



THE STATE OF THE UNIONS 2017

A Profile of Unionization in Wisconsin and in the United States

September 4, 2017

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Research Report

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EXECUTIVE SUMMARY

Since 2007, unionization has declined in Wisconsin and in the United States. There are about 157,000 fewer union members in Wisconsin today than there were in 2007, accounting for 14.3 percent of the 1.1 million-member drop in union workers across the nation over that time. Consequently, the total number of labor unions and similar labor organizations has dropped over the past 10 years. More than 155 labor unions and similar organizations have closed or merged in Wisconsin over 10 years. There are 2,247 fewer individuals working for labor unions and similar organizations in Wisconsin today than there were in 2006.

While slowing, union membership in Wisconsin has continued to decrease. As of 2016, union membership has fallen to 8.1 percent, a 0.2 percentage-point drop since last year. The state now has a unionization rate that is 2.6 percentage points lower than the national average.

As of 2016, the overall union membership rate is 8.1 percent in Wisconsin:

- Men are more likely to be unionized (10.5 percent) than women (5.7 percent);
- Veterans are among the most unionized socioeconomic groups in Wisconsin (8.4 percent);
- By educational attainment, the most unionized workers in Wisconsin hold Master's degrees (15.2 percent) and associate's degrees (10.9 percent);
- Public sector unionization (22.7 percent) is four times as high in Wisconsin as private sector unionization (5.5 percent).

Union membership is influenced by a number of factors. Workers in construction, transportation and warehousing, and public administration are all more likely to be union members. Native-born and naturalized citizens are also statistically more likely to be union members than their non-citizen counterparts. On the other hand, workers employed in management, business, financial, sales, office support, service, and professional occupations are all less likely to be unionized than their counterparts in production jobs.

Labor unions increase individual incomes by lifting hourly wages. In Wisconsin, unions raise worker wages by an average of 11.0 percent. The state's union wage effect is the 12th-highest in the nation. The union wage differential is greatest for the lowest 10 to 25 percent of workers, ranging from a 12.1 percent to a 12.2 percent increase in worker earnings. Unions therefore foster a middle-class lifestyle in Wisconsin and play a vital role in Wisconsin's economy and communities.

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INTRODUCTION

Organized labor has been the country's principal institution in fostering a middle-class society that protects the dignity of all work. Workers that have organized into unions have advocated for better pay and fringe benefits, worked to improve health and safety conditions in U.S. workplaces, and provided workers with a voice in the direction of the economy and in the creation of public policy. Over the long run, the labor movement has contributed substantially to U.S. families and communities.

An annual assessment of the institutional footprint of organized labor in Wisconsin and the United States requires an acknowledgment that over the past six years there have been dramatic changes to laws governing collective bargaining and worker organizing rights in many states. For example, since 2010 there have been 16 states that have passed laws restricting public employees' collective bargaining rights (Lafer, 2013; Bruno, 2015). The most recent law passed in Iowa mirrors the damaging prohibitions enacted in Wisconsin in 2011 (Murphy, 2017). Another 19 states introduced "right-to-work" (RTW) bills and six states (Indiana, Michigan, Wisconsin, West Virginia, Kentucky and Missouri) have recently passed RTW laws (Manzo & Bruno, 2017). This brings the total number of states which have enacted prohibitions to union security clauses allowed by section 14(b) of the Taft-Hartley Act to 28. In states where Democrats hold one or more of the branches of government - such as in Illinois, Minnesota, California, and New York - unions have not faced these challenges.

The nature of a state's political environment directly corresponds to such changes in the law. Where Republican governors and legislators are in power, organized labor has faced substantial political opposition. In 2010, Republican Scott Walker was elected governor of Wisconsin and the GOP won control of both legislative chambers. In February 2011, Governor Walker implemented his "Budget Repair Bill," Wisconsin Act 10, which revised the state's public sector collective bargaining laws and triggered weeks of demonstrations and rallies by hundreds of thousands of Wisconsinites. Upon passage, the bill curtailed the rights of thousands of public sector workers, cutting pay and benefits for more than four hundred thousand public employees (Taylor, 2015).

The continuing legislative initiatives against unions in Wisconsin from 2011 to present have been connected to a more general effort against organized labor (Taylor, 2015). Governor Walker signed 2015 Wisconsin Act 1 on March 9, 2015. This "right-to-work" (RTW) law bars labor unions from including "union security" or "fair share" clauses in collective bargaining agreements with employers and made Wisconsin the 25th state to pass such a law. Prior to 2011, 14.2 percent of Wisconsin's workforce belonged to a union. By 2016, that figure had dropped to 8.1 percent, significantly below the national average for the first time in decades (Caldwell, 2017).

Union membership can fluctuate for many reasons, including economic restructuring, technological advancements, foreign trade deals, corporate domestic insourcing, employer opposition, and the level of new labor organizing. Undeniably, however, union membership has also been negatively impacted by state-level policies designed to weaken union rights and collective bargaining. While this report does not chronicle or assign responsibility for shifts in unionized employment, readers should examine the findings with an awareness of the relationship between political power and union membership.

This report, conducted by researchers at the Midwest Economic Policy Institute, the School for Workers at the University of Wisconsin-Extension, and the Project for Middle Class Renewal at the University of Illinois at Urbana-Champaign, is the second annual report analyzing the course of unionization in Wisconsin and in the United States. The report is modeled off of *The State of the Unions 2016: A Profile of Unionization in Chicago, in Illinois, and in America* (Manzo et al., 2016). That study is itself a replication of both *The State of the Unions 2016: A Profile of Organized Labor in New York City, New York State, and the United States* by the Joseph S. Murphy Institute for Worker Education and Labor Studies at the City University of New York Graduate Center (Milkman & Luce, 2016) and *From '15 to \$15: The State of the Unions in*

California and its Key Cities in 2015 by the Institute for Research on Labor and Employment at the University of California, Los Angeles (Adler et al., 2015).

This version for Wisconsin tracks unionization rates and investigates union membership across demographic, educational, sectoral, industry, and occupational classifications. The study subsequently evaluates the impact that labor union membership has on a worker's hourly wage in Wisconsin and in the United States. Additionally, data on labor unions and similar labor organizations are included and analyzed. The report concludes by recapping key findings.

DATA AND LIMITATIONS

This Research Report exclusively utilizes from the *Current Population Survey Outgoing Rotation Groups* (CPS-ORG). The CPS-ORG is collected, analyzed, and released by the U.S. Department of Labor Bureau of Labor Statistics (BLS). CPS-ORG data reports individual-level information on 25,000 respondents nationwide each month. The records include data on wages, unionization, hours worked, sector, industry, and occupation, as well as other demographic, geographic, education, and work variables. The data was extracted from the user-friendly Center for Economic and Policy Research Uniform Data Extracts (CEPR, 2017).

The 10-year dataset from 2007 to 2016 captures information on 3,174,846 individuals aged 16 to 85 in the United States. These observations include 1,897,393 persons with a job, of whom 195,476 reported that they were union members. Survey responses include information from 37,474 employed individuals in Wisconsin since 2007. In 2016, respondents with at least one job totaled 2,819 in Wisconsin and 185,630 nationwide.

Analytic weights are provided by the Department of Labor to match the sample to the actual U.S. population 16 years of age or greater. These weights adjust the influence of an individual respondent's answers on a particular outcome to compensate for demographic groups that are either underrepresented or overrepresented compared to the total population. The weights are applied throughout the analysis.

There are limitations to the CPS-ORG dataset. First, the data reports a worker's state of residence rather than state of employment, so the results may be biased by workers who live in one state but work in another (e.g., living in Illinois but working in Wisconsin) and vice-versa. CPS-ORG data is also based on household survey responses, so the potential exists for respondents to be untruthful. Certain individuals such as undocumented workers may also be underreported if they are more difficult to reach by survey officials. Finally, every surveyed worker does not reply to the union membership question. For example, in 2016, union membership data was only available for 2,533 of the 2,819 surveyed workers (89.9 percent) in Wisconsin. While this does not impact unionization *rates*, estimates are underreported for both total union workers and total nonunion employees.

In addition, economic data from the *County Business Patterns* (CBP) series from the U.S. Census Bureau is also used (Census, 2017). The CBP provides annual statistics for businesses with paid employees that are used to study economic activity and market trends. The data are published between 18 months and 24 months after the reference year, so there is a longer time lag compared to the release of CPS-ORG information.

UNIONIZATION RATES AND TRENDS

Since 2007, unionization has declined significantly in Wisconsin and the United States (Figure 1). The total union membership rate was 14.3 percent in Wisconsin and 12.1 percent nationwide in 2007. Ten years later, both rates have fallen, to 8.1 percent in Wisconsin and 10.7 percent nationwide. The decline in Wisconsin’s unionization rate has translated into a decrease of about 157,000 union members in Wisconsin since 2007, accounting for 14.3 percent of the total 1.1 million-member national decline in union workers over that time (Figure 2).

Despite the long-term downward trends, unionization rates and total membership were higher than the national average from 2007 to 2011 and then again from 2013 to 2014 (Figure 1). The 10-year combined Wisconsin unionization rate was 12.4 percent, about 0.8 percentage point higher than the 11.6 percent national rate. On a year-by-year basis, Wisconsin’s union membership rate ranged from 0.6 to 2.9 percentage points higher than the national average for most of the time from 2007 to 2014. However, by 2015 the state’s unionization rate had dropped to 8.3 percent, 2.8 percentage points below the national average. In 2016, unionization continued to decline in Wisconsin, and the state’s unionization rate is now 2.6 percentage points below the U.S. average (Figure 2).

