THE STATE OF THE UNIONS 2018

A Profile of Unionization in Minnesota and in the United States

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Research Report **September 2018**

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EXECUTIVE SUMMARY

Labor unions increase individual incomes by lifting hourly wages. In Minnesota, unions raise worker wages by an average of 7.0 percent. The union wage differential, however, is highest for middle-class workers (8.8 percent) in the state.

- The union wage premium is particularly high for transportation and material moving jobs (25.8 percent), construction and extraction careers (19.6 percent), and service positions such as janitors, food service workers, and security guards (12.9 percent).
- Unions increase wages for workers of color by 12.1 percent and for white workers by 6.4 percent.
- Unions help sustain a strong middle class and reduce income inequality.

Minnesota's labor movement has recently posted strong gains.

- The unionization rate of workers increased from 14.2 percent in 2016 to 15.2 percent in 2017.
- The number of union members increased from 364,000 in 2016 to more than 410,000 in 2017 – an increase of over 46,000 union members.
- Despite labor unions losing 1.3 million members nationally over the past decade, Minnesota has bucked the national trend and added almost 19,000 members since 2008.

As of 2017, the overall union membership rate is 15.2 percent in Minnesota:

- Workers between the ages of 45 and 54 years old are the most unionized cohort, with a union membership rate of 17.3 percent.
- Approximately 14.7 percent of workers who reside in the city center are unionized, 14.9 percent of workers who reside in the suburbs are unionized, and 18.3 percent of workers who reside in rural areas are unionized.
- By educational attainment, the most unionized workers in Minnesota hold master's degrees (21.6 percent) and associate degrees (18.0 percent).

Almost one half of all public sector workers (46.0 percent) are unionized in Minnesota. Meanwhile, slightly more than one-third of all public sector workers are unionized across the nation (34.4 percent). In comparison, 8.3 percent of workers in Minnesota's private sector are now union members which exceeds the 6.5 percent unionization rate for private sector workers across the United States. In the future, the recent *Janus v. American Federation of State, County, and Municipal Employees, Council 31, et al.* Supreme Court decision that prohibited fair-share "agency fee" clauses from collective bargaining agreements could result in a decline in public sector union membership in Minnesota.

Union membership is influenced by a number of factors. For example, employment in the public sector, transportation and warehousing, educational and health services, and construction all raise the chances that a given worker is a union member. On the other hand, workers employed in professional and businesses services and office and administrative support positions are less likely to be unionized.

Unions play a vital role in Minnesota's economy and communities. The Minnesota labor movement, however, will continue to face both short- and long-term challenges due to the political environment, the makeup of the United States Supreme Court, and broader economic trends. Labor's response to these challenges will define its influence and effectiveness in the decades to come and will be critical to the survival of Minnesota's middle class.

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INTRODUCTION

An annual assessment of the institutional footprint of organized labor in Minnesota and the United States requires an acknowledgment that over the past several years there has been an assault on 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 was a draconian law passed in Iowa that mirrors the damaging prohibitions enacted in Wisconsin in 2011 (Murphy, 2017). Another 19 states introduced so-called "right-to-work" (RTW) bills and five states (Indiana, Michigan, Wisconsin, West Virginia, and Kentucky) have passed RTW laws– with voters in Missouri overturning a RTW law by referendum (Bruno, 2015). In the Midwest states of Indiana, Michigan, and Wisconsin, "right-to-work" laws have statistically reduced the unionization rate by 2.1 percentage points and lowered hourly wages by 2.6 percent on average (Manzo & Bruno, 2017a).

The nature of a state's political environment directly corresponds to partisan control of the governorship and legislative branches. Only in states where Democrats are a majority in one or more of the branches of government– such as in Illinois, Minnesota, California, and New York– have unions not suffered policy defeats. Where Republican governors and a majority of Republican legislators are in power, organized labor has faced sustained political opposition to dilute, roll back, or eliminate worker rights.

