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The Effects of "Right-to-Work" Regulations on Worker Earnings, Union Membership, and Labor Force Participation Across the United States

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Executive Summary

So-called "right-to-work" laws are government regulations that prohibit employers and unions from voluntarily ensuring that each member who accrues a return from collective bargaining also contributes a fair share. They allow workers to forgo union membership but require unions to continue providing services and benefits to those who do not pay. This reduces the resources that unions have available to advocate for workers and organize new members, weakening worker bargaining power.

Using U.S. Bureau of Labor Statistics data, two models are utilized to test the effects of "right-to-work" conditions on union membership rates, worker earnings, and labor force participation rates.

The first model uses a decade of state data from 2013 through 2022 and takes advantage of the fact that about half of workers are employed in states with "right-to-work" laws. The analysis finds that:

- Union membership boosts worker earnings by an average of 13 percent.
- Over the decade, states that protected workers' rights gained more than 100,000 union members while states that were "right-to-work" or became "right-to-work" lost 336,000 union members.
- "Right-to-work" laws reduced the union membership rate for all workers by 2 percentage points.
- "Right-to-work" laws decreased average hourly earnings by 4 percent over the decade, with construction tradespeople and PreK-12 teachers experiencing pay cuts of between 5 and 6 percent.
- "Right-to-work" laws were associated with slower wage growth per year.
- "Right-to-work" laws marginally increase labor force participation, but had no statistically significant impacts for Hispanic residents, women, and college-educated individuals.

The second model is an analysis of the five states that enacted "right-to-work" laws between 2012 and 2017—Indiana, Michigan, Wisconsin, West Virginia, and Kentucky—compared to 23 states and the District of Columbia, which continued to protect workers' rights. The analysis finds that:

- The 2012-2017 "right-to-work" laws reduced their union membership rates by 2 percentage points.
- The 2012-2017 "right-to-work" laws decreased worker earnings by more than 1 percent.
- The 2012-2017 "right-to-work" laws lowered PreK-12 teacher earnings by 7 percent.
- The 2012-2017 "right-to-work" laws slightly increased labor force participation, but had no statistically significant impacts for Hispanic residents, women, and college-educated individuals.
- Michigan became the first state in 58 years to repeal "right-to-work" in March 2023.

The data also suggest that "right-to-work" conditions imposed in the public sector in the 2018 *Janus v. American Federation of State, County, and Municipal Employees, Council 31, et al.* Supreme Court decision may have made it more difficult to attract and retain qualified workers in the most heavily unionized sector of the U.S. economy. The number of unfilled positions at state governments, local governments, and public schools rose 78 percent from June 2018 to December 2022—25 percentage points higher than in the private sector. There are different reasons from state-to-state for an elevated rate of vacant public sector jobs, but "a high level of dissatisfaction with wages" has been reported as the main cause.

The results have implications for states across the country. Michigan will likely experience faster worker earnings growth and an increase in unionization after its repeal of "right-to-work" becomes effective in March 2024. Similarly, if Congress were to pass the Protecting the Right to Organize (PRO) Act, workers in 26 other states would see higher earnings with little to no impact on labor force participation. The Workers' Rights Amendment in Illinois, which guarantees the fundamental right to unionize and bargain collectively, will likely prevent a precipitous decline in unionization and promote high wages. With public approval of labor unions remaining at a six-decade high, other states may consider looking to Michigan's example in repealing "right-to-work" or Illinois' example in codifying workers' rights into its state constitution as ways to promote middle-class jobs.

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Introduction

Public approval of labor unions remains at its highest level in six decades. Fully 67 percent of Americans and 71 percent of registered voters approve of unions, including nine-in-ten Democrats, seven-in-ten independents, and half of all Republicans (Saad, 2023; GBAO, 2023; McCarthy, 2022). More than three-fifths of Americans say that unions have a positive effect on the U.S. economy, and four out of every five registered voters says that unions positively impact workplace safety, worker pay and hours, and the ability to afford and access healthcare (GBAO, 2023; Saad, 2023). Unions for teachers, nurses, and construction trade workers tend to have the highest net favorability ratings (Wang & Gould, 2019). At the same time, 58 percent of Americans say the long-term decline in the share of workers represented by unions has been "bad" for the country (Van Green, 2022).

Union membership, however, has gradually declined in the United States, driven by the spread of government regulations that interfere with privately negotiated contracts between employers and unions. Among them are so-called "right-to-work" laws, which prohibit employers and unions from voluntarily ensuring that each member who accrues a return from collective bargaining also contributes a fair share in the form of dues or fees.[1] "Right-to-work" laws permit and incentivize free riding among workers in bargaining units, who can receive all the services and benefits of collective bargaining—such as a higher wage, better health insurance benefits, and legal representation—without paying anything for them. Requiring unions to represent and provide services to free riders reduces the resources they have available to advocate for workers and organize new workers, which weakens worker bargaining power (Hogler, Shulman, & Weiler, 2004; Davis & Huston, 1993).

Despite the broad popularity of unions, these "right-to-work" laws have expanded since 2010. Five states—Indiana, Michigan, Wisconsin, West Virginia, and Kentucky—newly enacted "right-to-work" laws between February 2012 and January 2017 (NRTWC, 2023). Two states, which already had "right-to-work" laws on the books, adopted "right-to-work" constitutional amendments. Alabama approved Amendment 8 in November 2016, with 70 percent of voters supporting the measure versus 30 percent opposed, while Tennessee approved Amendment 1 in November 2022, with 70 percent in support versus 30 percent opposed (Ballotpedia, 2023a; Ballotpedia, 2023b). Moreover, on June 27, 2018, the U.S. Supreme Court upended decades of labor peace in a 5-4 decision in *Janus v. American Federation of State, County, and Municipal Employees, Council 31, et al*. (Oyez, 2018). The *Janus* ruling struck down a 41-year precedent, effectively imposing "right-to-work" conditions on state and local government workers nationwide (Oyez, 1977).

On the other hand, there have recently been meaningful rejections of "right-to-work" across the United States. In March 2023, Michigan became the first state in 58 years to repeal a "right-to-work" statute (Cappelletti, 2023; Hendrickson, 2023). The new law will go into effect on March 30, 2024, just over 11 years after Michigan became a "right-to-work" state on March 8, 2013 (Mikula & Stuart, 2023). Illinois voters approved the Workers' Rights Amendment to the state's constitution in November 2022, with 59 percent support versus 41 percent opposed (Ballotpedia, 2023c). The constitutional amendment guarantees the fundamental right of workers to unionize and bargain collectively and declares that "no law shall be passed that interferes with, negates, or diminishes the right of employees to organize and bargain collectively over their wages, hours, and other terms and conditions of employment and work place safety," effectively banning in perpetuity so-called "right-to-work" laws (Manzo & Bruno, 2023). In March 2021, the Montana House rejected a "right-to-work" bill, with 62 percent of the state's lawmakers opposed (Ambarian, 2021). Furthermore, Missouri residents overwhelmingly rejected "right-to-work" in August 2018 when 67 percent

[1] These provisions in the contract are commonly called "union security clauses."

of voters cast ballots against the measure in a citizen-initiative referendum, including majorities of voters in 89 of Missouri's 103 counties (86 percent) (Ballotpedia, 2023d; Manzo, 2018).

Three additional developments are also worth mentioning. First, at the federal-level, a bipartisan majority in the U.S. House of Representatives passed the Protecting the Right to Organize (PRO) Act in March 2021 (Gonyea, 2021). The PRO Act would have strengthened the ability of private sector workers to collectively bargain by establishing stiffer penalties on corporations for violating the National Labor Relations Act (NLRA) and repealing state "right-to-work" laws (McNicholas et al., 2020). However, the measure was never voted on in the U.S. Senate. Second, at the state-level, lawmakers in California and Pennsylvania introduced bills in 2023 to allow voters to decide whether to add Workers' Rights Amendments to their respective state constitutions (LegiScan, 2023; AP, 2023). Third, in February 2021, West Virginia Governor Jim Justice, a Republican, admitted that the February 2016 passage of "right-to-work" in his state failed to attract jobs and businesses. Governor Justice stated, "really and truly, let's just be brutally honest. We passed the 'right-to-work' law in West Virginia. And we ran to the windows looking to see all the people that were going to come—and they didn't come" (McElhinny, 2021).

U.S. Supreme Court Justice Louis Brandeis once persuasively reasoned that the states serve as "laboratories of democracy," with different laws and public policies producing outcomes that could be tested to assess their value (*New State Ice Co. v. Liebmann*, 1932). With about half of the states mandating "right-to-work" conditions and five states enacting these laws over a six-year period, there are case studies and natural experiments that can be utilized to understand the impact of "right-to-work" in the last decade and a half.