FIGURE 1: UNIONIZATION RATES AND TOTAL UNION MEMBERSHIP, 2007-2016

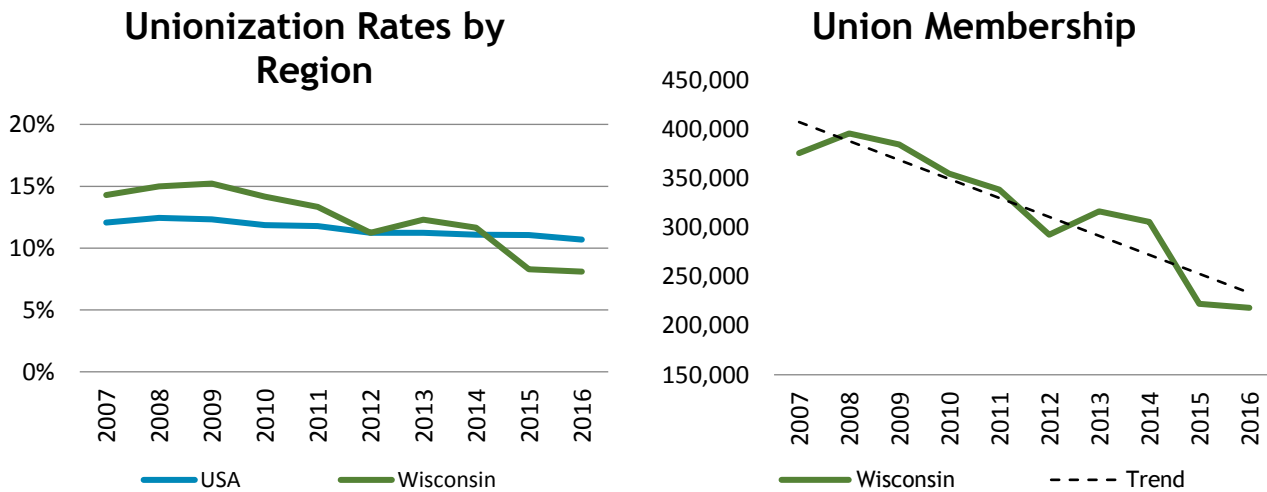


FIGURE 2: TOTAL UNION MEMBERS AND OVERALL UNIONIZATION RATES, 2007-2016

Year	Wisconsin		USA	
	Members	Rate	Members	Rate
2007	375,724	14.28%	15,670,352	12.08%
2008	395,893	14.98%	16,097,535	12.44%
2009	384,698	15.22%	15,327,280	12.31%
2010	354,883	14.15%	14,715,061	11.86%
2011	338,656	13.34%	14,754,673	11.78%
2012	292,802	11.23%	14,349,358	11.25%
2013	316,596	12.31%	14,515,755	11.24%
2014	305,611	11.64%	14,569,936	11.08%
2015	222,118	8.28%	14,786,281	11.05%
2016	218,233	8.10%	14,549,640	10.69%
Average	320,521	12.35%	14,933,587	11.58%

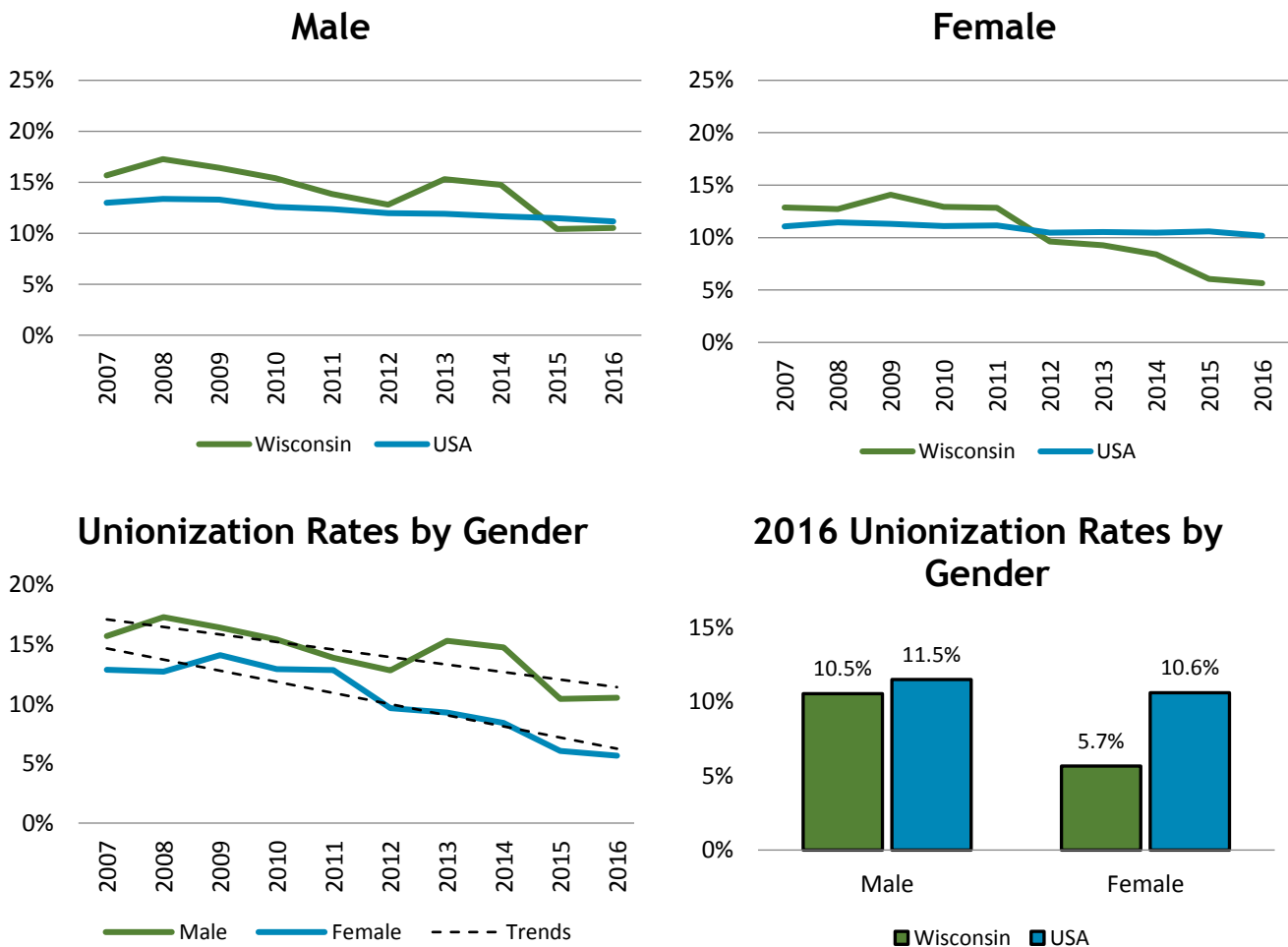
UNIONIZATION BY DEMOGRAPHICS

Falling rates of unionization have reflected steep declines in union membership among both men and women (Figure 3). An estimated 15.7 percent of employed men were unionized in 2007, but by 2016 the male unionization rate in Wisconsin fell to 10.5 percent. Since 2007, male union density has dropped by 5.2 percentage points in Wisconsin vs. a 1.8 percentage points decline in the United States.

The female union membership rate has fallen even more (Figure 3). Female unionization in Wisconsin has more than halved compared to 10 years ago. As of 2016, the female unionization rate is just 5.7 percent in Wisconsin and 10.2 percent nationwide. Since 2007, female union membership has decreased by 7.2 percentage points in Wisconsin and by 0.9 percentage point in the United States.

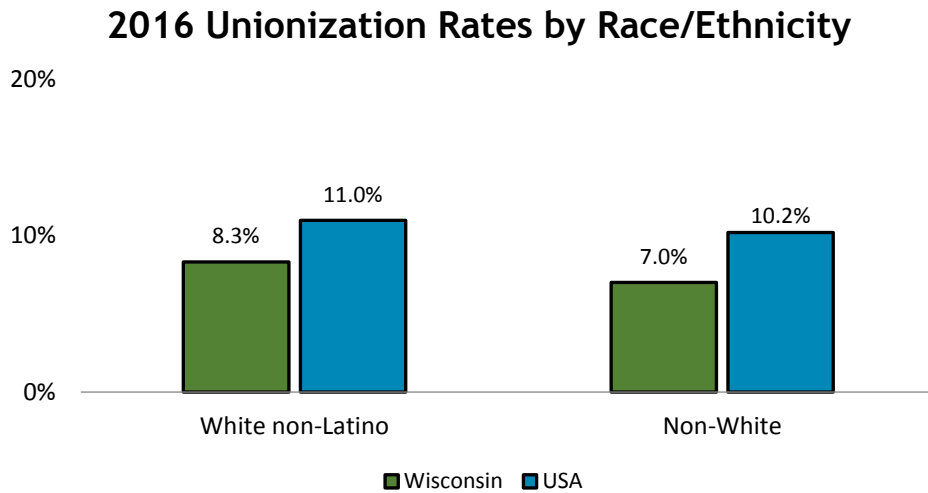
Both male and female unionization in Wisconsin have fallen below the national average in recent years (Figure 3). Female unionization fell below the comparable national average in 2011 and male unionization fell below the comparable national average in 2014.

