



## Wages and benefits for union and nonunion workers lower in right-to-work states

Wages for both union and nonunion workers are lower in states with right-to-work (RTW) laws than in those without, a new Economic Policy Institute (EPI) Briefing Paper finds. EPI economists Elise Gould and Heidi Shierholz control for demographic and socioeconomic variables in [The Compensation Penalty of “Right-to-Work Laws”](#) and find that wages are 3.2% lower in RTW states than in non-RTW states.

### NEWS FROM EPI

The provision of both employer-sponsored health insurance and employer-sponsored pensions is also lower in RTW states. Full findings of the report are as follows:

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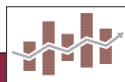
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- Wages in right-to-work states are 3.2% lower than those in non-RTW states, after controlling for a full complement of individual demographic and socioeconomic variables as well as state macroeconomic indicators. Using the average wage in non-RTW states as the base (\$22.11), the average full-time, full-year worker in an RTW state makes about \$1,500 less annually than a similar worker in a non-RTW state.
- The rate of employer-sponsored health insurance (ESI) is 2.6 percentage points lower in RTW states compared with non-RTW states, after controlling for individual, job, and state-level characteristics. If workers in non-RTW states were to receive ESI at this lower rate, 2 million fewer workers nationally would be covered.
- The rate of employer-sponsored pensions is 4.8 percentage points lower in RTW states, using the full complement of control variables in our regression model. If workers in non-RTW states were to receive pensions at this lower rate, 3.8 million fewer workers nationally would have pensions.
- This briefing paper provides the most comprehensive study to date of the relationship between RTW status and compensation. Using a full set of explanatory variables, including state-level controls, it is clear that our analysis stands apart as being more rigorous than others of this type.

*The Compensation Penalty of “Right-to-Work Laws”* suggests that RTW laws can harm all employees in a state, whether or not they are members of a union. In other words, the anti-union efforts that are currently being undertaken by governors and legislatures seeking to address the economic crises in their states could in fact be anti-worker, and a particularly bad idea when the economy is mired in a stagnant recovery.

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# EPI BRIEFING PAPER

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## THE COMPENSATION PENALTY OF “RIGHT-TO-WORK” LAWS

BY ELISE GOULD AND HEIDI SHIERHOLZ

Recent proposals to advance so-called “right-to-work” (RTW) laws are being suggested in states as a way to boost economic growth. In this economic climate, something called right-to-work legislation sounds positive, but the name is misleading: these laws do not guarantee a job for anyone. In fact, they make it illegal for a group of unionized workers to negotiate a contract that requires each employee who enjoys the benefits of the contract terms to pay his or her share of costs for negotiating and policing the contract. This provision directly limits the financial viability of unions, reducing their strength and ability to negotiate favorable contracts, higher wages, and better benefits. Similarly, by diminishing union resources, an RTW law makes it more difficult for unions to provide a workers’ voice on policy issues ranging from unemployment insurance to workers compensation, minimum wages, and other areas. The simple reality is that RTW laws undermine the resources that help workers bargain for better wages and benefits.

This briefing paper directly examines the impact of RTW on the wages and benefits received by workers, both union and nonunion. It does this by examining differences in the wages and benefits workers receive in RTW and non-RTW states. In a regression framework, we analyze the relationship between RTW status and wages and benefits after controlling for the demographic and job characteristics of workers, in addition to state-level economic conditions and cost-of-living differences across states. We find the following:

- Wages in right-to-work states are 3.2% lower than those in non-RTW states, after controlling for a full complement of individual demographic and socio-economic variables as well as state macroeconomic indicators. Using the average wage in non-RTW states as the base (\$22.11), the average full-time, full-year worker in an RTW state makes about \$1,500 less annually than a similar worker in a non-RTW state.

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- The rate of employer-sponsored health insurance (ESI) is 2.6 percentage points lower in RTW states compared with non-RTW states, after controlling for individual, job, and state-level characteristics. If workers in non-RTW states were to receive ESI at this lower rate, 2 million fewer workers nationally would be covered.
- The rate of employer-sponsored pensions is 4.8 percentage points lower in RTW states, using the full complement of control variables in our regression model. If workers in non-RTW states were to receive pensions at this lower rate, 3.8 million fewer workers nationally would have pensions.
- This briefing paper provides the most comprehensive study to date of the relationship between RTW status and compensation. Using a full set of explanatory variables, including state-level controls, it is clear that our analysis stands apart as being more rigorous than others of this type.