Accordingly, this report, conducted by researchers at the Illinois Economic Policy Institute (ILEPI) and the Project for Middle Class Renewal (PMCR) at the University of Illinois at Urbana-Champaign, takes advantage of the differences between states that protect workers' rights and the states that have "right-to-work" laws, or newly became "right-to-work" between 2012 and 2017, to analyze the policy's effects on worker wages, unionization, and labor force participation. The report begins with a review of previous economic research on the topic before discussing the data and methodology. Then, the impact of union membership on individual worker earnings is detailed. Results are subsequently presented using the two distinct models for all workers, workers by racial and ethnic background, workers by gender identity, workers by level of educational attainment, and workers by selected job characteristics such as occupation. Consequences of the Supreme Court's *Janus* decision are also examined. A concluding section recaps key findings and discusses important policy implications.

Background Research on So-Called "Right-to-Work" Laws

Economic research has established a strong connection between unionization and good, middle-class jobs (U.S. Treasury, 2023). Union households earn an average of 10 to 20 percent more than nonunion households—an income premium that has been consistent since the 1930s (U.S. Treasury, 2023; Farber et al., 2018; Schmitt, 2008; Card, 1992). Unionization has also been found to boost a worker's lifetime earnings by $1.3 million over the course of a career (Parolin & VanHeuvelen, 2023). The U.S. Department of Labor reports that 95 percent of union workers have access to healthcare coverage, 95 percent have access to retirement plans, and 92 percent have access to paid sick leave. By contrast, just 69 percent of nonunion workers have healthcare access, 69 percent have retirement plan access, and 77 percent have paid leave (BLS, 2022). Labor unions give workers a voice, "creating publicly valuable outcomes relating to work" through collective bargaining (Budd, 2014).

"Right-to-work" laws have been found to have the opposite effect, reducing worker bargaining power and decreasing worker earnings. By law, unions must represent all employees in a workplace. So-called "right-to-work" laws allow workers in any bargaining unit to free ride on the contributions of others, taking all the services and benefits associated with collective bargaining—such as negotiated wage increases, benefits, and legal representation—without paying anything for them. When a significant number of employees decide to free ride, the financial resources of labor unions can become depleted, which can lead to declines in union membership. Economic research has found that "right-to-work" laws reduce union membership by between 2 and 9 percentage points (Fortin, Lemieux, & Lloyd, 2022; Manzo & Bruno, 2017; Hogler, Shulman, & Weiler, 2004; Davis & Huston, 1993).

By limiting the resources that unions have available for collective bargaining, "right-to-work" laws have consistently been shown to reduce worker earnings by between 2 and 4 percent on average (Manzo & Bruno, 2021; VanHeuvelen, 2020; Gould & Kimball, 2015; Shierholz & Gould, 2011; Stevans, 2009). When "right-to-work" regulations weaken unions, nonunion employers no longer have to offer wages, benefits, and safety protocols that are competitive with union standards. "Right-to-work" laws have thus been shown to have a negative spillover effect on nonunion workers, whose wages are an average of 3 percent lower (Lafer, 2011). Finally, "right-to-work" laws lower the shares of workers with health insurance coverage by between by 3 and 5 percentage points and with employer-sponsored pension plans by between 5 and 8 percentage points (Manzo & Bruno, 2021; Shierholz & Gould, 2011).

Impacts have been found to be slightly smaller for states that recently enacted "right-to-work" laws. Studies have concluded that the implementation of "right-to-work" reduced wages and weekly earnings by between 1 and 3 percent (Chava, Danis, & Hsu, 2020; Fortin, Lemieux, & Lloyd, 2022; Wexler, 2022; Manzo & Bruno, 2017). Pay cuts were concentrated in "industries with high union coverage" such as construction and education and middle-class educational attainment levels such as associate degrees and bachelor's degrees (Fortin, Lemieux, & Lloyd, 2022; Wexler, 2022; Manzo & Bruno, 2017). Data from collective bargaining agreements and corporate profits exposes that these new laws decreased wages for unionized workers but increased CEO pay by about 11 percent between three and five years after adoption (Wexler, 2022). This is consistent with previous research showing that "right-to-work" laws transfer income from workers to owners and are linked with worsening economic inequality (Stevans, 2009; VanHeuvelen, 2020).

While some proponents of so-called "right-to-work" laws assert that they attract businesses and increase employment, the nonpartisan Congressional Research Service has concluded that "existing empirical research is inconclusive" and does not support this claim (Collins, 2014). In the 37th Annual Corporate Survey by *Area Development*, "right-to-work state" ranked 18th in the list of factors cited by corporate executives in business location decisions (Gambale, 2023). "Right-to-work" has consistently ranked outside of the Top 10 since at least 1990 (Gambale, 2023; Gambale, 2021; Gambale, 2019; Gambale, 2018; Gambale, 2016). Business location decisions are primarily driven by other considerations, such as infrastructure accessibility, the availability of skilled labor, quality-of-life factors, and tax considerations. Researchers have shown that "right-to-work" laws have little to no effect on firm location (Jones & Shierholz, 2018).

These conclusions are consistent with other economic research, which reveals that "right-to-work" laws have failed to increase employment in states that have adopted them. "Right-to-work" laws have no causal impact on job growth or on the unemployment rate (Jones & Shierholz, 2018; Manzo & Bruno, 2017; Eren & Ozbeklik, 2011). After accounting for state population and other factors, "right-to-work" had no effect on employment or the number of business establishments in the five states that adopted the policy between 2012 and 2017 (Wexler, 2022). The employment rate—or the share of people who have at least one job—is also marginally higher in states that protect workers' rights than states with "right-to-work" laws (Manzo & Bruno, 2021).

There are some studies that show that "right-to-work" laws specifically increase manufacturing employment (Kalenkoski & Lacombe, 2006; Austin & Lilley, 2021; LaFaive & Nesbit, 2022). However, other research finds no impact on manufacturing employment (Eren & Ozbeklik, 2011). Additionally, some of the studies that do find an increase in manufacturing also show that this gain crowds out other economic activity, with declines in mining and certain service industries (Kalenkoski & Lacombe, 2006). Others are based on county-level data with significantly fewer observations than studies that utilize U.S. Census Bureau, U.S. Department of Labor, or U.S. Department of Commerce data on individuals, workers, or firms (Austin & Lilley, 2021; LaFaive & Nesbit, 2022).

Finally, "right-to-work" laws have been found to have important social consequences. In a seminal 2018 study, researchers compared counties in states that protect workers' rights with border counties in states with "right-to-work" laws (Feigenbaum, Hertel-Fernandez, & Williamson, 2018). "Right-to-work" laws were found to reduce turnout in federal and state elections by between 2 and 3 percentage points, reduce union political contributions by up to 3 percent, and reduce "get-out-the-vote" (GOTV) contact to middle-class Americans by 11 percentage points (Feigenbaum, Hertel-Fernandez, & Williamson, 2018). Additional research suggests that they are associated with 3 percent fewer adults donating to charities, schools, and nonpolitical organizations (Manzo & Bruno, 2021). "Right-to-work" states also have 26 percent higher levels of consumer debt, infant mortality rates that are 28 percent worse, and 50 percent more on-the-job fatalities per 100,000 workers—contributing to life expectancies that are 2 years lower at birth (Manzo & Bruno, 2021).

Data and Methodology

This study focuses on the specific question of how much "right-to-work" regulations impact three labor market outcomes: union membership rates, worker earnings per hour, and labor force participation rates. "Right-to-work" laws permit and incentivize workers to take all the services and benefits of collective bargaining for free, directly impacting unions. By limiting union resources, "right-to-work" laws may indirectly weaken worker bargaining power relative to employers and corporations, which can result in lower worker earnings. "Right-to-work" policies could also indirectly alter labor force participation, either increasing it if the policies attract businesses and if workers perceive there to be more job opportunities or decreasing it if the policies erode job quality and workers decide to exit the labor force as a result. The impact on labor force participation has implications in the context of a tight labor market with low unemployment rates.

This study exclusively uses data from the *Current Population Survey Outgoing Rotation Groups* (CPS ORG), which is collected, analyzed, and released by the Bureau of Labor Statistics at the U.S. Department of Labor. The *Current Population Survey* is the survey of households upon which the Department of Labor bases the monthly unemployment rate. Between 2006 and 2022, there were 25,811,809 observations of individuals in the dataset, including 12,230,840 employed persons aged 15 to 80 years old. Analytic weights are provided by the Department of Labor to adjust the sample to the actual population in each state.

Two models are utilized to test the effects of "right-to-work" conditions on union membership rates, worker earnings per hour, and labor force participation rates. The first explores a decade of state data from 2013 through 2022. This model is grounded in the idea of "laboratories of democracy," assessing broad differences between workers in states that have so-called "right-to-work" laws and those in states that protect workers' rights. Statistical techniques called robust ordinary least squares (OLS) regressions and robust probit regressions are deployed in this section to parse out the average effect that a "right-to-work" law has on the specific labor market outcome, after accounting for other observable factors. The analyses control for age, gender identification, racial or ethnic background, veteran status, citizenship status, immigration status, urban status, level of educational attainment, sector of employment, hours worked per week, occupation, industry, and a year trend to account for annual inflation or secular changes in unionization or labor force participation. The regressions also account for "state fixed effects," which are differences across states that are constant over time. For example, other labor and employment laws, tax policies, political dynamics, and cultural attitudes could influence union membership while weather and seasons can influence labor force participation.[2] If these are generally unchanged over the decade, they will be captured in the state fixed effects variables.

