively high fraction of hits involving living wages also mentioned the AFL-CIO or a specific labor union. In the absence of information on city contracts—which is difficult to come by—it is not entirely clear which unions might have the most vested interest in living wage laws. Interestingly, however, aside from the AFL-CIO, which is an umbrella organization, the largest shares of hits are associated with the two unions that play a prominent role in organizing local government workers: the American Federation of State, County, and Municipal Employees (AFSCME), and the Service Employees International Union (SEIU).¹⁴

In and of itself, of course, the evidence in Table 2 says nothing about support for living wages on the part of unions. However, a casual perusal of the materials uncovered in the search documented in Table 2 indicates strong support. A sampling of quotes from these documents is provided in Table 3. They clearly document the active advocacy of labor unions in support of

¹⁴Of course the numbers would change from day to day. But checking these numbers versus those obtained five months earlier revealed little qualitative change in the pattern. In addition, different search engines yield different results. To see whether the qualitative conclusions were sensitive, Yahoo and Excite were also used to do the searches for Baltimore. Both had considerably fewer hits (1120 and 980 respectively). But the percentages accounted for by the various unions revealed similar patterns, with AFSCME and SEIU accounting for at least three times as many hits as the other individual unions.

living wage campaigns. While this is not a random sample of quotes, statements paralleling those in Table 3 were plentiful, and in a broader and random sample of the Internet sites documented in Table 2, no statements by unions in opposition to living wage laws were uncovered.

The evidence presented in Tables 2 and 3 does not prove that unions back living wage laws as part of a rent-seeking strategy. Unions may have other incentives to back initiatives to pass living wage laws, such as preferences for less inequality in the wage structure or reductions in poverty. Alternatively, union support for living wage campaigns may provide publicity, contacts, etc., that prove useful in future organizing drives, or in transforming the public image of unions from one of narrow self-interest to one with broader social goals (Nissen, 2000). Nonetheless, the evidence of union support for living wages provides what might be considered a prima facie case for the rent-seeking hypothesis. With that in mind, the next section turns to the central analysis of this paper, exploring the consequences of living wage laws for unionized municipal employees.

IV. Who Gains from Living Wage Laws?

Data

The data used come from the Current Population Survey Outgoing Rotation Group (ORG) files extending from January 1996 through December 2000. The ORG files include approximately 13,000 households per month. In these files, residents of all “Standard metropolitan statistical areas” (SMSAs), encompassing all large- and medium-sized cities in the U.S., can be identified. Data on these residents are extracted for the empirical analysis. It would be ideal to know where people work rather than where they live, but such information is not available. Also, the correspondence between cities and SMSAs is imperfect, but because suburban residents may work in the city, this is not necessarily inappropriate.¹⁵ Since January 1996, the design of the CPS has

¹⁵For ease of exposition, SMSAs are often referred to as “cities.”

resulted in the large- and medium-sized metropolitan areas in the sample being self-representing (Bureau of the Census, 1997).¹⁶

Considering first the individual data, the sample is restricted to those residing in SMSAs, aged 16-70. Observations with allocated values for the important variables are omitted. For much of the analysis, only those working for a wage are included, dropping those with a computed wage less than \$1 or greater than \$100. When the wage had to be constructed from weekly earnings, usual weekly hours at the main job is used as the denominator. For those responding “hours vary” for this question, the hourly wage cannot be constructed and the observations are dropped.

Dependent Variables and Hypotheses to be Tested

Two dependent variables are considered. The first is the share of unionized municipal workers in the city’s workforce. Because of the relatively small number of unionized municipal workers, this city-level share variable is constructed by quarter (rather than month). If living wage laws actually reduce the extent to which cities contract out jobs, by reducing the incentives to do so, then increases in this share in response to living wage laws might be observed. However, this is a relatively “strong” form of the rent-seeking hypothesis. Instead, what living wage laws may do is to reduce the ability of cities negotiating with unionized workers to threaten to contract out work. This would increase the bargaining power of unions, and hence result in higher wages. But it may result in little change in actual contracting out behavior, because the threat need not be carried out (at least, not often) in order to affect bargaining.¹⁷ Thus, the “weaker” form of the rent-seeking

¹⁶The analysis is also restricted to begin in 1996 because for part of 1995 SMSA codes are unavailable in the ORG files, due to phasing in of a new CPS sample based on the 1990 Census.

¹⁷For this reason, it would probably not be informative to study changes in actual contracting out behavior. Aside from this consideration, data are not yet available with which to carry out such an analysis. The International City/County Management Association (ICMA) conducts a survey of “alternative service delivery” in U.S. cities (and counties), but the last survey was done in 1997, prior to most living wage laws, and the next survey will not be done until 2002.

hypothesis is that living wage laws boost the wages of unionized municipal workers.¹⁸ To parallel the workforce share analysis, the empirical analysis of wages is also done using city-level data.¹⁹ Attention is focused on the wages of those unionized municipal workers who earn lower wages, as they are more likely to face competition from lower-wage non-union labor hired by city contractors, and conversely to benefit from raising the wage floor for this labor. In particular, the dependent variable used is the average wage of below-median wage (relative to their city-quarter) unionized municipal workers.

The hypothesis that living wages protect unionized municipal workers from lower-wage workers stems from the application of most living wage laws to city contractors and subcontractors. As Table 1 showed, there are a few cities for which living wages do not cover contractors. Consequently, most of the empirical analysis focuses on the subset of cities with contractor living wage laws.

The two hypotheses will be tested using a straightforward difference-in-differences framework. In this framework, the effect of living wages—the treatment—is identified from how changes over time in cities implementing (or raising) living wages differ from changes over the same time period in cities without (or not raising) living wages. Using data for city-quarter cells

¹⁸Indeed in a standard model in which employment is determined from the demand curve based on the negotiated wage, such wage gains could generate some employment reductions (and still be preferred by unions if the median union voter values the higher wages), offsetting potential positive effects on the union-municipal workforce share from deterring contracting out. But with public sector unions, wage and employment determination could be quite different, as unionized municipal workers also vote for public officials.

¹⁹This raises the question of whether the results from the living wage studies by Neumark and Adams (2001a and 2001b) are robust to aggregating the data in this way. To explore this, the data aggregated to a city-quarter basis were used to attempt to replicate the basic results on the effects of living wages on low-wage workers (from Neumark and Adams, 2001a). The results are reported in Appendix Table A1, and yield similar findings. Specifically, with a lag of about one year, living wages boost the average wages of those below the 10th centile of the wage distribution (of the appropriate city-quarter cell), with an elasticity of approximately .04. When attention is restricted to living wage laws with broader coverage extending to employers receiving business assistance, the elasticity increases to nearly .08. Minimum wages have larger immediate effects, but these are largely dissipated within one year.

indexed by city i in quarter t , the baseline regression estimated for each dependent variable (generically denoted y) is of the form:

$$(1) \quad y_{it} = \alpha + \beta \max[\ln(w_{it}^{liv}), \ln(w_{it}^{min})] + \gamma \ln(w_{it}^{min}) + C_i \delta + Y_t \theta + Q_t \lambda + \epsilon_{it} .$$

In this specification, w^{min} is the higher of the federal or state minimum wage and w^{liv} is the living wage.²⁰ It is essential to control for minimum wages, because many cities with living wages are in states with high minimum wages, and the goal is to estimate the independent effects of living wages. The living wage variable that multiplies β is specified as the maximum of the (log of the) living wage and the minimum wage. In the sample period, living wages—when they exist—always exceed minimum wages, so this variable imposes the minimum as the wage floor in the absence of a living wage, although modifications of this specification are also considered. C , Y , and Q are vectors of city, year, and quarter dummy variables,²¹ and ϵ is a random error term. Variations on this specification are discussed as they are introduced in the empirical analysis.