Our results apply not just to union members, but to all employees in a state. Where unions are strong, compensation increases even for workers not covered by any union contract, as nonunion employers face competitive pressure to match union standards. Likewise, when unions are weakened by “right-to-work” laws, the impact is felt by all of a state’s workers.

We measure the particular effects of RTW laws on compensation among workers who are not unionized or covered by union contracts. The wage penalty for nonunionized workers is 3.0%, and the benefit penalty is 2.8 percentage points and 5.3 percentage points for health and pension benefits, respectively. Our results suggest that proposals to advance RTW laws likely come at the expense of workers’ wages and benefits, both within and outside of unions.

## Background

The 1947 Taft-Hartley amendments to the National Labor Relations Act (1935) sanctioned a state’s right to pass laws that prohibit unions from requiring a worker to pay dues, even when the worker is covered by a union-negotiated collective bargaining agreement. Within a couple of years of the amendment’s passage, 12 states passed these so-

called “right-to-work” laws, as did many other states in the intervening years. Today, right-to-work laws are in place in 22 states, predominantly in the South and Southwest. (For a complete list of states that currently have RTW laws, see Appendix Table A1.)

Although there has been an extensive amount of research on the effect of right-to-work laws on union density, organizing efforts, and industrial development (see Moore 1998 and Moore and Newman 1985 for literature overviews), there has been surprisingly little examination of the perhaps more important issue of right-to-work laws’ effect on wages and even less on employer-sponsored benefits.

The limited amount of research that does examine the effect of right-to-work laws on wages can be divided into two areas: RTW laws’ effect on union wage premiums, or the effect of these laws on overall wages. Our research focuses on the latter. Since right-to-work laws affect union density and effectiveness (Farber 1985), the effect of the union wage premium is not easily disentangled from the effects of RTW legislation. Our analysis tries to overcome the shortcomings in previous research in this area. First, we control for differences in cost of living throughout the United States, thereby making wages in various parts of the country as comparable as possible. Second, we measure the spillover effects of RTW legislation by examining wages and benefits of nonunionized workers.

## How do RTW and non-RTW states compare?

To determine the effect of right-to-work laws on wages, we estimate log wage equations using the Bureau of Labor Statistics’ Current Population Survey – Outgoing Rotation Group (CPS-ORG) for 2009. The sample consists of 108,627 workers, ages 18-64, who earn wages and salaries. About 37% of the sample lives in states with RTW laws. Average hourly wages are \$20.91, and median hourly wages are \$17.00.

**Table 1** displays the characteristics of workers in both RTW and non-RTW states. On many levels, these two sets of workers are similar. The average age is nearly the same, as is the share of the workforce that is male and that is married. Educational attainment is similar, with workers in non-RTW states having slightly higher levels

**TABLE 1**

**Characteristics of workers by residence in right-to-work state**

	<b>Right-to-work state</b>	<b>Non-right-to-work state</b>
<b>Demographics</b>		
<i>Age</i>	39.4	40.0
<i>Sex (male)</i>	51.3%	50.4%
<b>Race/ethnicity</b>		
<i>White non-Hispanic</i>	64.8%	71.9%
<i>Black non-Hispanic</i>	13.5	7.1
<i>Hispanic</i>	17.1	13.7
<i>Asian</i>	2.6	5.4
<i>Other</i>	2.0	1.9
<b>Education</b>		
<i>Some high school</i>	10.1%	8.1%
<i>High school degree</i>	28.1	26.5
<i>Some college</i>	20.6	19.5
<i>Associate's degree</i>	10.7	10.5
<i>College degree</i>	20.7	23.0
<i>Post-college degree</i>	9.8	12.3
<b>Married</b>	57.2	57.4
<b>Metropolitan area</b>	82.3	86.4
<b>Work characteristics</b>		
<i>Hourly worker</i>	55.3%	56.9%
<i>Full-time</i>	83.1	79.6
<i>Union/union contract</i>	7.6	18.6
<i>Hourly wage</i>	\$19.06	\$22.11
<b>State characteristics</b>		
<i>Unemployment rate (2009)</i>	8.6%	9.6%
<i>Cost of living (PERI)</i>	0.95	1.03
<i>Cost of living (MO)</i>	94.81	111.95
<b>Number of observations</b>	40,563	68,064

SOURCE: Author's analysis of CPS ORG, 2009.

of schooling. The racial/ethnic composition varies, with more white workers in non-RTW states, and more African American and Hispanic workers in RTW states.