The second model is an analysis of the states that enacted "right-to-work" laws between 2012 and 2017. This model is based on a "natural experiment" in which five states—Indiana in February 2012, Michigan in March 2013, Wisconsin in March 2015, West Virginia in February 2016, and Kentucky in January 2017—had previously protected workers' rights but newly adopted "right-to-work" laws (NRTWC, 2023). Labor market outcomes in these five states, the "treatment group," are compared against 23 other states and the District of Columbia which continued to protect workers' rights, the "control group." Outcomes over a six-year period from 2006 through 2011 prior to the wave of new laws are compared with those over six post-wave years from 2017 through 2022. The robust OLS and probit regressions are therefore "difference-in-differences" assessments. Note that each of these six-year periods contains an economic downturn: 2006-2011 includes the Great Recession and 2017-2022 includes the COVID-19 Recession. The regressions in the second model each account for the same factors as the first model except for the annual time trend and the state fixed effects, which are unnecessary in difference-in-differences regressions.

In each model, the statistical impacts of "right-to-work" conditions are presented for all workers, followed by selected categories of workers. The effects of "right-to-work" are assessed by racial or ethnic background, by gender identification, and by level of educational attainment. Impacts on blue-collar construction tradespeople, manufacturing production occupations, and preschool through high school (PreK-12) teachers are also investigated.

There are limitations to this study. First, data from the *Current Population Survey* report the respondent's state of residence rather than state of employment, so the results may be biased by workers who live in states with "right-to-work" laws but work for companies based in states that protect workers' rights, and vice-versa. The data are also based on household survey responses rather than on administrative payroll records, so there may be potential for human error. Conversely, by incorporating two different approaches with distinct advantages, this study offers a robust up-to-date exploration of the effects of "right-to-work" conditions on unionization, wages, and labor force participation.

The Impact of Union Membership on Worker Earnings

Before evaluating the independent effect of so-called "right-to-work" laws on labor market outcomes, it is imperative to acknowledge the impact of unions on individual workers (Figure 1). As of 2022, union members earned an average wage of $35 per hour, about 6 percent more than their nonunion counterparts ($33 per hour). Averages can be misleading, however. For example, middle-class occupations like construction workers and teachers tend to have high rates of unionization while upper-class professions like doctors and investment bankers have little to no union presence—which biases the average upwards among nonunion workers. The median helps to remove these outliers. The median union member earned $29 per hour in 2022, over $5 more per hour than the median nonunion worker (less than $24 per hour)—a union wage premium of 23 percent (Figure 1).

[2] In fact, the U.S. Department of Labor typically adjusts its own data for seasonality.

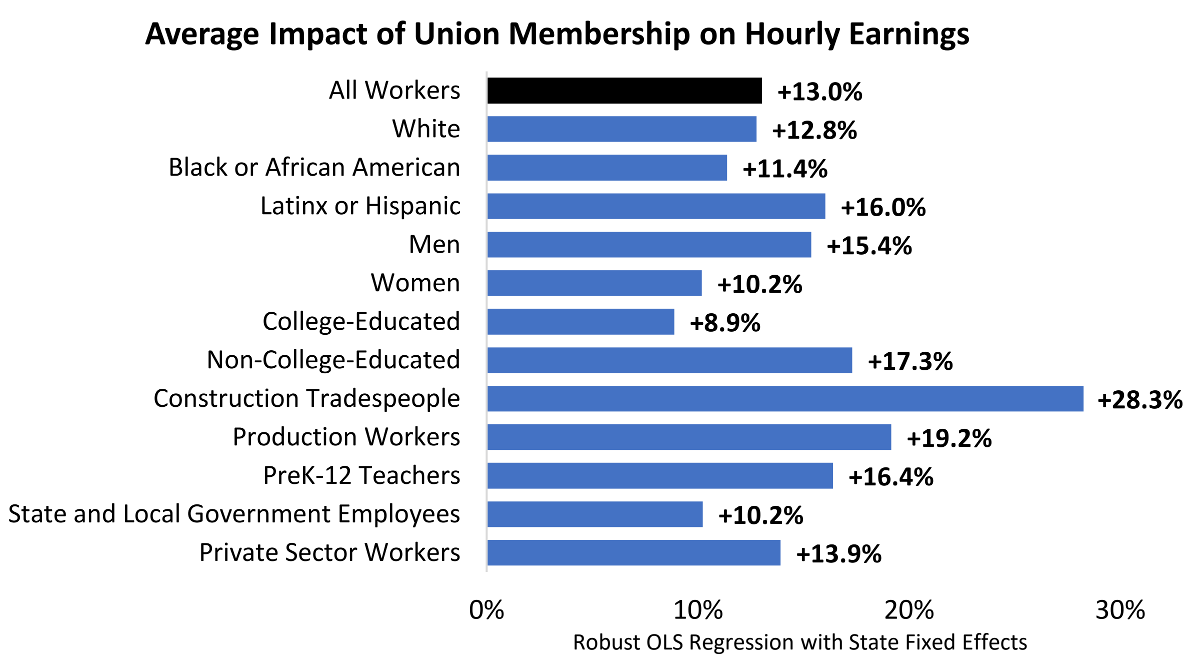
Unions deliver higher wages for the median worker regardless of race, ethnicity, or gender (Figure 1). On median, the union wage premium is 21 percent for white workers, 25 percent for Black workers, 35 percent for Hispanic workers, 22 percent for men, and 29 percent for women. Average impacts are generally positive but smaller. Unions also boost hourly earnings for construction tradespeople, manufacturing production workers, and preschool through high school teachers by between 27 and 51 percent (Figure 1).

FIGURE 1: UNION WAGE PREMIUM, AVERAGE AND MEDIAN HOURLY EARNINGS, BY CHARACTERISTIC, 2022

Current Population Survey Outgoing Rotation Groups (CPS ORG) Data, 2022	Average Hourly Earnings			Median Hourly Earnings		
	Union Members	Nonunion Workers	Union Difference	Union Members	Nonunion Workers	Union Difference
All Workers	$35.00	$33.03	**+6.0%**	$29.00	$23.56	**+23.1%**
Racial or Ethnic Background						
White	$36.42	$35.62	**+2.2%**	$30.77	$25.40	**+21.2%**
Black or African American	$31.31	$26.33	**+18.9%**	$25.00	$20.00	**+25.0%**
Latinx or Hispanic	$31.33	$25.58	**+22.5%**	$26.00	$19.30	**+34.7%**
Gender Identification						
Men	$36.81	$37.20	**-1.0%**	$30.88	$25.38	**+21.6%**
Women	$32.83	$28.55	**+15.0%**	$27.50	$21.37	**+28.7%**
Selected Occupation						
Construction Tradespeople	$35.42	$24.78	**+42.9%**	$32.00	$21.25	**+50.6%**
Production Workers	$29.42	$23.12	**+27.3%**	$25.45	$20.00	**+27.3%**
PreK-12 Teachers	$38.15	$29.02	**+31.5%**	$33.33	$24.04	**+38.7%**
Selected Sector						
State and Local Government	$36.43	$30.68	**+18.8%**	$31.00	$24.62	**+25.9%**
Private Sector	$33.68	$32.97	**+2.1%**	$28.00	$23.08	**+21.3%**

Source(s): Authors' analysis of 2022 *Current Population Survey Outgoing Rotation Groups* (CPS ORG) data (EPI, 2023). Numbers may not sum perfectly due to rounding.

FIGURE 2: ROBUST OLS REGRESSION – IMPACT OF UNION MEMBERSHIP ON WORKER EARNINGS, 2013-2022



Source(s): Authors' analysis of 2013-2022 *Current Population Survey Outgoing Rotation Groups* (CPS ORG) data (EPI, 2023). Shown effects are statistically significant with at least 95 percent confidence. All results are converted to percent changes using adjustments to correct for the interpretation of natural logarithms (Kennedy, 1981; IDRE, 2023). For regression results, see the Statistical Appendix.

As noted, these wage effects could be the result of many factors other than union membership. Factors that can influence hourly earnings for a particular individual could include age, level of educational attainment, residence in a major metropolitan area, occupation, and the overall rate of inflation. Figure 2 accounts for these and other important factors to determine the unique and independent impact that union membership had on the average hourly earnings of workers across the United States over the 10-year period from January 2013 through December 2022.

After accounting for other important factors, union membership boosts a worker's hourly earnings by 13 percent on average (Figure 2). Unions increase worker pay across-the-board, regardless of race or ethnicity, gender, educational attainment, occupation, or sector of employment. Unions statistically increase wages by 13 percent for white workers, 11 percent for Black workers, and 16 percent for Hispanic workers. Effects are also largest for men (15 percent), workers without college degrees (17 percent), and workers in the private sector (14 percent). For workers in three traditionally middle-class careers—construction tradespeople, manufacturing production workers, and PreK-12 teachers—union membership statistically increases a worker's hourly earnings by between 16 and 28 percent, on average (Figure 2).