Descriptive Statistics on Workers

Central to the analysis in this paper is the classification of workers by union status and municipal employment. Municipal workers are identified from the “class of worker” variable in the CPS, which refers to the primary job; having restricted the sample to those living in SMSAs, those working for “local government” are considered municipal employees, although some may work for other units of government below the state level. Union status is based on whether the individual reports being a “member of a labor union or an employee association similar to a union.”

²⁰In the few cases of SMSAs that straddle states with different minimum wages (e.g., Philadelphia), a weighted average of the minimum wages in the two states is used, weighted by the shares of the SMSA population in each state (averaged over the months of 1996). The living wage and minimum wage variables were averaged over the months in each quarter.

²¹The resulting estimates were very similar if separate dummy variables for each quarter in the sample were used.

Table 4 provides some descriptive information on workers classified by municipal employment and union status, detailing their occupational distribution and average wages. In addition, because living wage laws are likely to affect lower-wage workers, these descriptive statistics are presented for those workers earning below the median wage in the corresponding city-quarter cell. The first row of numbers in the table describes the workforce share of workers classified by union status and municipal employment. Looking first at all workers, in columns (1)-(4), the overall unionization rate in these data is .145, with 29 percent of union workers employed by municipalities. When attention is restricted to those earning below the median wage, the unionization rate drops, reflecting the union wage premium. The share of unionized municipal workers among this subset is particularly small, representing 1.9 percent of these lower-wage workers.

This low share highlights the inherent difficulty of using the CPS data to study a group of workers as narrow as unionized workers working for municipalities. In particular, they highlight the relatively small number of workers from whom the effects of living wage laws can be identified. For example, consider the analysis of wage effects on unionized municipal workers in affected occupations, earning below-median wages. For this analysis, there are 1075 observations on individual workers in the control sample of cities never passing living wage laws. In the treatment sample in which living wages are passed, there are 306 observations prior to the implementation of the living wage, and 353 afterwards.

The remaining rows of the table provide information on the occupational breakdown of workers based on union status and municipal employment. Each column reports the distribution of workers in that column. Looking first at all workers, the heaviest concentration of unionized municipal workers is among teachers, accounting for 41.3 percent of these workers. There are also

high concentrations among executives, professionals excluding teachers, and police, as well as clerical workers, those in other services, and craft workers. Among lower-wage workers, though, as shown in columns (5)-(8), unionized municipal workers are much more concentrated among clerical workers and workers in other services; together these two occupations constitute 49.2 percent of unionized municipal workers earning below-median wages. Aside from the likelihood that living wage laws are likely to affect lower-wage workers, this provides another motivation for restricting attention to those earning below median wages. In particular, for some occupations—most obviously teachers, police, and fire—because of the inability of municipalities to contract out, unionized municipal workers seem unlikely to require living wage laws to be protected from competition from lower-wage, typically non-union labor. Thus, most of the analysis is restricted to occupations other than these three, which as Table 4 shows are more heavily represented among those earning below-median wages.

The other columns of the Table 4 (columns (9)-(16)) report descriptive information on wages by union status, municipal employment, and occupation. There are no real surprises here in terms of the occupational wage differentials, or those associated with union status or municipal employment. What is informative, though, is a comparison of some of these wages with the legislated living wages reported in Table 1. In particular, once attention is restricted to those earning below-median wages, for most occupations average wages appear to be in the range where living wages might pose a binding constraint for a reasonable fraction of non-unionized, non-municipal workers. At the same time, the wage floors imposed by living wages are close enough to the wages of unionized municipal workers to believe that it might be possible to detect benefits to these workers from the imposition of living wages, if these benefits exist. In contrast, the average wages of unionized municipal workers overall are sufficiently high that it seems less likely that

living wage laws would have any detectable effect on the higher-wage members of this set of workers.

Descriptive Statistics on Cities

Having provided some descriptive information on unionized municipal workers, Table 5 reports descriptive statistics for the city-level data that are used in the empirical analysis. The sample is restricted to city-quarter observations in which there are at least 100 observations, to attempt to increase the accuracy of the estimates; even so, these cells frequently contain very few unionized municipal workers.

Panel A provides some general information on wages, for cities with any living wage laws (prior to and following the initial implementation of the living wage), for the same breakdown focusing only on living wage laws covering contractors, and for cities with no living wage laws in the sample period. The wage figures were deflated by the average hourly earnings series, with the first quarter of 1996 used as the base. These figures suggest that living wages (either in total, or only those covering contractors) were implemented in cities with wages that were higher by about five percent, and wages of workers below the 10th centile that were higher by about three percent.

Panel B first provides information on the workforce share of unionized municipal workers. The figures indicate that whether looking at the workforce overall, at “affected” occupations (excluding teachers, police, and fire), or at the subset of workers in these occupations with below-median wages, living wages were implemented in cities with only slightly higher representation of unionized municipal workers. For example, in the latter case this workforce share was .015 in cities that later passed a living wage law covering contractors, versus .014 in cities that never passed a living wage law. This suggests that there was little difference between the treatment and control groups prior to the implementation of living wages, although this issue is explored further

in the regression analysis that follows. In addition, for the treatment group each of the workforce share measures is slightly higher in the post-living wage period. Of course this may not hold in the regression analysis, which accounts for common (across cities) changes over time in these workforce shares, as well as city-specific differences in these workforce shares, which can affect the estimates in Table 5 because different cities are in the “Pre” and “Post” columns for different numbers of quarters.

The last row of Panel B reports average wages for the group of workers that will be the focus of the analysis, those earning below-median wages, and excluding teachers, police, and fire. These figures indicate that living wages were implemented in cities in which these workers earned slightly higher wages (about one percent), again suggesting similarity of the treatment and control groups. These figures also fail to reveal any wage increase for these workers following the implementation of a living wage, although as noted earlier this result can easily change in the regression analysis. On the other hand, note that the standard deviation is substantially lower following the implementation of a living wage, suggesting some impact on wages.

Effects of Living Wage Laws on the Workforce Share of Unionized Municipal Workers

Having laid this groundwork, the next two sub-sections report results from explicit tests of the rent-seeking explanation of living wages. The first analysis focuses on the strong test, asking whether living wage laws boost the workforce share of unionized municipal workers, while the second focuses on the weak test, estimating the effects of these laws on the wages of unionized municipal workers.