The biggest difference between workers in RTW and non-RTW states is the fact that workers in non-RTW states are more than twice as likely to be in a union or protected by a union contract. Average hourly wages, the prime variable of interest, are 16% higher in non-RTW

states (\$22.11 in non-RTW vs. \$19.06 in RTW states). Median wages (not shown) are 14.4% higher in non-RTW states (\$17.16 vs. \$15.00).

**What is the independent effect of right-to-work on wages?**

As shown in Table 1, there are differences between workers' characteristics in RTW and non-RTW states, and some of

these characteristics will have a direct impact on workers' expected wages. For instance, workers in non-RTW states have somewhat higher levels of educational attainment, which is associated with higher wages, on average. Controlling for these factors in a multivariate regression model helps us factor in these differences, allowing us to come closer to identifying the “pure,” or independent, RTW effect on wages.

In **Table 2**, we construct a regression model, starting with the most general and building up to a model that controls for the full range of explanatory variables. The dependent variable is always the natural log of hourly wage, and the variable of interest is an indicator variable taking on the value one when the worker lives in a RTW state and zero otherwise. (Full regression results are reported in Appendix Table A2.)

The results of the uncontrolled model mimic the differences in wages found in the descriptive statistics. Wages in RTW states are 13.7% lower than in non-RTW states. The basic set of controls includes the demographic variables included in Table 1 – age, age squared, race/ethnicity, education indicators, sex, marital status, urbanicity, an indicator for being an hourly worker, an indicator for being a full-time worker – in addition to a worker's major industry and occupation. As with worker characteristics, the industry and occupation mix in the state could affect the average wage. Again, controlling for these differences allows us to better isolate the relationship between RTW states and wages. As expected, the

coefficient on the RTW indicator moves closer to zero, and wages in RTW states are found to be 9.1% lower, on average, after controlling for these worker differences.

The third column of Table 2 includes additional state-level variables on the economic conditions – measured by the state unemployment rate – and differences in cost of living across states. Averages for these three continuous variables are found at the bottom of Table 1. The Political Economy Research Institute (PERI) established a method that was used by researchers in the Census Bureau to calculate a cost-of-living adjustment to the hourly wage. PERI used Fair Market Rents, which consider housing and utilities prices, to construct a state-by-state cost-of-living adjustment. This measure (COL\_PERI) creates an index of prices relative to the national average.

The second measure of cost of living (COL\_MO) is based on data collected from the 3rd quarter of 2010 by the Missouri Economic Research and Information Center. The cost-of-living adjustment scale for each state is based on the average of the indices of cities in that state. As expected, New England, Alaska, Hawaii, and the West Coast are among the most expensive areas to live, while Midwest and Southern states continue to be some of the least expensive.

We include both indicators for cost of living in the full model because they measure costs slightly differently; however, running this regression produces comparable results regardless of which one is used. Controlling for these price differences captures the extent to which higher costs, and

**TABLE 2**

**Wage regressions:  
Estimates of coefficient of right-to-work indicator (full sample)**

<b>Dependent variable</b>	<b>Model with no controls</b>	<b>Model with basic set of controls</b>	<b>Full model</b>
<i>Natural log of hourly wage</i>	-0.137*** (0.00449)	-0.0911*** (0.00323)	-0.0317*** (0.00375)

**NOTE:** Robust standard errors are in parentheses. Three asterisks (\*\*\*) indicate significance at the 1% level, two indicate significance at the 5% level, one indicates significance at the 10% level.

Basic set of controls include age, age squared, race/ethnicity, education indicators, sex, marital status, urbanicity, hourly worker, full-time worker, union status, major industry, and major occupation.

Full model includes the basic set plus state-level unemployment rate and adjustments for cost-of-living differences across states.

**SOURCE:** Author's analysis of CPS ORG, 2009.

therefore higher wages may be found in non-RTW states for reasons other than their lack of RTW legislation, letting us better isolate the relationship between wages and RTW status.