FIGURE 3: GRAPHS OF UNIONIZATION RATES BY GENDER, 2007-2016



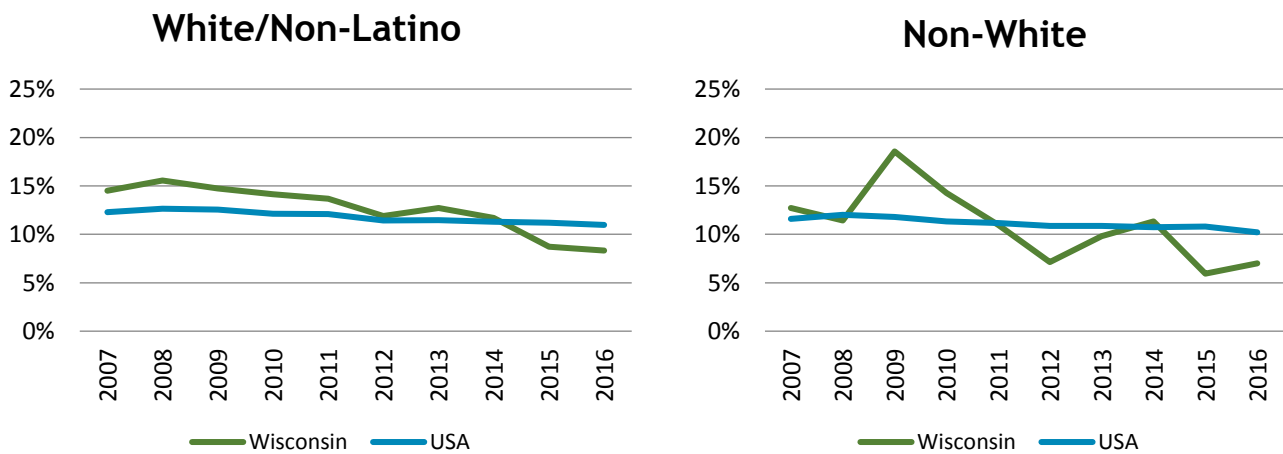
White, non-Latino workers are more likely to be unionized than non-white workers in Wisconsin (Figure 4). In Wisconsin, the unionization rate for white, non-Latino workers is 8.3 percent while the unionization rate for all non-white minorities was 7.0 percent. The unionization rates by race are below the comparable national average of 11.0 percent for white, non-Latino workers and 10.2 percent for all non-white workers.

FIGURE 4: UNIONIZATION RATES BY RACIAL OR ETHNIC IDENTIFICATION, 2016



Over time, union membership has fallen for both white/non-Latino workers and non-white workers (Figure 5). Unionization of white workers has gradually fallen by 6.2 percentage points from 2007 to 2016, with the largest year-over-year drop of 3.0 percentage points occurring from 2014 to 2015. In 2009, 18.6 percent non-white workers were unionized. However, that number has declined to just 7.0 percent in 2016. The unionization rates of white workers and non-white workers in Wisconsin have now fallen below their counterparts across the nation.

FIGURE 5: GRAPHS OF UNIONIZATION RATES BY RACIAL OR ETHNIC IDENTIFICATION, 2007-2016



The union membership rate is between 8 percent and 11 percent for all workers aged 25 to 64 in Wisconsin (Figure 6). Workers aged 25 to 34 are unionized at 8.9 percent in Wisconsin and 9.2 percent in the United States making this demographic closest to the equivalent national average. Nevertheless, workers of all age cohorts are less likely to be unionized in Wisconsin than the nation as a whole.

Workers aged 55 to 64 are the most unionized age cohort in Wisconsin, at 10.4 percent. For young workers aged 16-24, unionization rates are less than 5 percent for Wisconsin and the nation. For older workers aged 65 and older, only 4 percent are unionized in Wisconsin compared to the 9.5 percent national average. Overall, the average age of union workers is about 44 years old and the average age of nonunion workers is about 41 years old (Figure 7).

FIGURE 6: UNIONIZATION RATES BY AGE GROUP, 2016

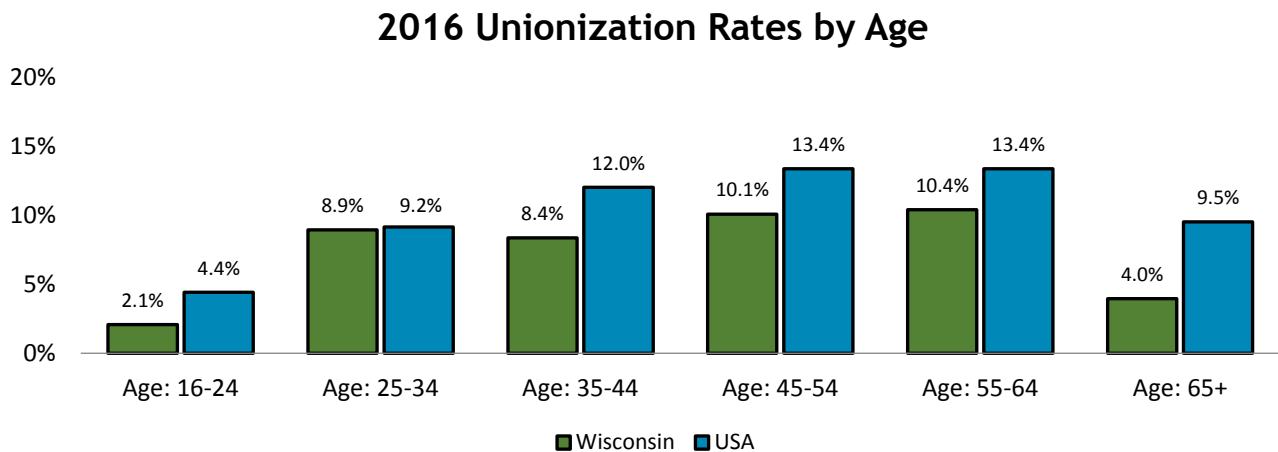


FIGURE 7: AVERAGE AGE OF UNION AND NONUNION WORKERS, 2016

2016 Variable	Age (Years)	
	Nonunion	Union
Wisconsin	41.02	44.16
USA	40.95	44.38

Union membership varies across other demographic classifications as well (Figure 8). Among the most unionized socioeconomic groups are military veterans and married workers. About one-in-11 employed veterans are unionized in Wisconsin (8.7 percent). For the United States, approximately 14.6 percent of employed veterans are members of unions. The unionization rate for married workers, foreign-born workers, native-born workers, and veteran workers are lower in Wisconsin than the national average.

FIGURE 8: UNIONIZATION RATES OF SELECT DEMOGRAPHIC VARIABLES, 2016

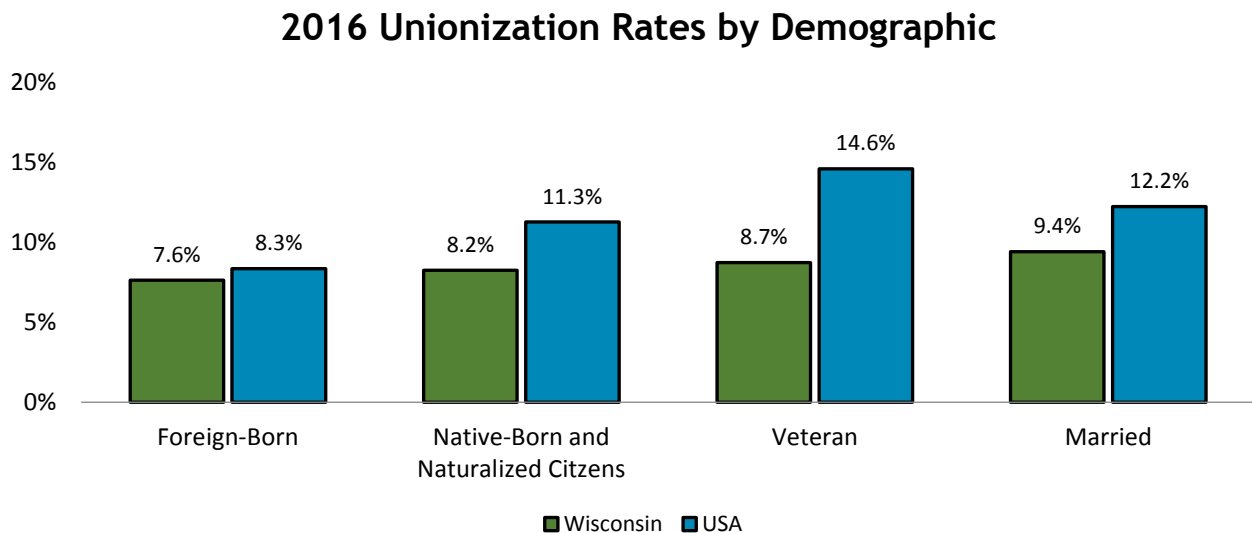
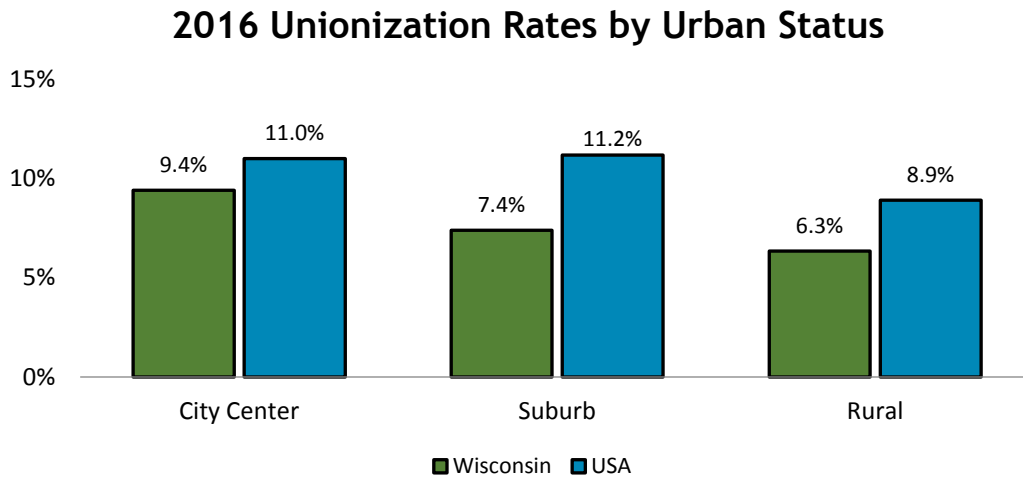


Figure 9 reveals that unionization is relatively weak in rural Wisconsin. Only 6.3 percent of workers who reside in rural Wisconsin are members of a union or labor organization. As of 2016, 7.4 percent of workers who reside in suburban Wisconsin are union members and 9.4 percent of workers who reside in the city centers of Wisconsin are union members. Again, the national averages for all urban status groups are higher than Wisconsin.