The results of this first analysis are reported in Table 6. They can be summarized quite succinctly; there is no statistical evidence that living wage laws affect the share of the workforce constituted by unionized municipal workers. Columns (1)-(3) looks at the effect of living wage

laws on this workforce share among all workers, then excluding teachers, police, and fire, and finally focusing on those earning below-median wages. In each column, three separate specifications are estimated, using the contemporaneous living wage variable (and minimum wage variable), followed by a specification with 2-quarter lags, and a specification with 4-quarter lags. These alternative lags allow the effects to take place some time after a living wage is implemented or increased. For example, in earlier work (Neumark and Adams, 2001a and 2001b) the effects of living wages on wages and also family income took about one year to appear. In all three columns, for each specification, the estimated effect is statistically insignificant. The same is true in columns (4) and (5), where the specification of the wage floor is altered, first by dropping the minimum wage variable so that a single wage floor is included in the model, and then by instead substituting the difference (in logs) between the living wage and the minimum wage. Finally, given the small number of unionized municipal workers in the data set, there may be an excessive number of observations with a measured workforce share of unionized municipal workers equal to zero. To assess whether the estimates are sensitive to this, the specifications are re-estimated using only those city-quarter cells with non-zero observations for this workforce share, which cuts the sample size nearly in half. Regardless, there is still no evidence of an effect of living wages on the workforce share of unionized municipal workers.²²

The difference-in-differences strategy is predicated on the assumption that absent the living wage, and aside from differences captured in the other control variables (including city dummy variables), the treatment and control groups are comparable. In discussing the descriptive statistics for cities in Table 5, it was noted that there were only small differences in either workforce shares or wages of unionized municipal workers between cities that never imposed a living wage, and

²²The models were also estimated as Tobits, to account for the truncation at zero, but the results were very similar.

those that did in the period prior to doing so. Of course fixed differences between the treatment and control groups would be captured in the city dummy variables regardless. A potentially more troublesome difference is one in the time pattern of changes. As the specification only includes year and quarter dummy variables assumed to have the same effects across all observations, a difference in time trends between treatment and control groups would tend to be attributed to the effects of living wages, with the direction of the bias unknown a priori. To test for different time trends, the sample was restricted to include only the control group and the pre-living wage treatment group. A time trend, and an interaction between this time trend and a dummy variable for cities later implementing living wages were added to the specification; the living wage variable was dropped because all observations are taken prior to the introduction of a living wage. The estimated coefficient of the time trend interaction provides a test of differential time trends in the treatment and control group.²³ In all cases, this estimated coefficient was small and not significantly different from zero, which bolsters the validity of the research design.

One reason to avoid drawing strong conclusions from these results is that it may not be possible to detect significant effects of plausible magnitudes in these data. For example, as Table 5 shows, the mean of the workforce share for the sample used in column (3), which provides perhaps the best experiment by focusing on affected workers in the lower wage ranges, is .014 (in the cities with no living wage). The standard error on the regression coefficient in Table 6 is .006 for the 4-quarter lag specification. Thus, if a living wage were imposed that was 50 percent higher than the minimum wage (which, as noted earlier, is a reasonable order of magnitude), then even if this ultimately raised the workforce share of unionized municipal workers by, for example, .004 (a 29-

²³If dummy variables unique to each sample quarter were included, only the time trend interaction would be identified, and the relevant test would still be whether its coefficient was different from zero. The post-living wage period is not included as the living wage is obviously correlated with the time trend, as it is introduced in more and more cities as time passes.

percent increase, which seems quite large), the estimated effect would not be statistically significant. Conversely, coefficients of the magnitudes reported, if significant, would represent sizable effects. As an example, in the specification including and then summing the contemporaneous and the two lagged effects (not reported in the table), the standard error of the sum is .006; but the estimated coefficient is .003, which would imply that a 50-percent increase in the living wage would boost the workforce share of unionized municipal workers by 11 percent, a sizable increase that would not be statistically significant. Thus, the analysis of the effects of living wage laws on the workforce share of unionized municipal workers should perhaps be regarded more as uninformative than as suggesting that living wage laws do not boost this share.

Effects of Living Wage Laws on the Wages of Unionized Municipal Workers

Finally, the focus shifts to the empirical test of the rent-seeking hypothesis that is more likely to reveal beneficial effects of living wages for unionized municipal workers if such effects are present, namely whether living wages boost wages of these workers. The basic results are reported in Table 7, as noted before for below-median wage unionized municipal workers, in occupations excluding teachers, police, and fire. The first three panels of the table report estimates from separate specifications using alternatively contemporaneous, 2-quarter lags, and 4-quarter lags of the living wage and minimum wage variables. As in Table 6, across the columns specifications are also reported dropping the minimum wage variable, and using only the difference between the living wage and the minimum wage. The results in the three columns are very consistent. The contemporaneous effect of the living wage on the wages of unionized municipal workers is large, with an elasticity of about .13, and statistically significant. The 2-quarter lag specifications still point to positive effects, although smaller and no longer statistically significant, consistent with some moderation of the wage effect (although easily attributable to sampling variation as well).

The 4-quarter lag specifications point to somewhat larger effects, statistically significant at the 10-percent level in two of the three specifications. In contrast, the minimum wage effects (in column (1)) are always statistically insignificant and imprecisely estimated.

Given the generally persistent effects of living wages, the last panel includes simultaneously the contemporaneous and two lagged living wage (and minimum wage) variables, and reports their overall statistical significance, and most importantly the estimated summed effect and its standard error. All three specifications point to relatively large and statistically significant positive effects of living wages on the wages of unionized municipal workers, with elasticities in the .14 to .16 range. These estimates imply, for example, that implementation of a living wage that exceeds the minimum wage by 30 percent—which is not uncommon—would raise wages of these workers by approximately 4.5 percent.

The evidence in Table 7 would have to be summarized as providing relatively strong support for the hypothesis that living wages offer lower-wage unionized municipal employees some protection from low-wage labor. The same test of the difference-in-differences research design discussed in the previous subsection, based on testing for differences in trends in the control group and in the pre-living wage treatment group, was carried out for the wage analysis. Again, there was no evidence of differential trends, validating the research design.²⁴ To further explore the validity of the findings, and their sensitivity and robustness, Table 8 presents results from a wide variety of alternative analyses. In most cases, results are reported from the specifications including the contemporaneous, 2-quarter, and 4-quarter lags of the living wage variable, first also with the

²⁴In fact in this case the specification was also estimated for the whole sample period, including the living wage and time trend variables, to see whether the estimated wage effect persisted in this more flexible specification allowing different time trends in the treatment and control groups. As expected, the living wage coefficients were estimated less precisely than those reported in Table 7. But the point estimates were larger, and still resulted in positive and statistically significant effects of living wages on wages of unionized municipal workers.

corresponding minimum wage variable, and then using the difference from the minimum wage variable.