The Impacts of "Right-to-Work" Laws on Labor Market Outcomes

There are discernible differences between the states that protect workers' rights and the states that have so-called "right-to-work" laws (Figure 3). In 2022, there were 23 states in the former category (plus the District of Columbia) and 27 states in the latter group, with each comprising about half of all American workers. While the unemployment rate was nearly 1 percentage point lower in states with "right-to-work" laws, their employment rate and labor force participation rates were, respectively, about 1 percentage point lower as well. A smaller share of the population in states with "right-to-work" laws are in the labor force altogether, which can artificially reduce the unemployment rate. Consequently, the outcomes pertaining to working and looking for work show mixed signals.

There are clear differences on unionization and worker earnings (Figure 3). As of 2022, the overall union membership rate was under 6 percent in states with so-called "right-to-work" laws, about 9 percentage points lower than the 15 percent union membership rate in the states, plus the District of Columbia, that protect workers' rights. On average, workers in states with "right-to-work" laws earned 15 percent less (over $30 per hour) than their counterparts in states that protect workers' rights (nearly $36 per hour). Median hourly earnings were 12 percent lower in "right-to-work" states.

These labor market disparities could potentially be attributed to demographic, educational, geographic, and sectoral differences between the two groups of states (Figure 3). Workers in states with "right-to-work" laws were 1 percentage point more likely to be white and 5 percentage points more likely to be Black, 5 percentage points less likely to have earned college degrees, and 6 percentage points less likely to live in metropolitan areas. They were also about 1 percentage point more likely to work in the private sector—such as for for-profit or not-for-profit employers or as self-employed individuals—and 1 percentage point less likely to work for local governments (Figure 3).

Differences between the states that protect workers' rights and the states that have "right-to-work" laws are explored further using 10 years of data from January 2013 through December 2022. The 24 jurisdictions that protected workers' rights throughout the decade are evaluated against the 22 states that previously had "right-to-work" laws on the books as well as the five states that newly enacted "right-to-work" legislation between 2012 and 2017 across four labor market outcomes: average hourly earnings, total union members, the total labor force, and the labor force participation rate. The net change and growth over the nine full years between 2013 and 2022 are shown in Figure 4, with differences representing the value of the respective "right-to-work" growth rate minus the equivalent growth rate for states that protected workers' rights.

FIGURE 3: LABOR MARKET OUTCOMES AND SUMMARY STATISTICS OF STATES, BY LABOR POLICY, 2022

Summary Statistics of Employed* Individuals, 2022	States that Protect Workers' Rights	States with "Right-to-Work" Laws	"Right-to-Work" Difference
States**	24	27	**+3 states**
Labor Market Outcomes			
Total Employment	78,797,362	79,493,773	**+0.9%**
Employment Rate	60.3%	59.6%	**-0.7%**
Labor Force Participation Rate	62.9%	61.6%	**-1.2%**
Unemployment Rate	4.0%	3.3%	**-0.7%**
Union Membership Rate	14.6%	5.6%	**-8.9%**
Average Hourly Earnings	$35.98	$30.49	**-15.3%**
Median Hourly Earnings	$25.53	$22.55	**-11.7%**
Demographic Characteristics			
Average Age	42.6	42.1	**-1.0%**
Women	46.9%	46.8%	**-0.1%**
Men	53.1%	53.2%	**+0.1%**
White	60.2%	61.2%	**+0.9%**
Black or African American	9.8%	15.0%	**+5.2%**
Latinx or Hispanic	18.9%	18.0%	**-0.9%**
Level of Educational Attainment			
College-Educated	53.9%	48.5%	**-5.4%**
Non-College-Educated	46.1%	51.5%	**+5.4%**
Urban Status			
Lives in Metro Area	91.6%	85.9%	**-5.6%**
Sector of Employment			
Federal Government	2.5%	2.5%	**+0.0%**
State Government	4.3%	4.7%	**+0.4%**
Local Government	7.0%	5.8%	**-1.2%**
Private Sector	86.1%	86.9%	**+0.8%**

Source(s): Authors' analysis of 2022 *Current Population Survey Outgoing Rotation Groups* (CPS ORG) data by the U.S. Census Bureau, (EPI, 2023). Numbers may not sum perfectly due to rounding. *NOTE: All statistics are for persons employed with at least one job *except* for the employment rate and the labor force participation rate, which are each for the entire population ages 15 to 80 years old. **NOTE: The "States that Protect Workers' Rights" control group includes the District of Columbia and the "States with 'Right-to-Work' Laws" treatment group includes Michigan, which had a "right-to-work" law in 2022. In late March 2024, Michigan will make the split 25 states that protect workers' rights and 26 states with "right-to-work" laws.

Wages and salaries grew 5 percent faster in the states that protected workers' rights between 2013 and 2022 (Figure 4). Average earnings were about $24 per hour in the states that protected workers' rights in 2013 but increased by nearly $12 per hour to $36 per hour by 2022, a growth of 48 percent. By contrast, both in the states that were previously "right-to-work" and in those that became "right-to-work," average earnings started around $21 per hour and increased by $9 per hour to a little over $30 per hour, growth rates of 43 percent. Note that hourly earnings are *not* adjusted for inflation in Figure 4. Ultimately, workers experienced slower hourly earnings growth if they were in states that had or recently introduced "right-to-work" laws.

States with "right-to-work" laws are responsible for the loss of union members in the United States between 2013 and 2022 (Figure 4). States that protected workers' rights over the decade experienced an increase of more than 100,000 union members, a 1 percent gain. At the same time, states that were previously "right-to-work" saw unions lose nearly 62,000 members, or 2 percent of their union members, and the five states that enacted new "right-to-work" laws experienced a substantial loss of about 274,000 members, or 19 percent of their dues-paying members. In total, the "right-to-work" states lost just over 336,000 union members from 2013 to 2022.

FIGURE 4: EARNINGS, UNION MEMBERSHIP, AND LABOR FORCE DATA IN STATES BY LABOR POLICY, 2013 VS. 2022

Outcome	Type of State	2013	2022	Net Change	Growth	Difference
Average Hourly Earnings	24 States that Protect Workers' Rights	$24.24	$35.98	+$11.74	+48.4%	--
	22 Previous "Right-to-Work" States	$21.33	$30.55	+$9.23	+43.3%	**-5.2%**
	5 States that Became "Right-to-Work"	$21.05	$30.16	+$9.11	+43.3%	**-5.1%**
Total Union Members	24 States that Protect Workers' Rights	10,187,511	10,287,872	+100,361	+1.0%	--
	22 Previous "Right-to-Work" States	2,850,295	2,788,648	-61,647	-2.2%	**-3.1%**
	5 States that Became "Right-to-Work"	1,477,947	1,203,557	-274,389	-18.6%	**-19.6%**
Total Labor Force	24 States that Protect Workers' Rights	79,787,333	82,080,664	+2,293,331	+2.9%	--
	22 Previous "Right-to-Work" States	61,697,297	68,114,466	+6,417,169	+10.4%	**+7.5%**
	5 States that Became "Right-to-Work"	13,904,490	14,087,626	+183,136	+1.3%	**-1.6%**
Labor Force Participation Rate	24 States that Protect Workers' Rights	63.9%	62.9%	--	-1.0%	--
	22 Previous "Right-to-Work" States	62.6%	61.8%	--	-0.8%	**+0.2%**
	5 States that Became "Right-to-Work"	62.4%	60.8%	--	-1.6%	**-0.6%**

Source(s): Authors' analysis of 2013-2022 *Current Population Survey Outgoing Rotation Groups* (CPS ORG) data (EPI, 2023). Numbers may not sum perfectly due to rounding.

The data on labor force participation in Figure 4 are inconclusive. The data show that the group of states that previously had "right-to-work" laws on the books added 10 percent more people to the labor force while those that protected workers' rights experienced a growth of about 3 percent. However, the five states that recently implemented "right-to-work" laws—often with the expressed intent of attracting workers, businesses, and people—had a labor force growth rate that was just over 1 percent, which was below their counterparts that did not enact "right-to-work" laws. The overall labor force participation rate fell in all three groups of states between 2013 and 2022, primarily due to changing demographics from aging populations and slower population growth but also due to the immediate and long-run effects of the COVID-19 pandemic (Howard, 2021; Q.ai, 2023; Bach, 2022). The largest decline in labor force participation was in the states that newly adopted "right-to-work" laws (-2 percent), followed by the states that protected workers' rights (-1 percent), and then by the states that previously had "right-to-work" laws (less than -1 percent) (Figure 4).