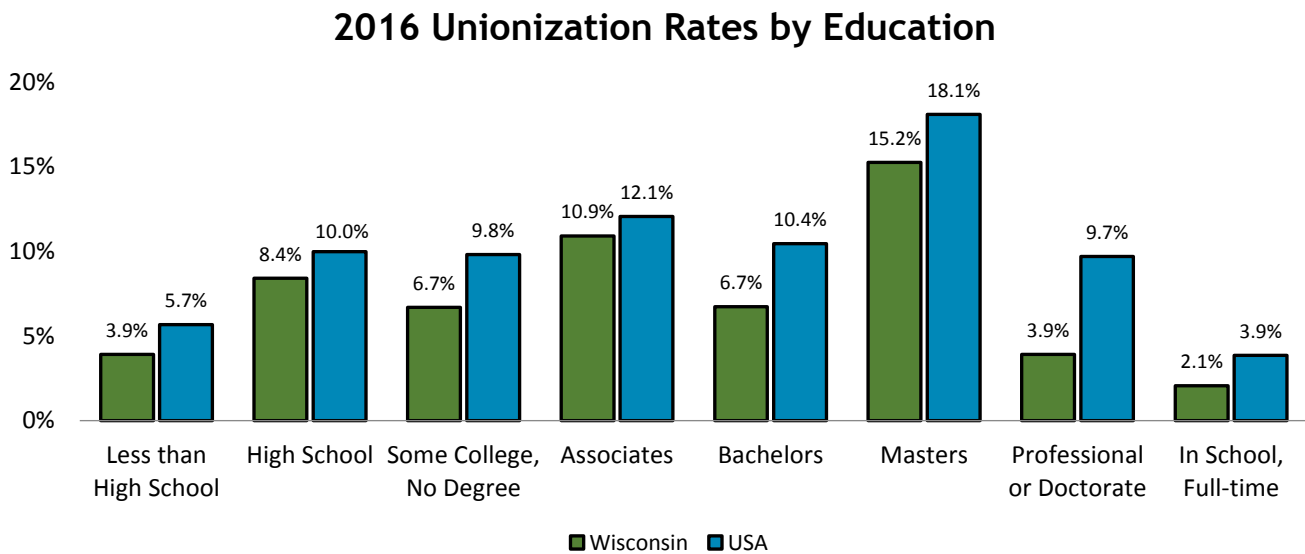
FIGURE 9: UNIONIZATION RATES BY URBAN STATUS, 2016



UNIONIZATION BY EDUCATION

Workers with master’s degrees are the most unionized educational group in the United States (Figure 10). At 15.2 percent, unionization among master’s degree holders in Wisconsin is significantly higher than the rates of all other educational attainment groups studied. In Wisconsin and the United States, the second-most unionized employees by educational attainment are those with an associate’s degree. Those without high school degrees, those currently enrolled as full-time students, and those with some college but no degree comprise the three least unionized educational groups in Wisconsin and the US. Unionization across all educational attainment levels in Wisconsin falls short of the national unionization rates.

FIGURE 10: UNIONIZATION RATES BY EDUCATIONAL ATTAINMENT OR STATUS, 2016



Over the past six years, unionization rates have decreased for nearly all educational groups (Figure 11). To ensure statistical significance, Figure 11 compares the three-year averages of union membership rates of educational attainment groups in Wisconsin for 2011-2013 and 2014-2016. Across the seven educational classifications, the union membership rate has increased in only one case: Workers with a professional or doctorate degree (0.8 percentage point). The largest declines in unionization were for individuals with the lowest levels of educational attainment; workers with a high school degree experienced a 9.2

percentage-point decline and individuals with some college but no degree saw a 3.7 percentage-point reduction in unionization.

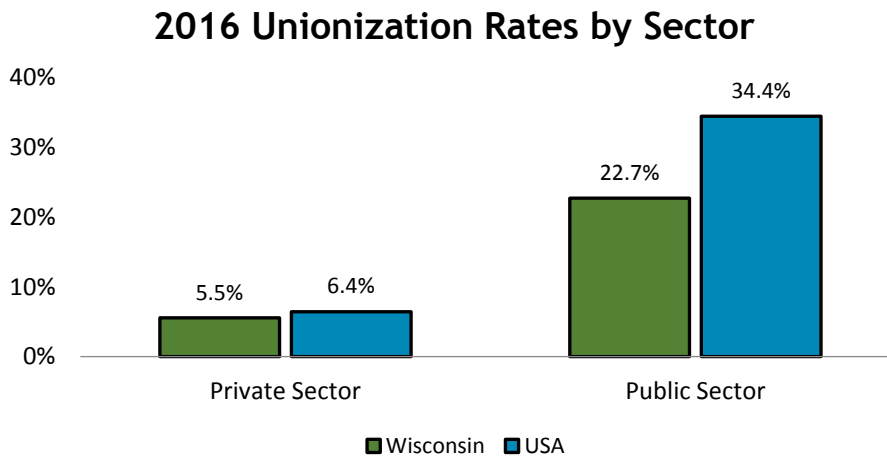
FIGURE 11: CHANGE IN UNIONIZATION RATES BY EDUCATION, THREE-YEAR AVERAGES, 2011-2016

Variable	Wisconsin		
	2011-13	2014-16	Change
Less than High School	6.16%	3.01%	-3.2%
High School	25.75%	16.57%	-9.2%
Some College, No Degree	11.20%	7.50%	-3.7%
Associates	15.48%	11.97%	-3.5%
Bachelors	9.65%	8.14%	-1.5%
Masters	12.51%	9.73%	-2.8%
Professional/Doctorate	5.01%	5.79%	+0.8%

UNIONIZATION BY SECTOR, INDUSTRY, AND OCCUPATION

Unionization rates are significantly higher for public sector workers (Figure 12). About one-in-five public sector workers are unionized in Wisconsin (22.7 percent), as are more than one-third nationwide (34.4 percent). In comparison, close to one-in-20 private sector workers is now a union member in Wisconsin (5.5 percent) and the United States (6.4 percent).

FIGURE 12: UNIONIZATION RATES BY SECTOR OR LEVEL OF GOVERNMENT, 2016



Compared to the national average, Wisconsin had higher public sector unionization from 2007 to 2013 (Figure 13). Public sector unionization in Wisconsin peaked at 53.5 percent in 2009, fluctuated from 2009 to 2011, but has declined rapidly since 2011. In 2016, public sector unionization was just 22.7 percent, 11.7 percent lower than the comparable U.S. rate. Private sector unionization, which had been 0.1 to 2.0 percentage-points higher in Wisconsin than the United States from 2007 to 2014, has dropped below the national rate by 0.9 percentage point as of 2016.

Union membership varies significantly by industry of employment (Figure 14). The top five industries by unionization rates in Wisconsin are construction (26.5 percent); transportation and warehousing (19.6 percent); public administration (17.7 percent); information (11.1 percent); and manufacturing (11.0 percent). The manufacturing workforce, associated historically as a leader in industrial unionization, is more unionized in Wisconsin (11.1 percent) than in the United States (8.9 percent). The least-unionized industries generally are wholesale and retail trade, leisure and hospitality, and financial activities.