The first set of analyses considers evidence from similar specifications to those just reported, but using various groups of workers whose wages should *not* be affected by living wage laws. If the effects for unionized municipal employees just discussed are not spurious, then similar effects should *not* appear for these other groups of workers. These results are reported in Panel A of Table 8. In the first column, attention is restricted to unionized municipal workers earning below-median wages, as before, but now looking exclusively at teachers, police, and fire. Workers in these occupations were excluded earlier because they seem unlikely to face competition from lower-wage non-union labor, but they nonetheless constitute 28.8 percent of unionized municipal workers with below-median wages. The estimates indicate no effect of living wages on the wages paid to this group, as the estimated coefficients are negative, rather than positive, insignificantly different from zero, and imprecise.

Columns (2)-(4) turn to the three other groups of workers classified by union status and municipal employment. In this case teachers, police, and fire are included because they represent much smaller workforce shares. For none of the three groups—unionized non-municipal workers, non-unionized municipal workers, or non-unionized non-municipal workers—is there evidence that living wage laws boost wages. In these regressions the estimates are relatively precise, and insignificantly different from zero. Finally, the last column returns to the unionized municipal workers in the affected occupations that were analyzed earlier, but restricts attention to the few living wage laws that do *not* cover city contractors, for which no effect on the wages of unionized municipal workers is expected. This is confirmed in the estimated effect on wages, which is

negative and not significantly different from zero (and rather imprecise, given the small number of cities with non-contractor living wage laws).²⁵

Overall, then, the evidence in this panel of the table, coupled with the earlier evidence in Table 7, indicates that positive effects of contractor living wage laws appear for the group of workers that would be predicted by the rent-seeking hypothesis, and not for other groups of workers for whom no effects should arise. This suggests that the evidence for the rent-seeking hypothesis is not spurious, but instead stems from the actual effects of contractor living wage laws.

The next panel of the table turns instead to some sensitivity analyses of the result for unionized municipal workers, asking whether the positive wage effect persists in alternative specifications, with different sample restrictions, etc. Column (1) restricts attention to a subset of affected occupations with the lowest average wages, specifically wages below \$8 for non-unionized, non-municipal workers (see Table 4). Unless for some reason these particular occupations are not open to competition from city contractors, it would be expected that the positive wage impact of living wage laws would be present for this group of occupations, and most likely larger. This is confirmed by the estimates, which are slightly larger than the comparable estimates in Table 7, and statistically significant.

The next six columns ((2)-(7)) consider alternative cut-offs for “lower-wage” unionized municipal workers, substituting centiles ranging from the 30th to the 90th for the median. The results indicate that at the extremes the positive impact on wages becomes small and insignificant,

²⁵Another possibility is that the results for contractor living wage laws for unionized municipal workers are driven by the two cities that also cover city employees (Durham and San Jose), in which case the mechanism would be direct wage increases, rather than the extraction of higher rents via raising the price of non-union contractor labor. Of course, the results in column (3) of Table 8 (Panel A) for non-unionized municipal workers suggest that this is not the case. In addition, when these two cities were dropped and the specifications in Table 7 re-estimated, the effects of living wage laws on wages of unionized municipal workers were stronger, not weaker.

but that evidence of this effect emerges as long as the range extends through the middle part of the wage distribution.

Because in the wage analysis the dependent variable must fall below a certain level (the city-quarter median in most of the analyses), there is potential bias from endogenous selection. In particular, some fraction of workers whose wages are raised by a living wage law may be lifted above the median centile, biasing downward any positive effect of the living wage. As the results ultimately point to a positive effect of living wages on this wage measure, the results would likely only be stronger in the absence of this bias. Nonetheless, the estimates should be interpreted carefully as simply measuring the effect on the average wage of workers whose wages are below the specified cut-off, rather than measuring a population regression function.

An alternative that avoids this problem is to use the predicted wage distribution, rather than the actual wage distribution. The cost of this is that using the predicted wage distribution probably results in the inclusion in this lower range of more potentially unaffected workers, thus also biasing any positive effects downward. The sub-panel below columns (2)-(7) reports results substituting wage cut-offs based on predicted wages rather than actual wages. The estimated positive impacts are still present, although in this case when workers slightly higher up in the (predicted) wage distribution are included.

Finally, the last two columns add another lag of the living wage (and minimum wage), to see whether there is any evidence that the positive effect of living wages weakens over time. In fact the point estimate adding effects through the 6-quarter lag is a shade larger than the comparable estimate using lags only through 4 quarters.

Overall, the positive impact of living wage laws on the wages of unionized municipal workers persists in many of the sensitivity analyses reported in Panel B of Table 8. Nonetheless,

the combined evidence in columns (2)-(8) points to some fragility or perhaps “narrowness” of the inference that living wage laws boost wages of unionized municipal workers, and it remains an open question why the lowest-wage among these workers appear not to benefit from living wage laws. Unfortunately, there is not a sufficiently large data set to support highly disaggregated analyses that might shed further light on this question.

Additional evidence of fragility was detected along two dimensions. First, the wage effects were re-estimated dropping cities with contractor living wage laws one at a time. For most cities, this had no impact on the estimates. However, dropping data for Detroit weakened the estimated effect, making it statistically insignificant in some specifications, while dropping data for Chicago strengthened the estimated effect by amounts nearly as large. Given that neither city has a particularly high living wage or suspect data, this variation in the estimates should be viewed as reflecting inherent randomness. Nonetheless, to gauge the sensitivity of the estimates to influential observations, a number of the wage specifications were estimated dropping the data for Detroit and Chicago, and, as an alternative, using robust regression techniques that generally downweight influential observations. The former approach led to somewhat weaker wage effects, while the latter more general approach had essentially no impact. Second, when the wage regressions reported in the tables were unweighted the standard errors rose considerably; for example, on the summed contemporaneous, 6-month lag, and 12-month lags like those reported in the bottom panel of Table 7, the standard errors rose by more than 50 percent. On the other hand, the estimated magnitudes were sometimes smaller without weighting. The increased standard errors are not surprising; given that the data are grouped, weighted estimates are more efficient. However, given that the key right-hand-side variables are policy variables and not estimated from the data, the

sensitivity of the coefficient estimates suggests some non-robustness (rather than a greater influence of measurement error in the unweighted regressions).

Thus, the preponderance of the evidence points to positive effects of living wage laws on wages of unionized municipal employees, and a number of the sensitivity analyses and robustness checks reported in the tables and text tend to strengthen the effects. But there are some exceptions, and some uncertainty about these effects may be inevitable in the absence of much larger data sets with which to study unionized municipal workers.

V. Conclusion

Living wage laws, which were introduced in the mid-1990s and have expanded rapidly since then, are typically touted as anti-poverty measures. Yet they frequently restrict coverage to employers with city contracts, and in such cases apply to a small fraction of workers. This apparent contradiction leads to the question of whether there are alternative motivations for various economic and political actors to seek passage of living wage laws covering city contractors.