Key Findings

From an individual worker's perspective, many factors can influence the likelihood of being a union member or how much they earn per hour. These range from job characteristics, with construction workers being more likely to join unions than fast food workers, to racial factors, with Black workers having higher rates of union membership than white workers. To assess the effects of a "right-to-work" law on labor market outcomes separate from other potential factors, analytical tools called robust probit regressions and robust ordinary least squares (OLS) regressions are utilized. Each analysis accounts for demographic traits, urban status, level of educational attainment, and job characteristics.[3] Full results for both Models are presented in Figure 5.

A comparative national analysis using a decade of labor market data in Model 1 finds that so-called "right-to-work" laws lower union membership and decrease worker earnings for all workers while having little to no impact on labor force participation (Figure 5). "Right-to-work" laws reduce the union membership rate by 2 percentage points for all workers but have larger, more negative impacts for Black workers, Hispanic workers, construction tradespeople, and PreK-12 teachers. By shrinking unions and weakening worker bargaining power, "right-to-work" laws result in hourly earnings that are 3 percent lower for the average worker. The negative consequences of "right-to-work" on wages are most acute for construction tradespeople, PreK-12 teachers, and Hispanic workers—who experience pay cuts of between 5 and 7 percent.

FIGURE 5: IMPACT OF "RIGHT-TO-WORK" ON LABOR MARKET OUTCOMES, BY STATISTICAL MODEL, 2006-2022

Statistical Model	1: Comparative National Analysis with State Fixed Effects			2: States that Enacted "Right-to-Work" vs. Those Protecting Workers' Rights		
Period of Analysis	2013-2022			2006-2011 vs. 2017-2022		
Impact of "Right-to-Work" Laws	Unionization Rate	Worker Earnings	Labor Force Participation	Unionization Rate	Worker Earnings	Labor Force Participation
All Workers	**-2.1%**	**-2.9%**	**+0.9%**	**-2.2%**	**-1.4%**	**+0.6%**
Demographic Traits						
White	-2.1%	-2.4%	+1.0%	-2.4%	-0.6%	+0.5%
Black or African American	-3.7%	-3.5%	+2.5%	*No Effect*	-2.1%	+2.1%
Latinx or Hispanic	-3.2%	-4.7%	*No Effect*	-4.0%	*No Effect*	*No Effect*
Men	-2.1%	-2.7%	+1.2%	-1.7%	-1.4%	+1.3%
Women	-2.3%	-3.0%	*No Effect*	-2.9%	-1.3%	*No Effect*
Educational Attainment						
College-Educated	-2.3%	-4.2%	*No Effect*	-3.0%	-2.9%	*No Effect*
Non-College-Educated	-1.9%	-1.9%	+1.2%	-1.4%	*No Effect*	+1.2%
Selected Occupation						
Construction Trades	-3.6%	-4.8%	--	*No Effect*	*No Effect*	--
Production Workers	-3.9%	*No Effect*	--	*No Effect*	-2.2%	--
PreK-12 Teachers	-7.7%	-6.3%	--	-8.1%	-6.7%	--

Source(s): Authors' analysis of 2013-2022 *Current Population Survey Outgoing Rotation Groups* data (EPI, 2023). Shown effects are statistically significant with at least 95 percent confidence. Results are converted to percent changes using adjustments to correct for the interpretation of natural logarithms or are average marginal effects (Kennedy, 1981; IDRE, 2023). See the Statistical Appendix.

Model 2 compares labor market outcomes in the five states that enacted "right-to-work" laws over a six-year period from January 2006 through December 2011 to those over a six-year period from January 2017 through December 2022 and contrasts them with those in states that protected workers' rights and maintained their collective bargaining laws over the 2006 through 2022 period. Results from Model 2 mirror the those of

[3] The only instances when these variables are not included are when workers fitting the description are the subject of the regression. For example, gender identification is not an explanatory variable when the regression seeks to understand the impact of "right-to-work" laws on a woman's probability of being a union member. In Model 1, a year trend and "state fixed effects" are included to account for other labor and employment laws or cultural attitudes that could influence union membership in each state regardless of whether it has a "right-to-work" law. In Model 2 (after the five states enacted "right-to-work" laws), variables for the post-wave period, whether the worker lives in a state that adopted a "right-to-work" law, and an interaction term between those two variables are included to assess the "difference-in-differences."

Model 1 in concluding that so-called "right-to-work" laws lower union membership and decrease worker earnings while having little to no effect on labor force participation rates. The extent of the damage is consistent for union membership, a 2 percentage-point decrease, and about half as bad for worker earnings. The workers who were most negatively affected were women, college-educated, and teachers. Due to the new "right-to-work" laws, women experienced a 3 percentage-point drop in unionization, a 1 percent decrease in hourly earnings, and no net-increase in labor force participation. College-educated workers saw a 3 percentage-point drop in unionization, a 3 percent decrease in hourly earnings, and no-net increase in labor force participation. The pay of teachers declined by 7 percent from an 8 percentage-point fall in the union membership rate. Hispanic workers also faced a 4 percentage-point drop in unionization and experienced no net-benefit in either wages or labor force participation. Importantly, for all groups of workers examined, neither hourly earnings nor the union membership rate was positively affected by the introduction of a "right-to-work" law (Figure 5).

Model 1

"Right-to-work" laws reduce the union membership rate for all workers by 2 percentage points (Figure 5). After accounting for other important factors, "right-to-work" laws statistically reduced the probability that a worker was a member of a labor union by 2 percentage points, on average, between 2013 and 2022.[4] When the effect is deconstructed for certain classifications of workers, it is consistently negative. The data reveal that "right-to-work" laws statistically lower the union membership rates of men, women, college-educated workers, and non-college-educated workers. Impacts are largest for workers of color. "Right-to-work" laws decrease the union membership rate of Hispanic workers by 3 percentage points and the union membership rate of Black workers by 4 percentage points (Figure 5).

Workers in traditionally middle-class occupations experience steep drops in unionization due to "right-to-work" laws (Figure 5). "Right-to-work" laws are associated with a 7 percentage-point drop in the likelihood that a state and local government employee is a union member compared to a 2 percentage-point drop for a private sector worker. "Right-to-work" laws also decrease union membership rates for blue-collar construction tradespeople by 4 percentage points, for manufacturing production workers by 4 percentage points, and for preschool through high school teachers by 8 percentage points (Figure 5).

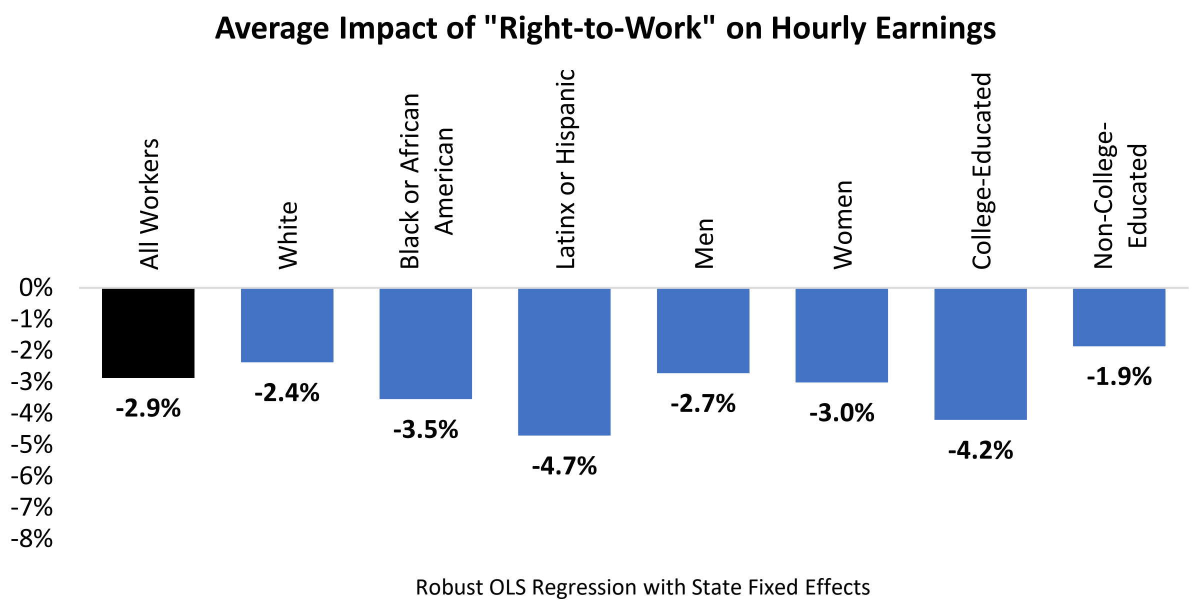
A decade of labor market data reveals that so-called "right-to-work" laws decrease union membership across-the-board, which weakens worker bargaining power and can adversely affect worker earnings (Figures 5 and 6). After accounting for other important factors, "right-to-work" laws reduce average hourly earnings by 3 percent. When broken down, "right-to-work" laws have similar effects for men and women—statistically lowering hourly earnings by about 3 percent for each—but disproportionate impacts on workers of color. White workers experience 2 percent lower hourly earnings, Black workers face 4 percent decreases in wages and salaries per hour, and Hispanic workers suffer pay cuts of 5 percent per hour. Furthermore, "right-to-work" laws reduce the average hourly earnings of college-educated workers by 4 percent and the average hourly pay of those without college degrees by 2 percent.