As the methodology above attests, we have attempted as nearly as possible to isolate the impact of “right-to-work” legislation itself, apart from the myriad other factors that impact wages in a given state. All told, our model controls for 42 demographic, economic, geographic, and policy factors. After controlling for this full complement of differences, we find wages in RTW states to be statistically

and economically significantly lower than in non-RTW states. On average, “right-to-work” laws are associated with wages – for everyone, not just union members – that are 3.2% lower than they would be without such a law.

Beyond the overall impact of “right-to-work” laws on the workforce as a whole, it is important for policy makers to understand the particular effect such laws can have on specific communities within the state. To get at this question, we ran a series of regressions on demographic subgroups of the population. Here again we are looking at the relationship between RTW laws and wages in both

**TABLE 3**

**Wage regressions on restricted samples:  
Estimates of coefficient of right-to-work indicator**

<b>Sample</b>	<b>Model with no controls</b>	<b>Full model</b>
<i>Women only</i>	-0.145*** (0.00596)	-0.0442*** (0.00513)
<i>Men only</i>	-0.132*** (0.00656)	-0.0172*** -0.0054
<i>Less than high school only</i>	-0.0780*** (0.0103)	-0.0389*** (0.0110)
<i>High school only</i>	-0.102*** (0.00674)	-0.0274*** (0.00611)
<i>Some college only</i>	-0.0990*** (0.00715)	-0.0317*** (0.00630)
<i>College or more only</i>	-0.117*** (0.00781)	-0.0314*** (0.00766)
<i>White non-Hispanic only</i>	-0.0988*** (0.00545)	-0.0298*** (0.00444)
<i>Black non-Hispanic only</i>	-0.180*** (0.0131)	-0.0483*** (0.0113)
<i>Hispanic only</i>	-0.108*** (0.0102)	-0.0444*** (0.0105)
<i>Union only</i>	-0.0951*** (0.0107)	-0.0287*** (0.00997)
<i>Non-union only</i>	-0.110*** (0.00488)	-0.0298*** (0.00402)

**NOTE:** Robust standard errors are in parentheses. Three asterisks (\*\*\*) indicate significance at the 1% level, two indicate significance at the 5% level, one indicates significance at the 10% level.

Full model includes the age, age squared, race/ethnicity, education indicators, sex, marital status, urbanicity, hourly worker, full-time worker, union status, major industry, major occupation, state level unemployment rate and adjustments for cost-of-living differences across states (except where restricted sample disallows variable inclusion).

**SOURCE:** Author’s analysis of CPS ORG, 2009.

the model without meaningful controls and the fully controlled model (comparable to column 3 in Table 2). In the model with no controls, it appears that male and female workers experience the same wage penalty, but after controlling for individual and state characteristics, we find that women's wages are penalized further (4.4%) in RTW states than men's (1.7%). The wage penalty exists across all categories of educational attainment and racial/ethnic groups; however, we find that it is higher among nonwhites, with the RTW penalty being 4.8% for blacks and 4.4% for Hispanics.

It is particularly important to note that "right-to-work" laws have a statistically significant negative effect on the wages of *nonunion workers*, as shown in the last row of **Table 3**. Using the fully controlled regression model, our analysis indicates that nonunion workers in RTW states have wages that are 3.0% lower, on average, than their counterparts in non-RTW states.

## RTW status and employer-sponsored benefits

To determine the effect of right-to-work laws on employer-sponsored benefits, we use the Bureau of Labor Statistics' Current Population Survey from March 2010, referring to full-year 2009 information.<sup>1</sup> The sample consists of 21,834 employees, ages 18-64. As with the wage data, about 37%

of the sample lives in states with RTW laws. Examining this sample, we find that 69.7% of workers have employer-sponsored health insurance, and 42.1% have employer-sponsored pensions.<sup>2</sup> In raw comparisons, about 4.5% more of the workforce is covered by employer-sponsored insurance in non-RTW states than in RTW states. Similarly, about 4.5% more of the workforce receives a pension through their job in non-RTW states than in RTW states.