This paper considers the hypothesis that unions representing municipal employees work for the implementation of living wage laws as a rent-seeking activity. In particular, the hypothesis is that by raising the wages that city contractors would have to pay, living wage laws may reduce the incentives for cities to contract out work that would otherwise be done by municipal employees, hence increasing the bargaining power of municipal unions and leading to higher wages (and perhaps also a higher employment share of unionized municipal workers). The evidence that labor unions, especially those representing municipal workers, are active in the movement to pass living wage laws, provides only prima facie evidence in favor of the rent-seeking hypothesis. The main contribution of the paper is an empirical analysis of the effects of living wage laws on unionized municipal workers.

While there is no evidence that living wage laws boost the workforce share of unionized municipal workers, there is evidence that the wages of these workers are increased as a result of living wages. In particular, focusing attention on those unionized municipal workers in the lower to middle part of the wage distribution in their local labor market, and on those occupations most likely to be affected, the evidence indicates elasticities of average wages with respect to living wages in the .1 to .15 range. This finding generally holds up in a variety of sensitivity analyses. On the other hand, comparisons of estimated effects for unionized municipal workers that should be affected by living wages with estimated effects for alternative groups of workers that should not experience any impact uniformly indicate positive effects only for the former, making more plausible a causal interpretation of the estimated impacts of living wage laws on unionized municipal workers.

The evidence that unionized municipal workers gain from living wage laws does not imply that living wages offer no assistance to low-wage workers or low-income families. Indeed, there is evidence that living wage laws help to achieve these latter goals, although more so when they are not narrowly restricted to cover only city contractors, but instead extend to employers receiving business assistance from the city (Neumark and Adams, 2001a). Thus, this evidence should not be interpreted as condemning living wage laws as nothing but a ploy for unionized municipal workers to protect themselves against competition from lower-wage labor that cities might access through contracting out. However, it does add to the literature on “political economy” explanations of labor market and other policies (e.g., Brock and Magee, 1978; Goldin, 1994, Fishback and Kantor, 1998). Moreover, it may help in understanding the evolution of living wage laws, and in particular the frequently narrow coverage restrictions they entail.

Finally, though, the evidence does suggest that one narrow group that is not the overt intended beneficiary of living wage laws exerts political pressure on behalf of these laws and gains from them. This, in turn, suggests that alternative policies intended to achieve the goal of reducing urban poverty may be more effective, as living wage laws may result more from considerations of self-interest of narrow but politically-powerful groups of workers than from consideration of the optimal way of achieving this goal. This contradiction may be reflected in the emphasis in most living wage laws on coverage of city contractors, whereas it appears to be only broader living wage laws that generate detectable benefits for low-wage workers and low-income families. Living wage laws covering contractors as well as employers receiving business assistance may boost wages of unionized municipal workers as much as or more than contractor-only laws,²⁶ but such broader living wage laws may provoke greater resistance from business owners and others parties, leading unions often to push or settle for laws imposing living wages only on contractors. It seems likely that more detailed analyses of the politics of actual living wage campaigns could provide complementary evidence regarding the rent-seeking hypothesis.

²⁶Indeed, specifications not reported in the tables yielded evidence consistent with effects of combined contractor and business assistance living wage laws that were as large or larger.

References

Bhattacharyya, Arunava, and Elliott Parker. 1994. "An Examination of the Effect of Ownership on the Relative Efficiency of Public and Private Water Utilities." Land Economics, Vol. 70, No. 2, May, pp. 197-209.

Brock, William A., and Stephen P. Magee. 1978. "The Economics of Special Interest Politics: The Case of the Tariff." American Economic Review Papers and Proceedings, Vol. 68, pp. 246-50.

Bureau of the Census. 1997. CPS Technical Paper 63: Design & Methodology (Washington, DC: Bureau of the Census).

Fishback, Price V., and Shawn Everett Kantor. 1998. "The Political Economy of Workers' Compensation Benefit Levels, 1910-1930." Explorations in Economic History, Vol. 35, pp. 109-39.

Goldin, Claudia. 1994. "The Political Economy of Immigration Restrictions in the United States, 1890-1921." In Claudia Goldin and Gary D. Libecap, eds., The Regulated Economy, pp. 223-257 (Chicago: University of Chicago Press).

Hollas, Daniel R., and Stanley R. Stansell. 1994. "The Economic Efficiency of Public vs. Private Gas Distribution Utilities." Annals of Public and Cooperative Economics, Vol. 65, No. 2, pp. 281-300.

Kessler, Daniel P., and Lawrence Katz. 1999. "Prevailing Wage Laws and Construction Labor Markets." NBER Working Paper No. 7454.

Kuo-Ping, Chang, and Pei-Hua Kao. 1992. "The Relative Efficiency of Public versus Private Municipal Bus Firms: An Application of Data Envelopment Analysis." Journal of Productivity Analysis, Vol. 3, No. 1-2, June, pp. 67-84.

Leibenstein, Harvey. 1978. "On the Basic Proposition of X-Efficiency Theory." American Economic Review, Vol. 68, No. 2, May, 328-32.

Mincer, Jacob. 1976. "Unemployment Effects of Minimum Wages." Journal of Political Economy, Vol. 84, pp. 87-105.

Neumark, David, and Scott Adams. 2001a. "Detecting Effects of Living Wage Laws." Unpublished paper, Public Policy Institute of California.

Neumark, David, and Scott Adams. 2001b. "Do Living Wage Ordinances Reduce Urban Poverty?" Unpublished paper, Public Policy Institute of California.

Nissen, Bruce. 2000. "The "Social Movement" Dynamics of Living Wage Campaigns." Unpublished paper, Florida International University.

Table 1: Living Wage Cities in Analysis Sample

<u>City</u>	<u>Wage provisions</u>	<u>Coverage</u>
Baltimore	Passed in December 1994 but wage requirements were as follows: July 1995 (6.10) July 1996 (6.60) July 1997 (7.10) July 1998 (7.70) July 1999 (7.90)	Construction and service contracts > \$5000
Boston	September 1998 (8.23) July 1999 (8.35) July 2000 (8.53)	Contractors > \$100,000; subcontractors > \$25,000
Buffalo	January 2000 (6.22)	Contractors and subcontractors with at least 10 employees, contracts > \$50,000. Non-profits may be exempted.
Chicago	July 1998 (7.60)	Contractors and subcontractors
Dayton	April 1998 (7.00)	City employees. City manager directed to use living wage as guidelines for city employee wages if it falls within long-range city financial plan
Denver	100% of poverty line for family of four, based on 2080 annual hours: March 2000 (8.20)	Service contractors and subcontractors ≥ \$2,000. Specified as covering parking lot attendants, security guards, childcare workers, clerical support workers
Detroit	100% of poverty line for family of four with health benefits, 125% without: December 1998 (8.23) March 1999 (8.35) March 2000 (8.53)	Contractors, subcontractors, and financial assistance recipients > \$50,000
Durham	January 1998 (7.55)	Contractors, city employees
Hartford	110% of poverty line for family of four: December 1999 (9.19) March 2000 (9.38)	Contractors > \$50,000; commercial development projects receiving subsidies > \$100,000
Los Angeles	Indexed annually for inflation. Initial wage set to 7.25 with health benefits, 8.50 without: April 1997 (7.25) June 1998 (7.37) June 1999 (7.49) June 2000 (7.69)	Service contractors > \$25,000; assistance > \$100,000 or \$1 million lump sum
Milwaukee	Set to 100% of poverty level for family of three on March 1 of each year, based on 2080 annual hours: December 1996 (6.05) March 1996 (6.24) March 1997 (6.41) March 1998 (6.56) March 1999 (6.67) March 2000 (6.80)	Contractors and subcontractors > \$5,000