On average, "right-to-work" laws lower wages most for teachers and construction workers (Figure 7). The statistical analyses reveal that "right-to-work" laws are associated with a 6 percent decrease in the earnings of PreK-12 teachers and a 5 percent decrease in the wages of blue-collar construction tradespeople. There was no statistically significant impact of a "right-to-work" law on the wages of manufacturing production

[4] Relative to the baseline probability of being a union member (or the constant term) of 10.8 percentage points, this 2.1 percentage point decrease translates into a 19.4 percent overall reduction in unionization from "right-to-work." See the Statistical Appendix.

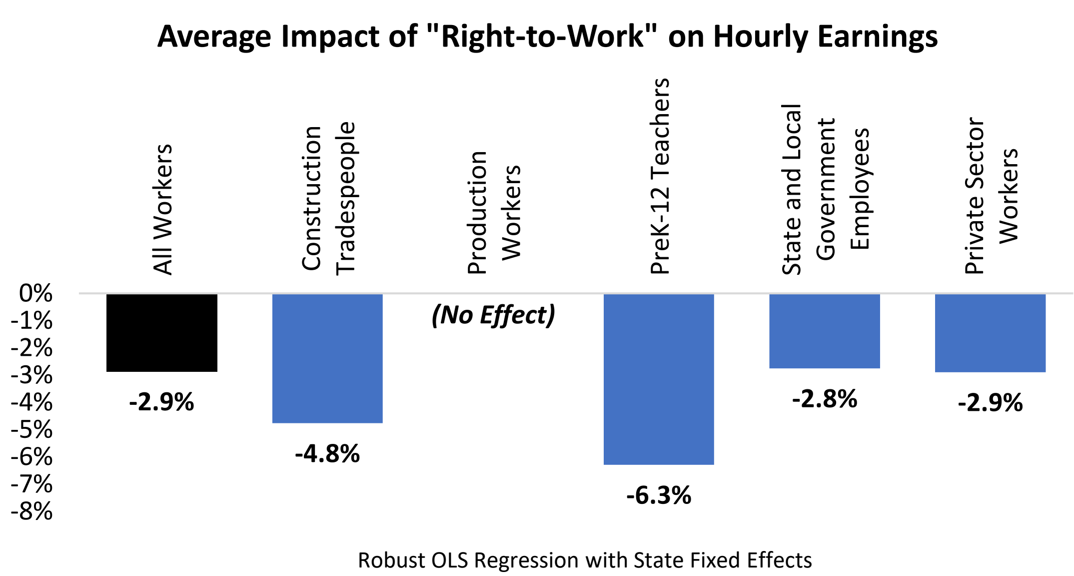
workers in the state fixed effects model. However, both private sector workers and state and local government employees see 3 percent lower hourly rates of pay due to "right-to-work" laws (Figure 7).

FIGURE 6: ROBUST OLS– IMPACT OF "RIGHT-TO-WORK" ON WORKER EARNINGS, BY DEMOGRAPHICS, 2013-2022



Source(s): Authors' analysis of 2013-2022 *Current Population Survey Outgoing Rotation Groups* (CPS ORG) data (EPI, 2023). Shown effects are statistically significant with at least 95 percent confidence. Results are converted to percent changes using adjustments to correct for the interpretation of natural logarithms (Kennedy, 1981; IDRE, 2023). See the Statistical Appendix.

FIGURE 7: ROBUST OLS– IMPACT OF "RIGHT-TO-WORK" ON EARNINGS, BY OCCUPATION OR SECTOR, 2013-2022



Source(s): Authors' analysis of 2013-2022 *Current Population Survey Outgoing Rotation Groups* data (EPI, 2023). Shown effects are statistically significant with at least 95 percent confidence. Results are converted to percent changes using adjustments to correct for the interpretation of natural logarithms (Kennedy, 1981; IDRE, 2023). See the Statistical Appendix.

It could be argued that a 10-year timeframe is too long to assess an *average* impact due to "right-to-work." Various dynamics could cause the average to change over time. Indeed, some economic researchers and political commentators allege that wages or per-capita incomes tend to grow faster in these states (e.g., Austin & Lilley, 2021; Hicks & LaFaive, 2013). The 2013 through 2022 data from the *Current Population Survey Outgoing Rotation Groups* allow for this claim to be tested (Figure 8).

The data not only reject the assertion but establish that worker earnings decidedly grow more slowly in states with so-called "right-to-work" laws (Figure 8). Figure 8 offers a decomposition of the "right-to-work" effect on worker earnings, disclosing both the policy's immediate impact as well as any enduring pressure that builds more gradually over time. For all workers, the first-order impact of "right-to-work" is a 2 percent decrease in hourly earnings. However, the second-order impact is that a "right-to-work" law is statistically associated with 0.3 percent slower earnings growth on average per year, relative to states that protect workers' rights.[5] Over the nine years during which the annual change in earnings could be assessed, 0.3 percent slower gains translate into a cumulative loss of more than 2 percent between 2013 and 2022. The immediate first-order effect combined with the compounded second-order effect result in a finding that "right-to-work" laws reduced worker earnings by over 4 percent between 2013 and 2022 (Figure 8).

FIGURE 8: ROBUST OLS– IMPACT OF "RIGHT-TO-WORK" ON WORKER EARNINGS, WITH WAGE GROWTH, 2013-2022

Average Impact of "Right-to-Work" on Hourly Earnings, 2013-2022 [Robust OLS Regression with State Fixed Effects]	Effect on Earnings [A]	Effect on Annual Growth [B]	Compounded Over 9 Years [C]	Cumulative Impact [A+C]
All Workers	-1.9%	-0.3%	-2.4%	**-4.3%**
Demographic Characteristics				
White	-1.7%	-0.2%	-1.8%	**-3.5%**
Black or African American	-3.3%	0.0%	0.0%	**-3.3%**
Latinx or Hispanic	-3.2%	-0.4%	-3.9%	**-7.1%**
Men	-1.5%	-0.3%	-3.0%	**-4.5%**
Women	-2.3%	-0.2%	-1.9%	**-4.1%**
Level of Educational Attainment				
College-Educated	-2.9%	-0.4%	-3.2%	**-6.1%**
Non-College-Educated	-1.3%	-0.2%	-1.4%	**-2.7%**
Selected Occupation				
Construction Tradespeople	-5.3%	0.0%	0.0%	**-5.3%**
Production Workers	0.0%	-0.4%	-3.3%	**-3.3%**
PreK-12 Teachers	-5.4%	0.0%	0.0%	**-5.4%**

Source(s): Authors' analysis of 2013-2022 *Current Population Survey Outgoing Rotation Groups* data (EPI, 2023). Shown effects are statistically significant with at least 95 percent confidence. Results are converted to percent changes using adjustments to correct for the interpretation of natural logarithms (Kennedy, 1981; IDRE, 2023). See the Statistical Appendix.

Figure 8 displays the differential impacts of "right-to-work" laws on workers by racial or ethnic background, gender identification, level of educational attainment, and selected occupations and sectors. In no case is "right-to-work" associated with either higher initial earnings or positive gains over time. While there are cases in which "right-to-work" laws had no statistically significant impact on the annual growth in worker earnings relative to the rest of the United States, those instances typically begin with more negative first-order effects. For example, "right-to-work" laws had no net-negative or net-positive impact on the average annual wage growth of both construction tradespeople and PreK-12 teachers, but the laws initially reduced the wages of both middle-class occupations by over 5 percent. Put simply, construction workers and teachers in states with "right-to-work" laws started with lower hourly earnings *due to the law* and kept pace throughout the decade but never caught up to their peers in states that protect workers' rights. Manufacturing production

[5] Methodologically, the second-order impact is determined by an "interaction term" between "right-to-work" and the year trend in each regression, which determines the difference in the average annual rate of wage growth in states with "right-to-work" laws relative to those that protect workers' rights.

workers, on the other hand, did not initially experience lower wages due to "right-to-work" but, over time with comparatively weaker bargaining power, saw wage growth trail behind by 0.4 percent per year—leading to a 3 percent compounded drop in relative earnings by 2022. For all other workers, the cumulative impact of "right-to-work" laws on hourly earnings over the decade ranged from a minimum of 3 percent for non-college-educated workers to a maximum of 7 percent for Hispanic workers.

Finally, Model 1 investigates whether "right-to-work" laws increase or decrease labor force participation. Many factors can influence whether an individual will enter the labor force and seek employment. To analyze the independent effect of "right-to-work," robust probit regressions are once again deployed. After accounting for other important factors, "right-to-work" laws marginally increased the probability that a U.S. resident was in the labor force by about 1 percentage point between 2013 and 2022.[6] When broken down by demographics and education, effects are positive for four groups of people and statistically insignificant for three. The data indicate that "right-to-work" laws increase the chances of labor force participation by 1 percentage point for white residents, men, and non-college-educated individuals, and by 3 percentage points for Black residents. "Right-to-work" laws have no discernible impact on the labor force participation rates of Hispanic workers, women, and college-educated individuals (Figure 5).