FIGURE 13: UNIONIZATION RATES BY SECTOR BY REGION, 2007-2016

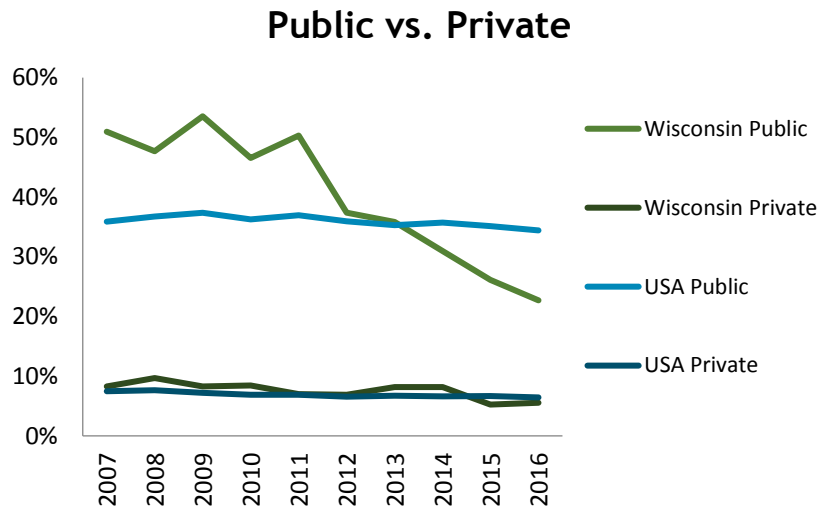
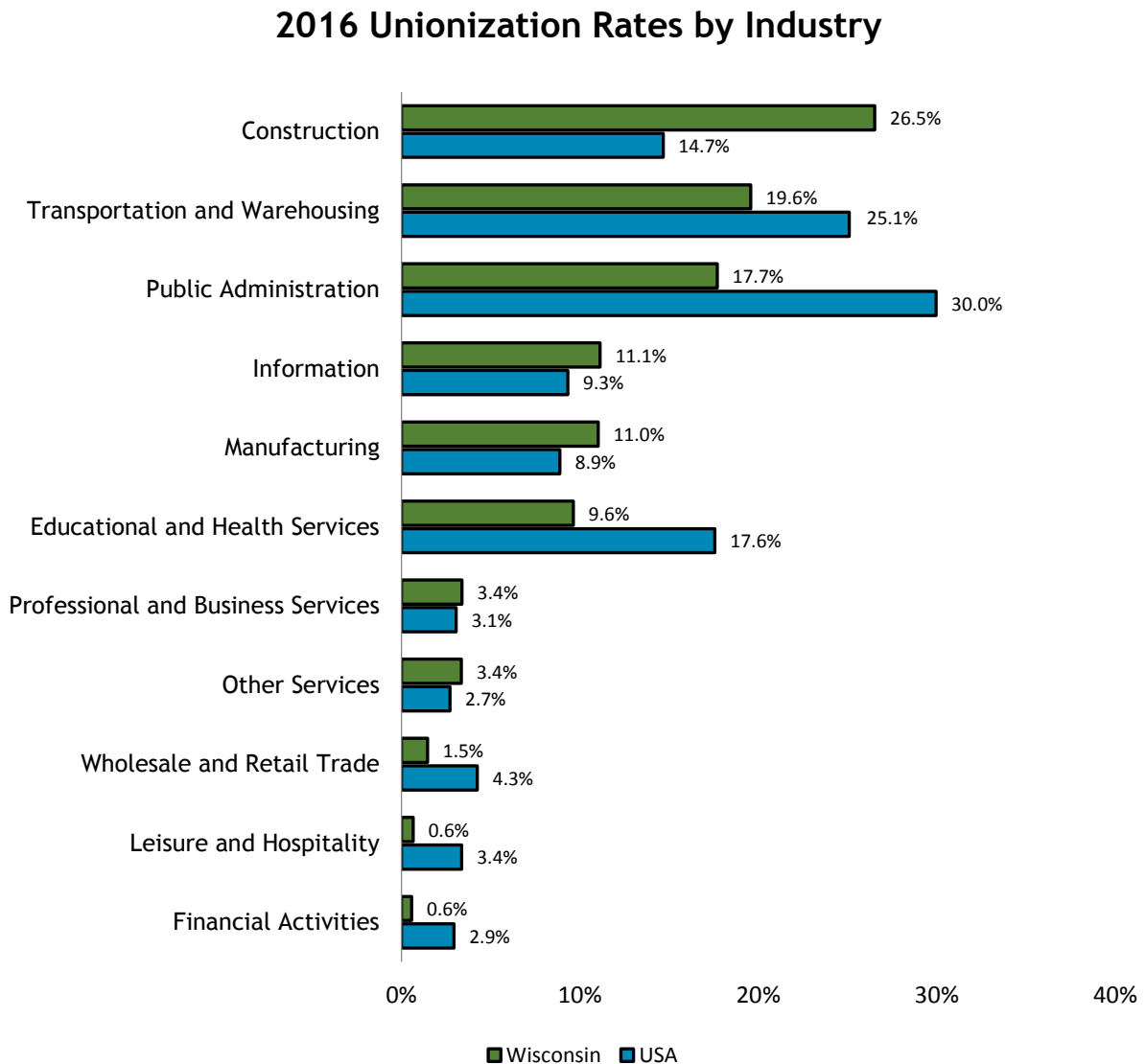


FIGURE 14: UNIONIZATION RATES BY INDUSTRY BY REGION, 2016

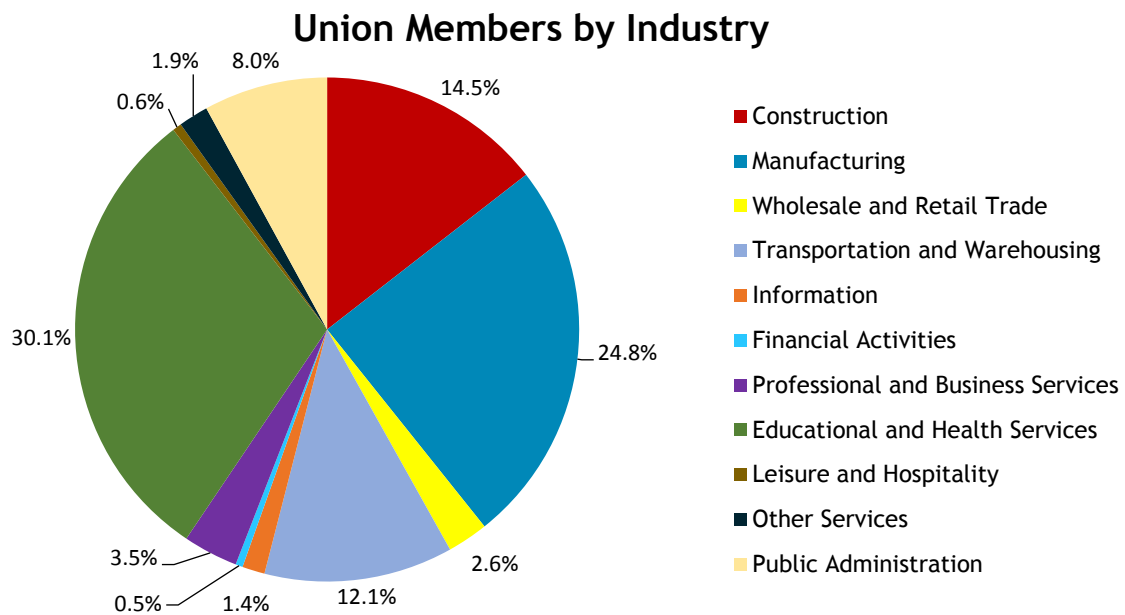


Figures 15 and 16 present industry breakdowns of total union membership in Wisconsin compared to total employment in the state. In Figure 15, industries are organized in descending order by unionization rate and weighted estimates are rounded to the nearest thousand. Note that the estimates include all *occupations* within an industry. The construction industry, for example, includes white-collar workers who typically are not union members, such as lawyers, office support workers, and architects. The top five industries with the most union members in Wisconsin are the combined educational and health services (65,000 members), manufacturing (54,000 members), construction (31,000 members), transportation and warehousing (26,000 members), and public administration (17,000 members) (Figure 15). Together, union members from these five industries account for over 88 percent of all union workers in Wisconsin (Figure 16).

FIGURE 15: WISCONSIN INDUSTRY UNIONIZATION RATES, EMPLOYMENT, AND UNION MEMBERS, 2016

Wisconsin (2016)	Unionization Rate	Total Employment	Total Union Members	Total Sample
Construction	26.52%	118,000	31,000	119
Transportation and Warehousing	19.58%	134,000	26,000	127
Public Administration	17.69%	97,000	17,000	94
Information	11.12%	28,000	3,000	27
Manufacturing	11.02%	487,000	54,000	467
Educational and Health Services	9.63%	677,000	65,000	626
Professional and Business Services	3.40%	224,000	8,000	208
Other Services	3.35%	123,000	4,000	118
Wholesale and Retail Trade	1.46%	388,000	6,000	361
Leisure and Hospitality	0.65%	193,000	1,000	175
Financial Activities	0.56%	177,000	1,000	168

FIGURE 16: COMPOSITION OF WISCONSIN UNION WORKFORCE BY INDUSTRY, 2016



A cautionary note: Grouping the data by industry results in relatively small sample sizes. Thus, the statistics in Figures 16 through 18 are simply *estimates*. Nevertheless, they are informative in that they shed light on the state’s union membership and provide general parameters on the composition of the union workforce.

Lastly, Figure 17 depicts unionization rates by occupation. In Wisconsin, the most unionized occupation groups are construction and extraction occupations such as carpenters and operating engineers (31.1 percent); production occupations such as machinists (15.2 percent), and transportation and material moving occupations such as truck drivers (12.4 percent). Union membership in construction and extraction is 12.7 percentage points higher in Wisconsin than the comparable national average. In production jobs, the unionization rate is also higher in Wisconsin than the national average by 3.4 percentage points. However, every other major occupational group is less unionized in Wisconsin than the rest of the nation.