Table 1 (continued)

City	Wage provisions	Coverage
Minneapolis	100% of poverty level for family of four with health benefits, 110% without: April 1997 (8.03) March 1998 (8.23) March 1999 (8.35) March 2000 (8.53)	Assistance > \$25,000, as of December 1998; > \$100,000 initially
Oakland	Initially set to 8.00 with health benefits and 9.25 without, upwardly adjusted by prior December 31 to December 31 change in the Bay Area CPI: April 1998 (8.00) April 1999 (8.15) April 2000 (8.35)	Contractors > \$25,000; assistance > \$100,000
Omaha	June 2000 (8.19)	Contractors and financial assistance recipients with 10 or more employees, contracts or subsidies > \$75,000
Portland	July 1996 (7.00) July 1998 (7.50) July 1999 (8.00)	Custodial, security, and parking attendant contracts
San Antonio	9.27 to 70% of service employees in new jobs, 10.13 to 70% of durable goods workers: August 1998 (9.27)	Businesses receiving tax breaks
San Francisco	Initially set to 9.00 without benefits, rising to 10.00 in 12-18 months, plus 1.25 without health benefits: August 2000 (9.00)	Service contractors > \$25,000 (\$50,000 for non-profits); airport leaseholders; home healthcare workers
San Jose	9.50 with health benefits; 10.75 without. Reset each February to the new poverty level for a family of three and adjusted upward for higher San Jose cost of living – approximately a 45% premium: December 1998 (9.50) March 1999 (9.68) March 2000 (9.92)	Service contractors > \$20,000; assistance > \$100,000 (excludes trainees and workers under 18); city employees
St. Louis	130% of poverty level for family of three, based on 2080 annual hours, higher without health benefits: July 2000 (8.84)	Service contractors > \$50,000; assistance > \$100,000

HHS poverty guidelines were used for computing wages based on percentages of poverty threshold. Unless otherwise noted, living wages indexed to the poverty line are based on 2000 annual work hours. When there are alternative living wages, the lower one is reported (e.g., the wage with health benefits). For more complete information on living wages across all cities, see Neumark and Adams (2001b). This table covers those cities with living wages for which there were 100 or more observations on workers in at least some quarters of the CPS Outgoing Rotation Group files for the period 1996 through 2000, conditional on the sample restrictions described in the text.

Table 2: Evidence on Union Involvement in Living Wage Campaigns Based on Internet Search Hits

	Total hits by city (name of city + “living wage”)	Percentage of total hits from column (1)					
		(1) + AFL-CIO	(1) + AFSCME	(1) + SEIU	(1) + IBEW	(1) + UFCW	(1) + HERE
City:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Baltimore	2560	15.9	6.2	5.2	1.3	1.6	1.8
Boston	5290	16.0	4.3	5.1	1.4	1.5	1.7
Buffalo	1300	13.2	5.8	5.0	1.5	2.2	2.2
Chicago	6140	16.9	4.5	6.3	1.4	1.7	1.7
Dayton	715	15.5	6.4	7.1	1.7	1.3	0.8
Denver	1760	12.3	4.6	5.5	1.0	1.4	1.1
Detroit	2980	16.2	5.6	6.8	2.0	2.2	1.9
Durham	676	12.3	5.8	5.3	0.7	2.2	0.9
Hartford	835	16.9	7.1	10.1	1.2	2.0	3.1
Los Angeles	6650	19.7	4.4	6.9	1.2	1.7	2.8
Milwaukee	1680	20.5	9.0	8.5	1.8	2.9	2.5
Minneapolis	2350	12.3	4.7	3.9	0.9	1.4	1.6
Oakland	2890	13.1	4.2	5.9	1.1	1.8	1.8
Omaha	316	11.7	4.1	4.1	1.3	3.5	1.6
Portland	2680	10.5	4.3	4.4	1.1	1.5	0.8
San Antonio	1370	11.9	3.0	3.1	0.8	1.2	1.0
San Francisco	5960	15.8	4.1	6.1	1.0	1.3	1.7
San Jose	1600	19.0	6.3	10.1	1.7	2.8	2.1
St. Louis	1560	16.2	5.3	5.3	1.9	2.2	1.5

The Google search engine was used to compile these figures, on April 3, 2001. Figures in columns (2)-(7) were based on adding the specific union to the search specification. Union abbreviations are as follows: AFSCME: American Federation of State, County, and Municipal Employees. IBEW: International Brotherhood of Electrical Workers. SEIU: Service Employees International Union. UFCW: United Food and Commercial Workers Union. HERE: Hotel Employees and Restaurant Employees. The acronym for the union was used in all cases except for HERE.

Table 3: Sampling of Quotes Documenting Union Involvement in Living Wage Campaigns

In 1994, after more than a year of coalition building, lobbying and negotiating, AFSCME and the community grassroots organization BUILD (Baltimoreans United in Leadership Development) convinced the city council to pass an ordinance requiring companies that have contracts with the city to pay workers \$6.10 an hour (rising to \$7.70 this year).

["Transforming Low Pay into a *Living Wage*," AFL-CIO website, www.aflcio.org/articles/am_at_work/corp_transforming.htm]

A campaign has started in Greensboro to pass a living wage ordinance. The Triad-Central Labor Body is leading the effort. The Triad CLB is a coalition of all area unions affiliated with the AFL-CIO. The CLB is in the early stages of pulling together information and reaching out to local community activists and organizations.

["Living Wage Rage Comes to Greensboro," Pete Castelli, United Needleworkers, Industrial, and Textile Employees, www.ibiblio.org/prism/may98/living.html]

David Newby, State AFL-CIO President, explained why the labor movement was leading the charge for a living wage even though most union members are earning more than the campaign's goal of 110 percent of the poverty level. "The fundamental purpose and goal of unions is to raise the standard of living and the quality of life for all working people. Our basic value is a fair day's wage for a fair day's work," said Newby.

["Living Wage Campaigns: National Trend, Local Focus," Living Wage Reporter, Oct./Nov. 1997, [www.solidarity.com/LivingWage/Oct.%201997.htm#Living Wage Campaigns: National Trend, Local Focus](http://www.solidarity.com/LivingWage/Oct.%201997.htm#Living%20Wage%20Campaigns%3A%20National%20Trend%2C%20Local%20Focus)]

Things are looking up in New Orleans, where an August court date has finally been set to determine the constitutionality of a Louisiana law prohibiting enactment of local living wage ordinances. The law was passed after ACORN and SEIU Local 100 collected enough signatures to put the living wage on the ballot in New Orleans back in 1996.