Model 2

Model 2 goes back further in time, beginning with 2006. This second approach compares unionization rates, worker earnings, and labor force participation in Indiana, Michigan, Wisconsin, West Virginia, and Kentucky from January 2006 through December 2011 to those from January 2017 through December 2022. In the five intervening years, these states enacted "right-to-work" laws, beginning with Indiana in February 2012 and ending with Kentucky in the first week of January 2017. The changes in labor market outcomes for these five states that adopted "right-to-work" laws are compared to those in states that protected workers' rights from 2006 through 2022. This approach offers a "natural experiment."

Before results from advanced statistical analyses are discussed, summary statistics are presented for the three labor market outcomes in 2011, the year before the wave of new "right-to-work" enactments, and 2022, the final year in the dataset (Figure 9). Differences in Figure 9 represent the value of the growth rate in the five states that imposed "right-to-work" laws minus the equivalent growth rate for the 24 jurisdictions that protected workers' rights. While results are similar to Figure 4, Figure 9 is intended to provide a more complete picture of pre-wave and post-wave differences between the two types of states.

States that implemented "right-to-work" laws experienced 5 percent slower hourly earnings growth and a 2 percentage-point steeper reduction in the union membership rate without experiencing an increase in their labor force participation rate, relative to states that continued to protect workers' rights (Figure 9). In nominal terms, the five states that enacted "right-to-work" laws saw worker earnings grow by between 44 percent in West Virginia and 52 percent in Michigan between 2011 and 2022, respectively 11 percent and 3 percent below the gains in the states that protected workers' rights (+55 percent). Union density decreased by 4 to 6 percentage points in four of the five states that enacted "right-to-work" laws over just 11 years. Lastly, the changes in labor force participation rates again sent mixed signals. While labor force participation rates declined in all five states, the drops were smaller in three and larger in two compared to the decrease in states that protected workers' rights (Figure 9).

[6] Relative to the baseline probability of being in the labor force (or the constant term) of 63.5 percentage points, this 0.9 percentage point increase translates into a 1.4 percent overall increase in labor force participants from "right-to-work." See the Statistical Appendix.

Model 2 reveals that the 2012 through 2017 wave of state "right-to-work" laws reduced the union membership rate for all workers by more than 2 percentage points (Figure 5). After accounting for other important factors, the new "right-to-work" laws statistically decreased the chances that a worker in Indiana, Michigan, Wisconsin, West Virginia, or Kentucky was a union member by 2 percentage points, on average, over the 2017-2022 period relative to the 2006-2011 period. Certain groups of workers were disproportionately affected. Hispanic workers (-4 percentage points) and white workers (-2 percentage points) saw large decreases in their unionization rates, women (-3 percentage points) experienced steeper declines than men (-2 percentage points), and college-educated workers suffered a 3 percentage-point loss in union density—although those without college degrees did experience a drop of just above 1 percentage point. The 2012-2017 "right-to-work" wave also statistically reduced the unionization rate of preschool through high school teachers by 8 percentage points, which was likely a key contributor to the considerable decline among college-educated workers (Figure 5).

FIGURE 9: EARNINGS, UNION MEMBERSHIP, AND LABOR FORCE DATA IN STATES BY LABOR POLICY, 2011 VS. 2022

Outcome	State or Type of State	2011	2022	Growth	Difference
Average Hourly Earnings	24 States that Protect Workers' Rights	$23.21	$35.98	+55.0%	--
	5 States that Became "Right-to-Work"	$20.16	$30.16	+49.6%	**-5.4%**
	Indiana (2012)	$19.94	$29.80	+49.4%	**-5.6%**
	Michigan (2013)	$21.16	$32.17	+52.1%	**-2.9%**
	Wisconsin (2015)	$19.83	$29.35	+48.0%	**-7.0%**
	West Virginia (2016)	$19.65	$28.33	+44.2%	**-10.8%**
	Kentucky (2017)	$18.94	$27.94	+47.5%	**-7.5%**
Union Membership Rate	24 States that Protect Workers' Rights	16.2%	14.6%	-1.6%	--
	5 States that Became "Right-to-Work"	13.6%	9.7%	-3.9%	**-2.2%**
	Indiana (2012)	11.2%	7.4%	-3.8%	**-2.2%**
	Michigan (2013)	17.5%	14.0%	-3.5%	**-1.9%**
	Wisconsin (2015)	13.3%	7.1%	-6.3%	**-4.7%**
	West Virginia (2016)	13.8%	9.2%	-4.6%	**-3.0%**
	Kentucky (2017)	8.9%	7.9%	-1.1%	**+0.6%**
Labor Force Participation Rate	24 States that Protect Workers' Rights	64.7%	62.9%	-1.8%	--
	5 States that Became "Right-to-Work"	62.9%	60.8%	-2.1%	**-0.3%**
	Indiana (2012)	64.1%	63.7%	-0.4%	**+1.4%**
	Michigan (2013)	60.8%	59.7%	-1.1%	**+0.7%**
	Wisconsin (2015)	69.3%	63.8%	-5.6%	**-3.7%**
	West Virginia (2016)	54.3%	53.5%	-0.8%	**+1.0%**
	Kentucky (2017)	61.2%	57.8%	-3.5%	**-1.7%**

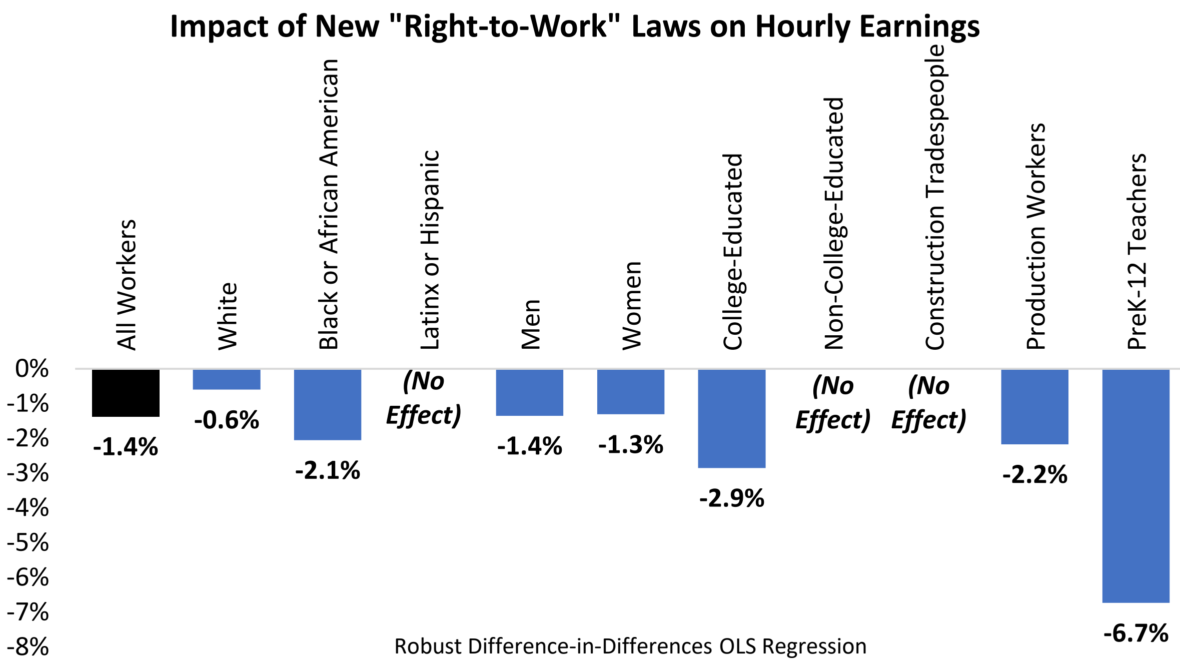
Source(s): Authors' analysis of 2011-2022 *Current Population Survey Outgoing Rotation Groups* data (EPI, 2023). Numbers may not sum perfectly due to rounding.

The 2012 through 2017 wave of state "right-to-work" laws reduced worker earnings by more than 1 percent (Figure 10).[7] The analyses indicate that the enactment of new "right-to-work" laws decreased hourly earnings by 1 percent for white workers and by 2 percent for Black workers but had no statistically significant effect on the wages of Hispanic workers. Both men and women experienced pay cuts of over 1 percent. The recent "right-to-work" legislation reduced the average hourly earnings of college-educated workers by 3 percent but had no statistical effect on the hourly pay of those without college degrees. However, two occupations with relatively high shares of workers without college degrees are construction tradespeople and production workers. The new "right-to-work" laws appear to have had no effect on construction worker earnings in these states but did lower production worker wages by 2 percent, on average. It is worth noting that blue-collar

[7] The impact on hourly earnings in Model 2 is similar to the deconstructed first-order effect of the policy in Model 1 (Figure 8).

construction worker wages in many of these states have fallen behind, but the decrease has been caused by another policy change that occurred in all five states between 2015 and 2018: the repeal of their state prevailing wage laws (Manzo, Petrucci, & Bruno, 2023). For PreK-12 teachers, the 2012-2017 wave of "right-to-work" laws were associated with a significant 7 percent decrease in earnings (Figure 10).