We follow the same methodology as in the wage analysis, starting with a model with no controls and building up to one with a full set of controls. In addition to the overall cost-of-living measures, the health insurance regressions also include average family premiums within each state to further control for the effects of prices on the rate at which employers offer and employees take up these benefits. The key results are shown in **Table 4** (with detailed regression results in Appendix Table A3).

As expected, the results of the uncontrolled model directly replicate the descriptive statistics that show benefit coverage is lower in RTW than non-RTW states. Workers' employer-sponsored health insurance coverage in RTW states is 4.5 percentage points lower and employer-sponsored pension coverage is 4.6 percentage points lower than among workers in non-RTW states. The full model confirms these results. After controlling for differences in prices across states as well as individual socioeconomic

**TABLE 4**

### Benefit regressions: Estimates of coefficient of right-to-work indicator (full sample)

Dependent variable	Model with no controls	Model with basic set of controls	Full model
<i>Employer-sponsored health insurance</i>	-0.0447*** (0.00780)	-0.0258*** (0.00709)	-0.0259*** (0.00887)
<i>Employer-sponsored pension</i>	-0.0464*** (0.00819)	-0.0272*** (0.00756)	-0.0483*** (0.00926)

**NOTE:** Linear regression model used for ease in interpretation. Probit regression was also run with consistent results. Robust standard errors are in parentheses. Three asterisks (\*\*\*) indicate significance at the 1% level, two indicate significance at the 5% level, one indicates significance at the 10% level.

Basic set of controls include age, age squared, race/ethnicity, education indicators, sex, marital status, urbanicity, hourly worker, full-time worker, union status, major industry, and major occupation.

Full model includes the basic set plus state level unemployment rate and adjustments for cost-of-living differences across states. Health insurance model includes average ESI family premiums.

**SOURCE:** Author's analysis of CPS ASEC, 2010.

characteristics, workers in RTW states, on average, are less likely to receive health insurance (by 2.6 percentage points) and pensions (by 4.8 percentage points) from employers. These estimates imply a much larger percentage drop in actual coverage, since coverage even in non-RTW states is far from universal: coverage of employer-sponsored

health insurance and pensions is, respectively, 71.5% and 44.9% in non-RTW states. Therefore, a 2.6 percentage-point estimated deterioration in health insurance coverage in non-RTW states implies a 3.8% reduction in coverage, or 2 million fewer covered workers. Likewise, a 4.8 percentage-point estimated deterioration in pension coverage

**TABLE 5**

**Benefit regressions on restricted samples:  
Estimates of coefficient of right-to-work indicator**

Sample	Dependent variable: Employer-sponsored health insurance		Dependent variable: Employer-sponsored pension	
	Model with no controls	Full model	Model with no controls	Full model
<i>Women only</i>	-0.0476*** (0.0108)	-0.0219* (0.0125)	-0.0480*** (0.0115)	-0.0489*** (0.0129)
<i>Men only</i>	-0.0421*** (0.0113)	-0.0295** (0.0126)	-0.0447*** (0.0116)	-0.0468*** (0.0133)
<i>Less than high school only</i>	-0.0396 (0.0246)	-0.0434 (0.0352)	0.0173 (0.0177)	0.00893 (0.0246)
<i>High school only</i>	-0.0495*** (0.0151)	-0.0206 (0.0171)	-0.0317** (0.0148)	-0.0305* (0.0174)
<i>Some college only</i>	-0.0312** (0.0140)	-0.0415** (0.0169)	-0.0568*** (0.0146)	-0.0812*** (0.0159)
<i>College or more only</i>	-0.0189* (0.0113)	-0.0106 (0.0133)	-0.0342** (0.0151)	-0.0419** (0.0174)
<i>White non-Hispanic only</i>	-0.0365*** (0.00930)	-0.0292*** (0.0105)	-0.0551*** (0.0106)	-0.0583*** (0.0112)
<i>Black non-Hispanic only</i>	-0.0213 (0.0234)	-0.0150 (0.0287)	-0.00577 (0.0227)	-0.0244 (0.0276)
<i>Hispanic only</i>	-0.0223 (0.0192)	-0.0442* (0.0265)	-0.000335 (0.0161)	-5.21e-05 (0.0223)
<i>Union only</i>	-0.0216 (0.0230)	-0.00987 (0.0273)	0.00818 (0.0306)	0.00124 (0.0349)
<i>Non-union only</i>	-0.0304*** (0.00817)	-0.0276*** (0.00933)	-0.0238*** (0.00839)	-0.0527*** (0.00964)

**NOTE:** Linear regression model. Robust standard errors are in parentheses. Three asterisks (\*\*\*) indicate significance at the 1% level, two indicate significance at the 5% level, one indicates significance at the 10% level.