["Living Wage Campaigns Rage on in ACORN Cities and States," ACORN Report, July 1999, www.acorn.org/acorn-reports/acornrep.livingwage.content.html]

The Los Angeles living wage initiative has been led by the Los Angeles Alliance for a New Economy (LAANE). LAANE is a non-profit organization created by the Hotel Employees and Restaurant Employees Union (HERE) Local 11 in 1993 with the goal of creating a more favorable climate for organizing low-wage workers in Los Angeles' second largest sector, the tourism industry.

["Living Wage Campaigns in the Economic Policy Arena: Four Case Studies from California," Carol Zabin and Isaac Martin, Center for Labor Research and Education, Institute of Industrial Relations, UC Berkeley, June 1999, www.phoenixfund.org/livingwage.htm]

Table 4: Distribution of Workers by Unionization, Municipal Employment, Wages, and Major Occupation

	Occupational distribution								Average wages							
	All				Below median wage				All				Below median wage			
	U,M	U,NM	NU,M	NU,NM	U,M	U,NM	NU,M	NU,NM	U,M	U,NM	NU,M	NU,NM	U,M	U,NM	NU,M	NU,NM
Workforce share:	.042	.103	.043	.813	.019	.064	.040	.877								
Occupations:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Executive, administrative	.055	.052	.145	.161	.028	.026	.057	.073	20.09	18.72	18.39	18.82	10.66	10.08	8.53	8.95
Professional, excl. teachers	.093	.078	.121	.121	.053	.026	.059	.041	20.26	20.81	17.42	20.19	10.46	9.91	8.45	8.71
Teachers	.413	.046	.195	.025	.230	.023	.128	.023	19.87	19.51	14.18	13.82	10.28	9.61	8.05	7.63
Technical	.013	.031	.023	.040	.012	.022	.021	.025	16.19	21.19	12.48	15.06	10.80	10.17	8.34	8.92
Sales	.003	.051	.010	.134	.007	.101	.017	.150	13.01	10.82	8.25	12.03	8.84	7.82	6.80	6.85
Clerical	.127	.148	.217	.157	.313	.165	.324	.194	11.85	13.58	9.47	10.30	9.45	9.61	7.68	8.10
Private household	.000	.001	.000	.007	.000	.002	.000	.012	...	6.49	...	6.67	...	6.49	...	5.88
Protective services, excl. police and fire	.007	.006	.016	.008	.018	.013	.027	.011	12.13	10.92	7.92	8.37	9.20	8.11	6.69	6.94
Police	.095	.012	.044	.001	.035	.003	.022	.001	19.16	17.64	14.17	16.64	11.18	10.42	8.61	9.82
Fire	.036	.001	.009	.000	.023	.001	.007	.000	16.43	15.27	12.80	12.98	9.38	9.03	7.63	7.49
Other services	.062	.090	.121	.116	.179	.200	.228	.194	10.62	10.67	7.33	6.70	8.86	8.01	6.59	6.00
Craft	.041	.208	.037	.090	.024	.093	.026	.078	16.72	17.58	13.24	12.19	10.69	9.78	8.23	8.27
Machine operator	.003	.117	.004	.055	.004	.139	.005	.075	14.62	13.16	10.77	8.49	10.20	8.76	6.97	7.27
Transportation	.036	.080	.033	.031	.051	.061	.041	.039	13.56	15.15	9.89	9.64	10.29	9.67	7.97	7.71
Handler	.011	.075	.011	.039	.016	.120	.018	.062	13.83	11.85	8.22	7.54	10.07	7.92	7.03	6.75
Farming, fishery	.006	.005	.013	.014	.009	.009	.020	.022	13.04	11.12	8.65	7.21	9.76	8.46	6.76	6.44

U,M: unionized, municipal. U,NM: unionized, non-municipal. NU,M: non-unionized, municipal. NU,NM: non-unionized, non-municipal. Occupational distribution shows share in each category of workers (e.g., unionized, municipal) in each listed occupation. Sample-weighted estimated proportions are reported. Wage measures (except living wages and minimum wages) are deflated by the average hourly earnings series, and are expressed in 1996:Q1 terms. Medians are estimated by city-quarter cell, using sample weights. The sample is restricted to individuals residing in metropolitan areas. The overall sample size is 375,483. The sample size for observations below the (weighted) median is 183,315.

Table 5: Descriptive Statistics

	Cities with any living wage law		Contractor living wage laws		No living wage law
	Pre (1)	Post (2)	Pre (3)	Post (4)	(5)
A. General wage measures	N=175	N=176	N=156	N=145	N=822
Average living wage	4.81 (.40)	7.66 (.72)	4.83 (.40)	7.58 (.70)	5.02 (.37)
Average minimum wage	4.81 (.40)	5.35 (.40)	4.83 (.46)	5.38 (.41)	5.02 (.37)
Average wage	11.88 (1.34)	11.97 (1.43)	11.94 (1.29)	11.93 (1.39)	11.32 (1.45)
Average wage, workers below 10 th centile	5.70 (.57)	5.76 (.66)	5.71 (.57)	5.71 (.64)	5.53 (.52)
B. Unionized, municipal workers					
Proportion of workforce unionized, municipal	.044 (.020)	.049 (.017)	.043 (.021)	.050 (.017)	.042 (.031)
Excluding teachers, police, fire	.022 (.016)	.026 (.013)	.022 (.016)	.026 (.018)	.020 (.020)
Workers with wage below median	.015 (.015)	.018 (.015)	.015 (.014)	.017 (.015)	.014 (.017)
Average wage of unionized, municipal workers—excluding teachers, police, and fire—with wage below median	9.31 (1.68) N=117	9.26 (1.38) N=132	9.26 (1.68) N=107	9.15 (1.35) N=114	9.16 (1.77) N=434

Data used are means computed over city-quarter cells. Standard deviations are reported in parentheses. Sample includes all city-quarter cells with at least 100 observations (for all workers). Living wage variable is higher of living wage or minimum wage. Wage measures (except living wages and minimum wages) are deflated by the average hourly earnings series, and are expressed in 1996:Q1 terms. Centiles of wage distribution are calculated for each city-quarter cell. Estimates are weighted, with workforce share variables weighted by overall city-quarter cell size, and wage variables weighted by the number of corresponding observations in the cell. “Post” includes quarters in which the living wage increased, and all quarters afterwards. Sample sizes (number of city-quarter cells) in top row apply to all rows except for wage figures for unionized workers (in the bottom row of Panel B), where sample sizes can be smaller if there are no workers satisfying the indicated criteria; separate sample sizes are reported for these cells.