FIGURE 17: UNIONIZATION RATES BY OCCUPATION, 2016

Occupation (2016)	Wisconsin	USA
<i>Management, Business, & Financial</i>	0.5%	4.6%
<i>Professional & Related</i>	10.2%	16.1%
<i>Service</i>	4.5%	9.6%
<i>Sales & Related</i>	2.1%	3.1%
<i>Office & Administrative Support</i>	6.1%	9.4%
<i>Construction & Extraction</i>	31.1%	18.4%
<i>Installation, Maintenance, & Repair</i>	5.9%	13.3%
<i>Production</i>	15.2%	11.8%
<i>Transportation & Material Moving</i>	12.4%	15.6%

PREDICTING UNION MEMBERSHIP IN WISCONSIN

An advanced analytic model is developed to predict the likelihood that a given worker is a union member in Wisconsin, using data from 2014 through 2016. The model, which is detailed in the Table A of the Appendix, reports how statistically significant variables increase or decrease one's probability of being a union member. The analysis includes data on 7,433 Wisconsin workers, and weights are applied to match the sample to the actual Wisconsin population. Given that Wisconsin averaged about 3.0 million workers over this time, the sample size would yield a normal ± 1.1 percent margin of error in a standard survey report.

Many factors increase the likelihood that an employed person is a union member in Wisconsin (Figure 18). Relative to workers in the private sector, employment in federal government, the largest contributor to an individual's chances of being a union member, raises the probability by 16.0 percentage points on average. Local and state government employment respectively increase the union probability by 15.3 percentage points and 14.0 percentage points. Generally, being a native-born or naturalized U.S. citizen also increases the probability that a given Wisconsin worker is a union member by 6.4 percentage points compared to being a non-citizen. In addition, African-Americans are 4.5 percentage points more likely to be union members in the state.

Many occupation and industry factors contribute negatively to the probability that a worker is in a union. Figure 18 pits occupations against "production" jobs and industries against the "manufacturing" sector. Compared to those in production occupations, workers in the following jobs are all between 5 and 17 percentage points less likely to be union members: professional and related; office and administrative support; sales and related; and management, business, and financial. Similarly, compared to comparable workers in manufacturing, those in the following industries see a 5 to 15 percentage-point decrease in the likelihood of being a union member: public administration; financial activities; other services; wholesale and retail trade; professional and business services; and leisure and hospitality. Finally, workers with a doctorate or professional degree are about 10 percentage points less likely to be union members in Wisconsin (Figure 18).

FIGURE 18: PROBABILITY OF BEING A UNION MEMBER IN WISCONSIN, LARGEST FACTORS, 2014-2016

Probability of Union Membership	Wisconsin Mean
<i>Predictor</i>	<i>Percentage Point Change</i>
Sector: Federal government	15.97%
Sector: Local government	15.28%
Sector: State government	13.93%
Status: Citizen	6.35%
Race: African-American	4.51%
Industry: Educational & health services	-4.37%
Occupation: Professional & related	-5.29%
Industry: Public Administration	-5.35%
Industry: Financial activities	-7.07%
Industry: Other services	-7.36%
Occupation: Office & administrative support	-7.50%
Occupation: Sales & related	-7.53%
Industry: Wholesale and retail trade	-7.73%
Industry: Professional & business services	-8.36%
Education: Professional or doctorate degree	-9.94%
Industry: Leisure & hospitality	-14.48%
Occupation: Management, business, & financial	-16.21%
<i>Constant</i>	8.83%
<i>Observations</i>	7,433

Source: CPS-ORG, Center for Economic and Policy Research Uniform Data Extracts, 2014-2016. Only statistically significant variables with a coefficient over ± 4.0 percent are displayed in the figure. Occupation dummies are relative to "production" occupations and industry dummies are relative to "manufacturing." For more, see the Appendix.

WORKER WAGES

Unionized workers typically earn more than their nonunion counterparts (Figure 19). Figure 19 graphically illustrates the difference between the average union wage and the average nonunion wage in Wisconsin and the United States by both percentage benefit and actual per-hour dollar benefit. The results *do not* control for other factors which may increase a worker's wages (e.g., education, occupation, industry, age, etc.). The raw averages show that, regardless of geography and time, union membership has been positively correlated with increased worker wages. Nationwide, union membership continues to raise worker wages by about \$4.00 per hour, or by about 17 percent. The gap between union and nonunion wages as of 2016 appears to be about the same in Wisconsin as in the United States - about \$4.00 per hour (Figure 20). Unions raise individual incomes by lifting wages per hour.

The data presented in Figure 20 may overstate or understate the union wage effect because union members may be more or less likely to have characteristics associated with higher wages such as age, education, job experience, and geographic location. Regression analyses (OLS and quantile regressions) are utilized to control for these and similar factors in order to isolate the effect of unionization on wages and report them in Figure 21. The national average further controls for an individual respondent's state of residence. Data are for employed persons aged 16 and older from 2014 through 2016 and are based on the natural logarithm of hourly wages to "normalize the data" and analyze the results in percentage terms. For more on the union wage premium regressions, see Table B in the Appendix.

FIGURE 19: UNION WAGE DIFFERENCES BY REGION, PERCENTAGE AND DOLLAR VALUES, 2007-2016

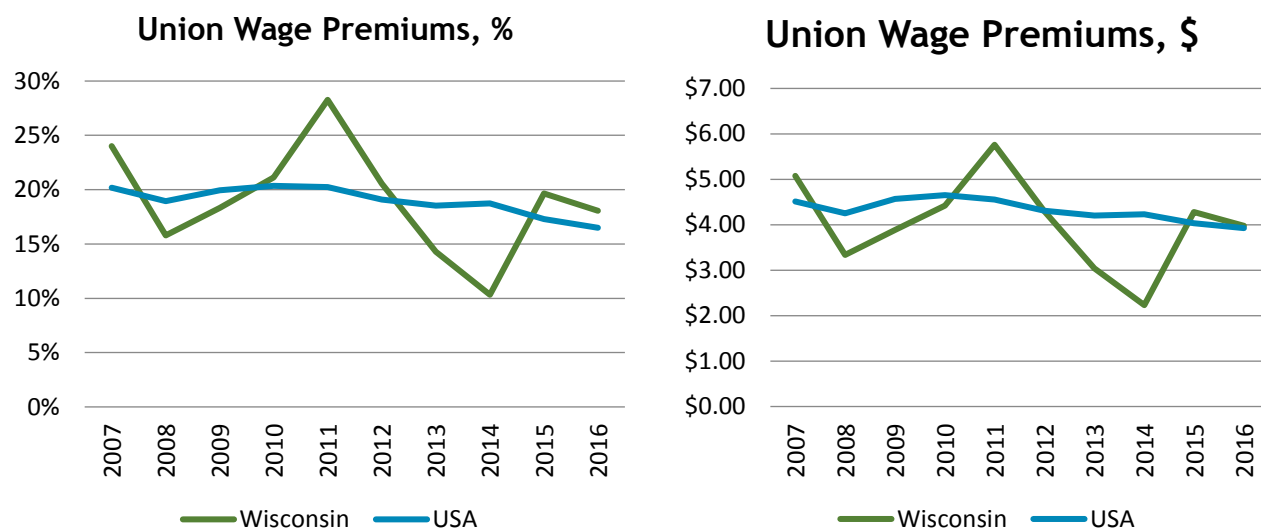


FIGURE 20: WAGES OF UNION AND NONUNION WORKERS IN WISCONSIN AND THE UNITED STATES, 2016

Variable	Wisconsin		USA	
	Nonunion	Union	Nonunion	Union
Wage	\$22.04	\$26.02	\$23.81	\$27.73
Union Difference, %		+18.05%		+16.49%
Union Difference, \$		+\$3.98		+\$3.93

After controlling for education, demographics, and employment factors, the union wage premium is lower but still generally aligns with the differences reported in Figures 19 and 20 (Figure 21). On average, unions are found to increase a worker’s per-hour wage by 10.6 percent in the US. In Wisconsin, the union wage premium is an estimated 11.0 percent on average, holding all else constant (including occupation and industry). Both results are statistically significant at the 1-percent level.

FIGURE 21: REGRESSIONS OF UNION WAGE PREMIUMS FOR THE U.S. AND WISCONSIN, 2014-2016

Union Wage Premium: Ordinary Least Squares (OLS) and Quantile Regressions, 2014-2016						
USA		Wisconsin				
Mean	Mean	Percentile: 10 th	Percentile: 25 th	Median	Percentile: 75 th	Percentile: 90 th
10.58%***	10.99%***	12.17%***	12.15%***	10.25%***	10.32%***	8.54%***
R ² =0.449	R ² =0.482	R ² =0.245	R ² =0.309	R ² =0.338	R ² =0.335	R ² =0.318

Three asterisks (***) indicate significance at the 1-percent level. Two asterisks (**) indicates significance at the 5-percent level. Source: CPS-ORG, Center for Economic and Policy Research Uniform Data Extracts, 2014-2016. Statistics are adjusted by the outgoing rotation group earnings weight to match the total population 16 years of age or older. For more, see the Appendix.

A unique analytical tool, called a quantile regression, permits evaluation of the union wage premium across the wage distribution. While union membership is statistically associated with an 11.0 percent increase in the average Wisconsin worker’s wage, the benefit is actually higher for those in the lower end of the state’s hourly income distribution (Figure 21). In fact, over the past three years, the union wage effects produced raises of between 12.1 percent and 12.2 percent for the bottom 10 to 25 percent of workers. The union wage difference was much smaller for the richest 10 percent of earners (8.5 percent) in Wisconsin. Thus, the data strongly indicate that unionization benefits low-income and middle-class workers most, helping to foster a strong middle class and reducing income inequality.