Full model includes the age, age squared, race/ethnicity, education indicators, sex, marital status, urbanicity, hourly worker, full-time worker, union status, major industry, major occupation, state level unemployment rate and adjustments for cost-of-living differences across states (except where restricted sample disallows variable inclusion).

**SOURCE:** Author's analysis of CPS ASEC, 2010.

in non-RTW states implies a 12.1% reduction in pension coverage, or 3.8 million fewer workers with pensions.

Because the sample size is smaller in the benefit analysis, it is harder to conduct a detailed analysis for subgroups of the population. But some findings are clear and statistically significant: In this case, male and female workers in non-RTW states are equally more likely to have employer-sponsored benefits.

We find that RTW legislation has large spillover effects, that is, the legislation doesn't only affect unionized workers, but also those that lack union contract coverage. The coefficient of RTW for the nonunion subgroup is quite large: -2.8 percentage points for insurance and -5.3 percentage points for pensions. This suggests that even among nonunion workers, living in a RTW state makes them less likely to enjoy valuable employer-sponsored benefits.

## The necessity of rigorous methodology

Tables 2 and 4 show that workers in RTW states have lower compensation, on average, than their counterparts in non-RTW states. How much of this difference can be attributed to RTW status itself? There is an inherent “endogeneity” problem in any attempt to answer that question, namely that RTW and non-RTW states differ on a wide variety of measures that are also related to compensation, making it difficult to isolate the impact of RTW status. The approach we use to identify the independent effect on compensation of being in a RTW state is admittedly limited, but we do control for all of the many observable characteristics that are available in the CPS, including education, race/ethnicity, age, gender, marital status, union status, industry, occupation, urbanicity, whether a worker is an hourly worker, and whether a worker is a full-time worker. We also control for macroeconomic differences between states that may affect compensation packages, including cost-of-living measures and the unemployment rate. But despite our comprehensive set of observable controls, there may be unobservable state-level characteristics that lead to both lower average compensation packages and an increased likelihood of RTW legislation (for example, a broader political climate that puts workers at a disadvantage).

With these caveats, the analysis presented above is as close as rigorous social science can get to identifying

the specific impact of “right-to-work” laws on wages and benefits. In fact, almost all other studies on RTW fail to use such rigorous methods. For instance, in a report from the Indiana Chamber of Commerce Foundation, Vedder, Denhart, and Robe (2011) examine the effects of RTW legislation on income growth from 1977-2008. In our analysis, we include a full set of demographic variables, including race/ethnicity, gender, education, age, marital status, and metro area. Of this list, Vedder et al. control only for the change in college attainment. We control for work characteristics such as being in a union or having a union contract, hourly worker and full-time worker status, 12 major industry categories, and nine occupational classifications. Of this list, Vedder et al. only control for average proportion of employment in manufacturing. Both of our studies control for a labor force measure; ours is the unemployment rate, while Vedder et al. use the change in the employer-to-population ratio. They also include population growth, imperative for looking at changes over long spans of time when growth occurred unevenly across the country. We also control for two measures of cost of living, which captures the extent to which higher costs and therefore higher wages may be found in non-RTW states for reasons other than their lack of RTW legislation, letting us better isolate the relationship between wages and RTW status; Vedder et al. do not control for cost of living. Their remaining control variable is years that have elapsed since each state attained statehood, for which they offer no justification.

In short, we include the set of controls that the standard econometric practice demands in analyses of this type. Vedder et al. (2011) do not meet this standard, calling into question the validity of their analysis.<sup>3</sup>

## Conclusions

Once we control for our comprehensive set of both individual and state-level observable characteristics, we find that the mean effect of working in a right-to-work state is a 3.2% reduction in wages for workers in these states. We also find a 2.6 and 4.8 percentage-point reduction in employer-sponsored health insurance and employer-sponsored pensions, respectively. Furthermore, we demonstrate that the wage penalty for nonunionized workers is 3.0%, and the benefit penalty is 2.8 percentage

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points and 5.3 percentage points for health and pension benefits, respectively.