Table 6: Effects of Contractor Living Wage Laws on Workforce Share of Unionized Municipal Workers

	Excluding teachers, police, fire		Excluding teachers, police, fire, below-median wage			
	(1)	(2)	(3)	(4)	(5)	Cities with positive share in all quarters (6)
Contemporaneous specification:						
Living wage	.005 (.005)	.005 (.004)	.003 (.004)	.005 (.004)	...	.003 (.005)
Minimum wage	.029 (.014)	.004 (.011)	.011 (.012)	...	...	.005 (.014)
Living wage - minimum wage	...	...	...	...	.004 (.004)	...
R ²	.735	.719	.556	.556	.555	.553
2-quarter lag specification:						
Living wage	.006 (.006)	.001 (.004)	.004 (.005)	.005 (.004)	...	.003 (.005)
Minimum wage	.002 (.016)	-.002 (.011)	.006 (.012)	...	...	-.005 (.014)
Living wage - minimum wage	...	...	...	...	.005 (.005)	...
R ²	.734	.718	.556	.556	.555	.552
4-quarter lag specification:						
Living wage	.003 (.006)	-.003 (.004)	-.001 (.006)	.003 (.005)	...	-.002 (.006)
Minimum wage	.013 (.016)	.011 (.012)	.018 (.013)	...	...	.017 (.015)
Living wage - minimum wage	...	...	...	...	.000 (.006)	...
R ²	.734	.718	.556	.555	.555	.553
N	1123	1123	1123	1123	1123	624

See notes to Table 5. In addition to reported variables, specifications include dummy variables for city, year, and quarter. Estimates are weighted by overall city-quarter cell size. Results are reported using the wage floor applicable when health insurance is provided. The estimates were very similar using the higher wage floor. When the contemporaneous, 2-quarter, and 4-quarter lags were included simultaneously, tests of joint significance of the living wage or minimum wage coefficients, and of the sums of the living wage or minimum wage coefficients, did not reveal any statistically significant effects.

Table 7: Effects of Contractor Living Wage Laws on Average Wages of
Below-Median Wage Unionized Municipal Workers

	(1)	(2)	(3)
Contemporaneous specification:			
Living wage	.134 (.062)	.131 (.057)	...
Minimum wage	-.031 (.170)	...	...
Living wage - minimum wage	...	...	.135 (.062)
R ²	.474	.474	.473
2-quarter lag specification:			
Living wage	.076 (.063)	.057 (.058)	...
Minimum wage	-.131 (.159)	...	...
Living wage - minimum wage	...	...	.075 (.063)
R ²	.470	.470	.470
4-quarter lag specification:			
Living wage	.112 (.067)	.096 (.064)	...
Minimum wage	-.102 (.186)	...	...
Living wage - minimum wage	...	...	.113 (.067)
R ²	.471	.471	.471
Including contemporaneous, 2- quarter, and 4-quarter lags of living wages and minimum wages:			
Living wage variables			
Joint significance (p-value)	.049	.040	.073
Sum (standard error)	.164 (.077)	.142 (.072)	.163 (.077)
Minimum wage variables			
Joint significance (p-value)	.823	...	...
Sum (standard error)	-.140 (.209)	...	...
R ²	.477	.476	.475
N	655	655	655

See notes to Tables 5 and 6. Estimates are weighted by the number of observations in the cell used to construct the wage measure.

Table 8: Alternative Estimates of Effects of Contractor Living Wages on Average Wages

A. "Non-treatment" groups, below-median wage workers

	Contractor living wage laws				Non-contractor living wage laws
	Unionized, municipal, teachers, police, and fire only	Unionized, non-municipal	Non-unionized, municipal	Non-unionized, non-municipal	Unionized, municipal, excluding teachers, police, and fire
	(1)	(2)	(3)	(4)	(5)
Including contemporaneous, 2-quarter, and 4-quarter lags:					
Living wage variables					
Sum (standard error)	-.175 (.215)	-.037 (.051)	-.022 (.075)	.005 (.023)	-.106 (.114)
Minimum wage variables					
Sum (standard error)	.113 (.512)	.044 (.131)	-.002 (.224)	.093 (.064)	.180 (.291)
Including contemporaneous, 2-quarter, and 4-quarter lags:					
Living wage - minimum wage variables					
Sum (standard error)	-.190 (.211)	-.036 (.051)	-.024 (.074)	.012 (.023)	-.106 (.117)
N	388	1023	1018	1123	462

Table 8 (continued)

B. Sensitivity analyses

Cities with contractor living wage laws, unionized municipal workers excluding teachers, police and fire

	Below-median wage workers, occupations with average wages below \$8.00 (1)	Wages below __ centile:						Add 6-quarter lag (8)	Same sample as (8), 4-quarter lags only (9)
		30 th (2)	40 th (3)	60 th (4)	70 th (5)	80 th (6)	90 th (7)		
Including contemporaneous, 2-quarter, and 4-quarter lags:									
Living wage variables									
Sum (standard error)	.176 (.087)	.026 (.109)	.091 (.085)	.157 (.067)	.138 (.065)	.072 (.071)	-.003 (.075)	.186 (.095)	.179 (.081)
Minimum wage variables									
Sum (standard error)	.004 (.227)	-.144 (.415)	.013 (.270)	-.369 (.189)	-.224 (.190)	-.152 (.193)	-.054 (.197)	-.182 (.266)	-.217 (.232)
Including contemporaneous, 2-quarter, and 4-quarter lags:									
Living wage - minimum wage variables									
Sum (standard error)	.185 (.086)	.017 (.111)	.098 (.085)	.144 (.067)	.132 (.066)	.065 (.071)	-.009 (.073)	.190 (.095)	.178 (.081)
N	608	339	498	755	823	864	900	584	584
Predicted wages below __ centile:									
Living wage - minimum wage variables		30 th	40 th	50 th	60 th	70 th	80 th	90 th	
Sum (standard error)		.047 (.100)	.088 (.081)	.116 (.081)	.177 (.074)	.172 (.070)	.099 (.066)	.134 (.075)	
N		454	562	650	721	765	821	869	

See notes to Tables 5-7. Based on Table 4, column (16), the occupations excluded from column (1), Panel B, include executives/administrative, professional (excluding teachers), technical, and craft, in addition to teachers, police, and fire. The wage regression used to predict wages for the bottom panel includes controls for education, age (up to a cubic), race, sex, marital status, and year and interview month.

Appendix Table A1: Effects of Living Wage Laws on Wages of Workers Below 10th Centile of Wage Distribution, Replication Using Aggregated Data

Type of living wage law:	<u>Contemporaneous specification</u>		<u>2-quarter lag specification</u>		<u>4-quarter lag specification</u>	
	All	Business assistance	All	Business assistance	All	Business assistance
	(1)	(2)	(3)	(4)	(5)	(6)
Living wage	.002 (.020)	.027 (.024)	.024 (.021)	.054 (.024)	.043 (.021)	.076 (.026)
Minimum wage	.185 (.056)	.152 (.062)	.129 (.057)	.060 (.065)	.037 (.056)	-.052 (.066)
R ²	.791	.796	.791	.795	.790	.795
N	1173	985	1173	985	1173	985

Data used are means computed over city-quarter cells. “Business assistance” classifications are based on Table 1. Estimates are weighted by the number of observations in the cell used to construct the wage measure.