How does the average Wisconsin union wage premium of 11.0 percent compare to the union effect in other states? Similar 2014-2016 ordinary least squares regression models are run to assess each of the 49 other states plus the District of Columbia against Wisconsin. The results, reported in Figure 22, lead to the conclusion that the Wisconsin union wage premium is the 12th-highest in the nation, slightly higher than the national average. A total of 14 states have union wage premiums that are found to be higher than the national average of 10.6 percent. Importantly, a positive union wage premium exists in every state.

FIGURE 22: UNION WAGE PREMIUMS BY STATE, OLS REGRESSIONS, 2014-2016

Rank	State	Union Premium	Rank	State	Union Premium
	<i>United States</i>	10.58%	26	New York	8.72%
1	South Carolina	18.57%	27	Wyoming	8.59%
2	Nevada	15.30%	28	Oregon	8.54%
3	Indiana	14.85%	29	Maine	8.16%
4	Tennessee	13.89%	30	West Virginia	8.09%
5	Arkansas	13.89%	31	Minnesota	7.97%
6	California	13.32%	32	Illinois	7.97%
7	Idaho	13.21%	33	Kentucky	7.79%
8	Louisiana	12.65%	34	Washington	7.62%
9	Pennsylvania	11.98%	35	Alabama	7.62%
10	New Jersey	11.56%	36	Oklahoma	7.44%
11	Kansas	11.16%	37	Massachusetts	7.22%
12	Wisconsin	10.99%	38	North Dakota	7.05%
13	Missouri	10.76%	39	Alaska	7.03%
14	Montana	10.65%	40	District of Columbia	6.96%
15	Rhode Island	10.46%	41	Texas	6.52%
16	Maryland	10.21%	42	North Carolina	5.48%
17	South Dakota	10.14%	43	Vermont	5.27%
18	Ohio	9.93%	44	New Hampshire	5.17%
19	Hawaii	9.88%	45	Florida	5.00%
20	Nebraska	9.82%	46	Connecticut	4.82%
21	Georgia	9.48%	47	Utah	4.72%
22	Arizona	9.42%	48	New Mexico	4.53%
23	Michigan	9.09%	49	Colorado	4.09%
24	Mississippi	8.95%	50	Iowa	3.32%
25	Delaware	8.74%	51	Virginia	2.32%

All estimates are significant at least at the 5-percent level. Source: CPS-ORG, Center for Economic and Policy Research Uniform Data Extracts, 2014-2016. Statistics are adjusted by the outgoing rotation group earnings weight to match the total population 16 years of age or older. For more, see the Appendix.

The decline in union membership from 2014 to 2016 has also coincided with a rise in wage inequality in Wisconsin (Figure 23). Average wages increased by only 2.0 percent in Wisconsin from 2014 to 2016, significantly lower than 5.2 percent wage growth in the rest of the United States. The wage of the median worker only marginally increased by 0.5 percent in Wisconsin, from \$18.20 to \$18.30 in Wisconsin. Meanwhile, across the rest of the US, median wages increased by 4.3 percent. While middle-class workers in Wisconsin fell behind their counterparts in the rest of the nation, the top 1 percent in Wisconsin saw their hourly earnings rise by 11.5 percent from 2014 to 2016. Accordingly, the ratio between the hourly earnings of the top 1 percent and those of the median worker has grown by 10.9 percent in Wisconsin. This rise in income inequality exceeded the comparable increase in the rest of the country (2.0 percent).

FIGURE 23: REAL WAGES AND WAGE INEQUALITY, WISCONSIN VS. THE REST OF THE USA, 2014-2016

Real Hourly Wage Variable	Wisconsin			Rest of the USA		
	2014	2016	Growth	2014	2016	Growth
<i>Average Wage</i>	\$21.87	\$22.37	2.0%	\$23.07	\$24.26	5.2%
<i>Median Wage</i>	\$18.20	\$18.30	0.5%	\$17.79	\$18.55	4.3%
<i>Top 1 Percent Hourly Earnings</i>	\$81.02	\$90.31	11.5%	\$95.78	\$101.85	6.3%
<i>Top 1 Percent to Median Inequality Ratio</i>	4.45	4.93	10.9%	5.38	5.49	2.0%

RECENT DATA ON LABOR UNION ESTABLISHMENTS

As a result of the decline in union membership, the total number of labor unions and similar labor organizations has declined over the past 10 years. Figure 24 presents *County Business Patterns* data on the number of establishments and paid employees in these organizations. An establishment is a single physical location where business is conducted or where services or operations are performed. Establishments include all the union halls, employees' associations, worker centers, and similar offices of local or national labor unions, collective-bargaining units, and similar organizations.

FIGURE 24: UNIONS AND SIMILAR ORGANIZATIONS, ESTABLISHMENTS AND EMPLOYMENT, 2006-2015

Wisconsin	NAICS Code: 81393 - Labor Unions and Similar Labor Organizations	
Year	Establishments	Paid Employees
2006	666	7,412
2007	688	6,775
2008	669	6,989
2009	657	6,927
2010	642	6,707
2011	627	6,417
2012	598	5,927
2013	551	5,467
2014	532	5,160
2015	511	5,165
2006-2015 Change	-155	-2,247

The total number of establishments in 2015, the latest year for which data are available, was 511. This is down considerably from the 666 establishments of labor unions and similar labor organizations in Wisconsin in 2006. Over the past 10 years, there has been a 155 establishment decline (-23.3 percent) in labor unions and similar labor organizations in Wisconsin.

In the private sector, reductions in the number of labor organizations are likely due to continued plant closures and deindustrialization, as well as local union mergers; in the public sector, the decline is a result of the closure or merger of local unions resulting from the continued effects of Act 10.

Consequently, the number of paid employees working directly for labor unions and similar labor organizations in Wisconsin has fallen from 7,412 workers in 2006 to 5,165 workers in 2015 (-30.3 percent). There are thus 2,247 fewer individuals working for labor unions and similar organizations today than there were in 2006. As unionization has decreased, revenue from membership dues has declined, resulting in these nonprofit organizations closing down and laying off their workers (Figure 24).

NEW IN 2017: COLLECTIVE-BARGAINING STATES VS. “RIGHT-TO-WORK” STATES

The movement to implement “right-to-work” (RTW) legislation has accelerated over recent years. From 2007 to 2016, Indiana, Michigan, Wisconsin, and West Virginia passed RTW laws. Missouri and Kentucky followed in 2017, making a total of 28 states that have passed RTW laws.

A RTW law is a government regulation which prohibits union security clauses in collective bargaining agreements. Union security clauses are typically included to ensure that each member from a collective bargaining unit pays dues or fees for the services provided. RTW laws make the mandatory payment of dues or fees illegal, allowing workers in any bargaining unit to “free ride” on the efforts and contributions of others. Consequently, workers can benefit from higher wages, better health and retirement benefits, legal and grievance representation, and other perks earned by the union without paying anything for the services provided (Manzo & Bruno, 2015).

Conversely, in a fair-share collective bargaining (CB) state, employers and labor unions are free to negotiate a range of union security clauses. They may, but are not mandated to, agree to a union security clause that requires all persons covered by the contract to pay dues or fees to cover the cost of bargaining activities. In these states, covered employees are only required to pay for bargaining costs and are not forced to finance political or other non-bargaining activities (Manzo & Bruno, 2015).

One of the main policy changes contributing to the decline of U.S. unionization rates is the implementation of RTW legislation (Figure 25). From 2015 to 2016, union membership in RTW states declined by over 293,000 members. Wisconsin contributed to the decline in union membership for RTW states, with a decline of roughly 4,000 union members from 2015 to 2016. The decline can be attributed to a number of factors, including the continued loss of jobs in highly-unionized sectors, the ongoing public sector union membership losses resulting from Act 10, and the implementation of RTW. However, the only unions affected by RTW during 2016 were private sector collective bargaining units whose contracts expired or opened for renegotiation since enactment of 2015 Wisconsin Act 1. Thus the full impact of RTW has only begun to be felt.

In CB states, overall union membership increased by over 56,000 workers. At the state-level, union membership declined in 20 out of 26 RTW states (76.9 percent) but in only 9 out of 25 CB states (36.0 percent), which includes the District of Columbia, over the year.

FIGURE 25: CHANGE IN UNION MEMBERSHIP, WISCONSIN VS. CB STATES VS. RTW STATES, 2015-2016

Union Members	2015	2016	Change
Wisconsin	222,118	218,233	-3,885
Other Right-to-Work States	3,997,134	3,708,005	-289,129
All Collective-Bargaining States	9,720,044	9,810,999	+56,368
United States	14,786,281	14,549,634	-236,647

CONCLUSIONS

Since 2007, unionization has declined in Wisconsin and the United States. There are more than 157,000 fewer union members in Wisconsin today than there were in 2007, accounting for 14.3 percent of the 1.1 million-member drop in union workers across the nation over that time. Consequently, total number of labor unions and similar labor organizations has dropped over the past 10 years. More than 155 labor unions and similar organizations have closed down in Wisconsin over 10 years.

Declining union membership in Wisconsin can be attributed to a number of factors, including the continued loss of jobs in highly-unionized sectors, the ongoing public sector union membership losses resulting from

Act 10, and the implementation of RTW. However, the only unions affected by RTW during 2016 were private sector collective bargaining units whose contracts expired or opened for renegotiation since enactment of 2015 Wisconsin Act 1. Thus the full impact of RTW has only begun to be felt. The state now has a unionization rate that is 2.6 percentage points lower than the national average.