It is notoriously difficult to separate out the effect of a single public policy on wages across a statewide economy. It is possible that future data will enable even more exact measurements. However, our findings – that “right-to-work” laws are associated with significantly lower wages and reduced chances of receiving employer-sponsored health insurance and pensions – are based on the most rigorous statistical analysis currently possible. These findings

should discourage right-to-work policy initiatives. The fact is, while RTW legislation misleadingly sounds like a positive change in this weak economy, in reality the opportunity it gives workers is only that to work for lower wages and fewer benefits. For legislators dedicated to making policy on the basis of economic fact rather than ideological passion, our findings indicate that, contrary to the rhetoric of RTW proponents, the data show that workers in “right-to-work” states have lower compensation – both union and nonunion workers alike.

# Appendix

**TABLE A 1**

## **Right to work states**

Alabama	Nevada
Arizona	North Carolina
Arkansas	North Dakota
Florida	Oklahoma
Georgia	South Carolina
Idaho	South Dakota
Iowa	Tennessee
Kansas	Texas
Louisiana	Utah
Mississippi	Virginia
Nebraska	Wyoming

**SOURCE:** U.S. Department of Labor, Wage and Hour Division.

TABLE A 2

## Full regression results: Log wage regressions

	Model with no controls	Model with basic set of controls	Full model
<i>RTW indicator</i>	-0.137*** (0.00449)	-0.0911*** (0.00323)	-0.0317*** (0.00375)
<i>Union indicator</i>		0.131*** (0.00450)	0.120*** (0.00445)
<i>White non-Hispanic</i>		0.0915*** (0.00525)	0.100*** (0.00522)
<i>Hispanic</i>		-0.00855 (0.00633)	-0.0411*** (0.00635)
<i>Asian</i>		0.0417*** (0.00994)	0.00675 (0.00999)
<i>Other race/ethnicity</i>		0.0586*** (0.0107)	0.0506*** (0.0107)
<i>Male</i>		0.144*** (0.00361)	0.143*** (0.00358)
<i>Some high school</i>		-0.112*** (0.00555)	-0.114*** (0.00554)
<i>Some college</i>		0.0706*** (0.00417)	0.0673*** (0.00414)
<i>Associate's degree</i>		0.153*** (0.00538)	0.151*** (0.00534)
<i>College</i>		0.258*** (0.00539)	0.252*** (0.00534)
<i>Advanced degree</i>		0.454*** (0.00752)	0.447*** (0.00746)
<i>Age</i>		0.0368*** (0.000917)	0.0370*** (0.000909)
<i>Age squared</i>		-0.000361*** (1.13e-05)	-0.000365*** (1.12e-05)
<i>Married</i>		0.0710*** (0.00340)	0.0751*** (0.00337)
<i>Hourly worker</i>		-0.174*** (0.00409)	-0.167*** (0.00407)
<i>Full-time worker</i>		0.142*** (0.00461)	0.146*** (0.00459)
<i>Metro area</i>		0.137*** (0.00381)	0.105*** (0.00391)
<i>Industry and occupation indicators</i>	no	yes	yes
<i>State unemployment and cost-of-living indices</i>	no	no	yes
<i>Constant</i>	2.879*** (0.00280)	1.431*** (0.0195)	0.758*** (0.0275)
<i>Observations</i>	108627	108627	108627
<i>R-squared</i>	0.011	0.518	0.526

**NOTE:** Robust standard errors are in parentheses. Three asterisks (\*\*\*) indicate significance at the 1% level, two indicate significance at the 5% level, one indicates significance at the 10% level. Omitted categories include: Black non-Hispanic, high school education. Contact authors for coefficient estimates on variables not listed.