FIGURE 10: ROBUST OLS– IMPACT OF NEW "RIGHT-TO-WORK" LAWS ON WORKER EARNINGS, 2006-11 VS. 2017-22



Source(s): Authors' analysis of 2006-2022 *Current Population Survey Outgoing Rotation Groups* data (EPI, 2023). Shown effects are statistically significant with at least 95 percent confidence. Results are converted to percent changes using adjustments to correct for the interpretation of natural logarithms (Kennedy, 1981; IDRE, 2023). See the Statistical Appendix.

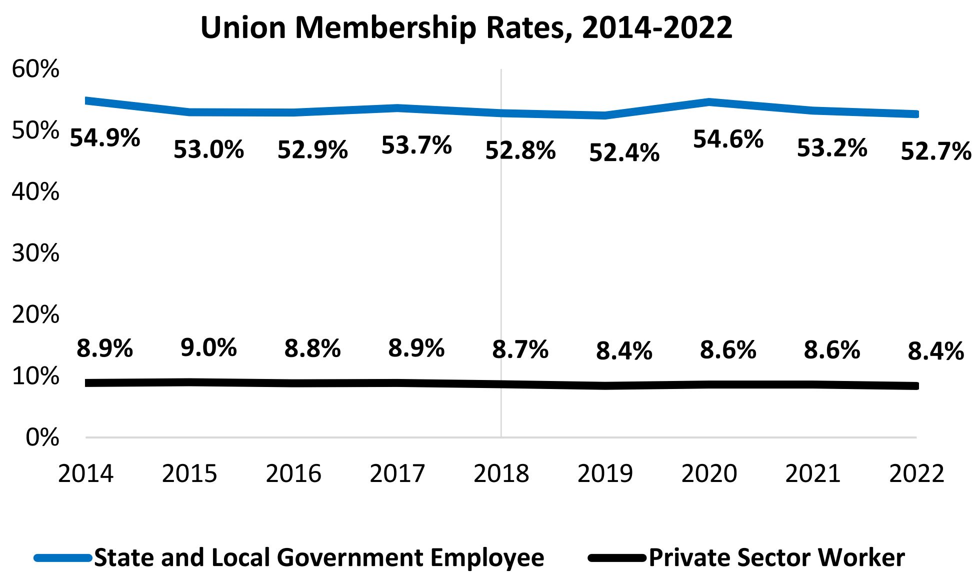
After accounting for other important factors, the 2012-2017 "right-to-work" wave increased the labor force participation rate by about half a percentage point (Figure 5). Regressions are run for seven populations by demographic or educational characteristic, and the "right-to-work" interaction term is only statistically significant for four of the groups and has no discernible effect for three of the groups. The new "right-to-work" laws seem to have increased labor force participation rates for white residents by about half a percentage point, Black residents by 2 percentage points, men by 1 percentage point, and non-college-educated people by 1 percentage point. On the other hand, the 2012-2017 "right-to-work" laws had no impact on the labor force participation rates of Hispanic residents, women, and college-educated individuals in Indiana, Michigan, Wisconsin, West Virginia, and Kentucky (Figure 5).

The Impact of the *Janus* Supreme Court Decision

On June 27, 2018, the U.S. Supreme Court struck down a 41-year precedent in a 5-4 decision in *Janus v. American Federation of State, County, and Municipal Employees, Council 31, et al*. (Oyez, 2018). The *Janus* ruling effectively imposed a national "right-to-work" policy on state and local government workers, the most heavily unionized sector in the U.S. economy. The decision permitted and incentivized free riding among workers in bargaining units, but only directly affected state and local government employees in states that previously protected workers' rights. In states with so-called "right-to-work" laws, state and local government employees could already opt out and choose to receive union services and benefits without paying anything for them prior to the ruling.

State and local government employee unionization rates have slightly decreased in the 23 states (plus the District of Columbia) that protected workers' rights from 2014 through 2022, which includes 54 pre-*Janus* months and 54 post-*Janus* months (Figure 11). Overall, state and local government employee unionization decreased over the nine-year period. This includes a drop from 54 percent in 2017, the year before the *Janus* decision, to 53 percent by 2022—a 1 percentage point decrease. However, it ranged from 53 to 55 percent from 2014 through 2017 and from 52 to 55 percent from 2019 through 2022. Private sector worker unionization decreased by half a percentage point between 2017 and 2022, and ranged between 8 and 9 percent over the entire nine-year period.

FIGURE 11: ANNUAL UNION MEMBERSHIP RATES IN STATES THAT PROTECT WORKERS' RIGHTS BY SECTOR, 2014–2022



Source(s): Authors' analysis of 2014-2022 *Current Population Survey Outgoing Rotation Groups* data for states that protect workers' rights (EPI, 2023).

Mandating "right-to-work" conditions at public sector workplaces in states that otherwise protect workers' rights may have made it more difficult to attract and retain qualified workers to fill teaching positions and job vacancies at state and local governments, producing skilled labor shortages (Wong, 2022; Schmitt & deCourcy, 2022; Lavigna, 2023). The number of unfilled positions at state and local governments, including education, increased from 534,000 job openings in June 2018 to 953,000 job openings by December 2022, an increase of more than 78 percent that started well before the COVID-19 pandemic (BLS, 2023; Ghosh, 2022). At the same time, unfilled positions in the private sector increased by a little less than 54 percent (from 6.6 million to 10.1 million), meaning that the rise in unfilled positions was 25 percentage points higher for state governments, local governments, and public schools. While the reasons for unfilled public sector jobs are varied within and across states, the main cause is that "surveys of government employees show a high level of dissatisfaction with wages" (Ghosh, 2022).

The data reveals that, in many states, a majority of the workers who would fill these positions would likely become dues-paying union members. *Janus*' impact on government worker earnings is not yet clear, but the Supreme Court's ruling may have made it more difficult to attract and retain qualified workers to fill teaching positions and job vacancies at state and local governments, artificially lowering the overall number of union members in the state and local government workforce. This will be the subject of a forthcoming report by researchers at the Illinois Economic Policy Institute (ILEPI) and the Project for Middle Class Renewal (PMCR) at the University of Illinois at Urbana-Champaign.

Conclusion

So-called "right-to-work" laws are government regulations that prohibit specific language in privately negotiated contracts. They allow workers to forgo union membership but require unions to continue providing services and all the benefits of collective bargaining to those who do not pay their fair share. This reduces the resources that unions have available to advocate for workers and organize new members, weakening worker bargaining power.

The data are clear that "right-to-work" laws lower worker earnings and union membership rates. Regardless of research approach, "right-to-work" laws are found to reduce hourly wages by between 1 and 4 percent on average. This adds to a growing economic consensus that has concluded that "right-to-work" decreases worker earnings by up to 4 percent but has had slightly smaller impacts for the states that recently enacted the policies (Manzo & Bruno, 2021; VanHeuvelen, 2020; Gould & Kimball, 2015; Shierholz & Gould, 2011; Stevans, 2009; Chava, Danis, & Hsu, 2020; Fortin, Lemieux, & Lloyd, 2022; Wexler, 2022; Manzo & Bruno, 2017). "Right-to-work" laws also tend to reduce union membership rates by 2 percentage points—which aligns with other recent estimates (Fortin, Lemieux, & Lloyd, 2022). The effect of "right-to-work" laws on labor force participation rates is less certain, with different approaches showing little-to-no effect. However, it is worth noting that the overall labor force participation rate is *lower* in "right-to-work" states than in states that protect workers' rights and that "right-to-work" conditions have made it more difficult to attract and retain qualified workers to fill teaching positions and job vacancies at state and local governments in the wake of *the Janus v. American Federation of State, County, and Municipal Employees, Council 31, et al.* Supreme Court decision.

The results of this study have implications for states across the country. Michigan will likely experience faster worker earnings growth and an increase in unionization after its repeal of "right-to-work" becomes effective in late March 2024. Similarly, if a bipartisan majority in Congress were to pass to Protecting the Right to Organize (PRO) Act, workers in 26 other states would see higher earnings and an expansion in union membership with little to no impact on labor force participation. The Workers' Rights Amendment, which guarantees the fundamental right of workers to unionize and bargain collectively, will likely prevent a precipitous decline in unionization and promote high wages in Illinois. With public approval of labor unions remaining at a six-decade high, other states may consider looking to Michigan's example in repealing "right-to-work" or Illinois' example in codifying workers' rights into its state constitution as ways to boost worker earnings and promote middle-class jobs.

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Statistical Appendix

An accompanying Statistical Appendix with regression results is available here. Suggested citation:

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