As of 2016, the overall union membership rate is 8.1 percent in Wisconsin. Men are much more likely to be unionized (10.5 percent) than women (5.7 percent). Veterans are among the most unionized socioeconomic groups in the state (8.4 percent). By educational attainment, the most unionized workers hold Master's degrees (15.2 percent) and associate's degrees (10.9 percent). Finally, public sector unionization (22.7 percent) is four times as high in Wisconsin as private sector unionization (5.5 percent).

Union membership is influenced by a number of factors. Employment in construction, transportation and warehousing, and public administration all raise the chances that a given worker is a union member. Native-born and naturalized citizens are also statistically more likely to be union members than their non-citizen counterparts. On the other hand, workers employed in management, business, financial, sales, office support, service, and professional occupations are all less likely to be unionized than their counterparts in production jobs.

Labor unions increase individual incomes by lifting hourly wages. In Wisconsin, unions raise worker wages by an average of 11.0 percent. The state's union wage effect is the 12th-highest in the nation. The union wage differential is greatest for the lowest 10 to 25 percent of workers, ranging from a 12.1 percent to a 12.2 percent increase in worker earnings. Unions therefore foster a middle-class lifestyle in Wisconsin.

The state's passage of a RTW law has coincided with a rise in wage inequality in Wisconsin. While average wages have increased in Wisconsin by 2.0 percent since 2014, they rose by 5.2 percent in the rest of the United States. Median worker wages marginally increased by 0.5 percent in Wisconsin compared to 4.3 percent in the rest of the nation. Additionally, wage inequality between the top 1 percent of earners and the median worker has grown by 10.9 percent in Wisconsin.

Unions play a vital role in Wisconsin's economy and communities. Despite the decline in union density in Wisconsin, wages of unionized workers remain 11 percent higher on average than non-union workers. The state's union wage effect is the 12th-highest in the nation. Unions continue to play a large role in building and promoting a middle-class in Wisconsin.

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APPENDIX

TABLE A: PROBIT REGRESSION ON PROBABILITY OF UNION MEMBERSHIP, AVERAGE MARGINAL EFFECTS, WISCONSIN WORKERS, 2014-2016

Prob(Union Member)	Wisconsin	
	Coefficient	(St. Err.)
Age	0.0072***	(0.0001)
Age ²	-0.0001***	(0.0000)
Female	-0.0152***	(0.0004)
Citizen	0.0635***	(0.0015)
White, non-Latino	0.0347***	(0.0010)
African-American	0.0451***	(0.0012)
Latino or Latina	0.0345***	(0.0013)
Center City	0.0032***	(0.0004)
Suburb	-0.0182***	(0.0005)
Federal government	0.1597***	(0.0011)
State government	0.1393***	(0.0007)
Local government	0.1528***	(0.0006)
Usual hours worked	0.0011***	(0.0000)
Less than high school	0.0144***	(0.0008)
Some college, no degree	0.0134***	(0.0005)
Associate's	0.0096***	(0.0006)
Bachelor's	0.0039***	(0.0006)
Master's	0.0382***	(0.0007)
Professional/Doctorate	-0.0994***	(0.0019)
Industry/Occupation Dummies	Y	
Constant	0.0883***	(0.0002)
R ²	0.2432	
Observations	7,433	

A probit regression model allows for analysis of the probability of a “binary” yes-or-no variable occurring. In this case, the model reports the (positive or negative) direction of the effect that a factor has on the probability of being a union member and whether the output is statistically significant. To determine the magnitude of statistically significant factors, average marginal effects (AMEs) are generated and reported using the *dydx, margins* command in STATA. Importance weights to match the sample size to the actual population are applied.

Three asterisks (***) indicate significance at the 1% level, two asterisks (**) indicates significance at the 5% level, and one asterisk (*) indicates significance at the 10% level. Source: CPS-ORG, Center for Economic and Policy Research Uniform Data Extracts, 2014-2016. The total number of observations of employed persons was 8,640 in Wisconsin. Importance weights are applied to the probit model.

TABLE B: OLS AND QUANTILE REGRESSIONS OF THE IMPACT OF UNION MEMBERSHIP ON THE NATURAL LOG OF REAL HOURLY WAGES, 2014-2016

Ln(Real Wage)	(1) USA Mean		(1) Wisconsin Mean		(2) Wisconsin Median		(3) Illinois Mean	
	Coefficient	(St. Err.)	Coefficient	(St. Err.)	Coefficient	(St. Err.)	Coefficient	(St. Err.)
Union member	0.1058***	(0.0002)	0.1099***	(0.0010)	0.1035***	(0.0013)	0.0797***	(0.0007)
Age	0.0395***	(0.0000)	0.0248***	(0.0001)	0.0367***	(0.0002)	0.0392***	(0.0001)
Age ²	-0.0004***	(0.0000)	-0.0004***	(0.0000)	-0.0003***	(0.0000)	-0.0004***	(0.0000)
Female	-0.1593***	(0.0001)	-0.1520***	(0.0006)	-0.1319***	(0.0008)	-0.1451***	(0.0005)
Veteran	0.0058***	(0.0002)	0.0075***	(0.0013)	0.0070***	(0.0015)	0.0358***	(0.0011)
Citizen	0.0687***	(0.0002)	0.1371***	(0.0023)	0.1105***	(0.0028)	0.0381***	(0.0011)
Immigrant	-0.0218***	(0.0002)	-0.0027	(0.0017)	-0.0530***	(0.0021)	-0.0686***	(0.0009)
White	0.0056***	(0.0002)	0.0230***	(0.0015)	0.0091***	(0.0018)	-0.0065***	(0.0010)
African-American	-0.1093***	(0.0002)	-0.0547***	(0.0019)	-0.0947***	(0.0023)	-0.1566***	(0.0012)
Latino	-0.0707***	(0.0002)	0.0179***	(0.0018)	0.0027	(0.0022)	-0.0692***	(0.0011)
Chicago MSA							0.0782***	(0.0007)
Center City	0.0494***	(0.0001)	0.0228***	(0.0009)	0.0247***	(0.0011)	0.0218***	(0.0009)
Suburb	0.0663***	(0.0001)	0.0751***	(0.0007)	0.0737***	(0.0009)	0.0386***	(0.0008)
Federal government	0.0370***	(0.0003)	-0.0178***	(0.0026)	0.0057***	(0.0031)	-0.0326***	(0.0019)
State government	-0.1084***	(0.0002)	-0.0753***	(0.0014)	-0.0888***	(0.0017)	-0.1408***	(0.0014)
Local government	-0.0915***	(0.0002)	-0.0671***	(0.0013)	-0.0792***	(0.0016)	-0.0917***	(0.0011)
Usual hours worked	0.0043***	(0.0000)	0.0055***	(0.0000)	0.0070***	(0.0000)	0.0053***	(0.0000)
Involuntarily part-time	-0.1507***	(0.0002)	-0.1457***	(0.0016)	-0.1406***	(0.0019)	-0.1381***	(0.0012)
Less than high school	-0.1408***	(0.0002)	-0.1263***	(0.0013)	-0.0600***	(0.0015)	-0.1336***	(0.0010)
Some college	0.0380***	(0.0001)	0.0188***	(0.0008)	0.0094***	(0.0010)	0.0511***	(0.0007)
Associate's	0.0917***	(0.0002)	0.1077***	(0.0009)	0.1174***	(0.0011)	0.0967***	(0.0009)
Bachelor's	0.3064***	(0.0001)	0.2753***	(0.0009)	0.2747***	(0.0011)	0.2988***	(0.0007)
Master's	0.4156***	(0.0002)	0.3115***	(0.0013)	0.3234***	(0.0016)	0.4169***	(0.0009)
Professional/Doctorate	0.5466***	(0.0003)	0.5700***	(0.0019)	0.5750***	(0.0023)	0.5810***	(0.0014)
Industry Dummies	Y		Y		Y		Y	
Occupation Dummies	Y		Y		Y		Y	
State Dummies	Y		N		N		N	
Constant	1.3875***	(0.0008)	1.2561***	(0.0048)	1.2862***	(0.0059)	1.3724***	(0.0046)
R ²	0.4492		0.4824		0.3376		0.4538	
Observations	408,787		7,354		7,354		13,047	
Weighted	Y		Y		Y		Y	

Three asterisks (***) indicate significance at the 1% level, two asterisks (**) indicates significance at the 5% level, and one asterisk (*) indicates significance at the 10% level. Source: CPS-ORG, Center for Economic and Policy Research Uniform Data Extracts, 2014-2016. The total number of observations of employed persons was 8,640 in Wisconsin. The data are adjusted by the outgoing rotation group earnings weight to match the total population 16 years of age or older.

Ordinary least squares and quantile regression models account for other variables to parse out the actual and unique causal effect that union membership has on hourly wages on average. The analyses control for a host of demographic, work, sector, industry, occupation, and education variables that could also have an impact a worker's wages. In the U.S. model, state indicator variables are included to factor in unmeasured state-specific characteristics. The sample, in all cases, is weighted to match the actual population. Regression (1) compares the impact of union membership on wages for Wisconsin compared to the nation from OLS analyses, regression (2) provides the median regression as an example of outputs from the quartile regressions for Wisconsin, and regression (3) uses Illinois as an example of OLS results from other states. For full (2) and (3) regression outputs in a .txt format, please contact author Frank Manzo IV at fmanzo@illinoisepi.org.