**SOURCE:** Author's analysis of CPS ORG, 2009.

TABLE A3

## Full regression results: Health insurance and pensions

	Dependent variable: Employer-sponsored health insurance			Dependent variable: Employer-sponsored pension		
	<i>Model with no controls</i>	<i>Model with basic set of controls</i>	<i>Full model</i>	<i>Model with no controls</i>	<i>Model with basic set of controls</i>	<i>Full model</i>
	<i>RTW indicator</i>	-0.0447*** (0.00780)	-0.0258*** (0.00709)	-0.0259*** (0.00887)	-0.0464*** (0.00819)	-0.0272*** (0.00756)
<i>Union indicator</i>		0.106*** (0.00998)	0.105*** (0.01000)		0.210*** (0.0131)	0.213*** (0.0131)
<i>White non-Hispanic</i>		0.0944*** (0.0119)	0.0939*** (0.0119)		0.0384*** (0.0119)	0.0346*** (0.0119)
<i>Hispanic</i>		-0.0703*** (0.0141)	-0.0716*** (0.0143)		-0.0718*** (0.0134)	-0.0628*** (0.0135)
<i>Asian</i>		-0.0131 (0.0181)	-0.0156 (0.0183)		-0.0512*** (0.0189)	-0.0429** (0.0190)
<i>Other race/ethnicity</i>		0.0232 (0.0246)	0.0203 (0.0248)		0.00995 (0.0247)	0.00608 (0.0248)
<i>Male</i>		-0.0160** (0.00746)	-0.0160** (0.00746)		0.00611 (0.00794)	0.00628 (0.00793)
<i>Some high school</i>		-0.135*** (0.0149)	-0.135*** (0.0149)		-0.108*** (0.0120)	-0.109*** (0.0120)
<i>Some college</i>		0.0552*** (0.0105)	0.0552*** (0.0105)		0.0387*** (0.0103)	0.0402*** (0.0103)
<i>Associate's degree</i>		0.0891*** (0.0123)	0.0890*** (0.0124)		0.0636*** (0.0139)	0.0650*** (0.0138)
<i>College</i>		0.104*** (0.0103)	0.103*** (0.0103)		0.0951*** (0.0118)	0.0968*** (0.0118)
<i>Advanced degree</i>		0.105*** (0.0122)	0.105*** (0.0122)		0.143*** (0.0153)	0.145*** (0.0153)
<i>Age</i>		0.00470** (0.00208)	0.00478** (0.00208)		0.0185*** (0.00206)	0.0186*** (0.00206)
<i>Age squared</i>		-2.57e-05 (2.44e-05)	-2.65e-05 (2.44e-05)		-0.000171*** (2.53e-05)	-0.000171*** (2.53e-05)
<i>Married</i>		0.134*** (0.00760)	0.134*** (0.00761)		0.0672*** (0.00831)	0.0666*** (0.00830)
<i>Full-time worker</i>		0.145*** (0.0105)	0.145*** (0.0105)		0.211*** (0.00910)	0.211*** (0.00910)
<i>Metro area</i>		0.0292*** (0.00936)	0.0295*** (0.00959)		0.00248 (0.00970)	0.0119 (0.00996)
<i>Industry and occupation indicators</i>	no	yes	yes	no	yes	yes
<i>State unemployment and cost-of-living indices</i>	no	no	yes	no	no	yes
<i>Constant</i>	0.715*** (0.00459)	0.255*** (0.0434)	0.295*** (0.0726)	0.449*** (0.00500)	-0.328*** (0.0398)	-0.105* (0.0605)
<i>Observations</i>	21834	20951	20951	21834	20951	20951
<i>R-squared</i>	0.002	0.226	0.227	0.002	0.240	0.242

**NOTE:** Linear regression model used for ease in interpretation. Probit regression was also run with consistent results. Robust standard errors are in parentheses. Three asterisks (\*\*\*) indicate significance at the 1% level, two indicate significance at the 5% level, one indicates significance at the 10% level. Omitted categories include: Black non-Hispanic, high school education. Health insurance regression includes average family health insurance premiums. Contact authors for coefficient estimates on variables not listed.

**SOURCE:** Author's analysis of CPS ASEC, 2009.

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## Endnotes

1. We restrict our sample to the subset of the March Current Population Survey – known as the Annual Social and Economic Supplement that overlaps with the CPS-ORG to enable us to include variables such as union status, which is imperative for this analysis.
2. Our health insurance analysis counts workers as insured if either they receive insurance through their own job or they receive it as a dependent on a spouse's job, as we believe it measures more completely the extent of employer-sponsored insurance in the state.
3. For a more comprehensive critique of Vedder et al. (2011), see Lafer (forthcoming 2011a) and Lafer (forthcoming 2011b).

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