Wisconsin serves as a prime example. In 2011, Governor Scott Walker successfully pushed a bill through the GOP-controlled Assembly (Act 10) that reduced public sector worker benefits and hollowed out the bargaining rights of government employees. Republicans subsequently passed a RTW law and cut government spending. Prior to the Walker administration, 14.2 percent of Wisconsin's workforce belonged to a union. As of 2017, that figure has dropped to 8.3 percent, significantly below the national average (Caldwell, 2017). By contrast, Governor Mark Dayton in Minnesota enacted policies that raised the minimum wage, strengthened labor standards, and boosted investments in infrastructure and education. From 2010 to 2017, Minnesota has added more jobs, added union members, seen higher income growth, reduced poverty by 2.7 percentage points relative to Wisconsin, and seen 2.7 percentage points faster economic growth (Cooper, 2018).

Now, the U.S. labor movement is responding to the *Janus v. American Federation of State, County, and Municipal Employees, Council 31, et al.* Supreme Court decision which directly weakens public sector unions in 22 states and the District of Columbia. The case was decided in a vote against fair share fees in the public sector, allowing workers the ability to "free ride" and receive services, benefits, and representation from unions for free without paying for them in the form of agency fees or union dues. As a significant number of employees decide to free ride, the financial resources of labor unions become depleted, eroding worker bargaining power. As a result, a recent report estimates that the *Janus* decision will reduce the public sector union membership rate by 8 percentage points, translating into a loss of 726,000 union members nationwide, and decrease the wages of state and local government employees by about 4 percent on average– exacerbating the pay penalty that already exists for workers in the public sector (Manzo & Bruno, 2018).

These challenges have come after a gradual decline of the labor movement in both membership and influence. Almost one-in-four U.S. workers (23.0 percent) were members of labor unions in 1980. Decades later, only one-in-ten employed persons in the United States (10.7 percent) are unionized in 2017 (Hirsch & Macpherson, 2018). Concurrently, as unionization rates have waned, income inequality has soared. Declining unionization and polarizing worker incomes are linked: The decline of organized labor accounts for between one-fifth and one-third of the growth in economic inequality (Western & Rosenfeld, 2011). The divergence between worker productivity and worker pay has also been largest in states where collective bargaining coverage has declined the most (Cooper & Mishel, 2015). Consequently, the decline of unionization has lowered labor's share of the economic pie while redistributing income to owners, corporate profits, and capital (Manzo & Bruno, 2017b).

Despite partisan efforts to restrict worker organizing, unions continue to play a vital role in Minnesota's economy and communities. The state has a higher unionization rate than the national average. This is in part due to labor-friendly administrations under current Governor Mark Dayton, past Governors, and the Minnesota Legislature. Additionally, local efforts to adopt a $15 minimum wage and provide employees with paid sick leave have increased activism and organizing while lifting thousands of workers' wages (Nelson, 2017; Wagner, 2017).

This report, conducted by researchers at the Midwest Economic Policy Institute, the Illinois Economic Policy Institute, the University of Illinois Project for Middle Class Renewal, and the University of Minnesota, analyzes the course of unionization in Minnesota and in the United States from 2008 to 2017. It is the third annual report of its kind for union members in Minnesota. The report 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 Minnesota and 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 primarily utilizes data 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, 2018).

The 10-year dataset from 2008 to 2017 captures information on 3,166,628 individuals aged 16 to 85 in the United States. These observations include 1,879,959 persons with a job, of whom 191,265 reported that they were union members. 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 Wisconsin but working in Minnesota) and vice-versa. CPS-ORG data is also based on household survey responses. Certain individuals such as undocumented workers may 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 2017, union membership data was only available for 2,393 of the 2,698 surveyed workers (88.7 percent) in Minnesota. While this does not impact unionization *rates*, estimates are underreported for both total union workers and total nonunion employees.

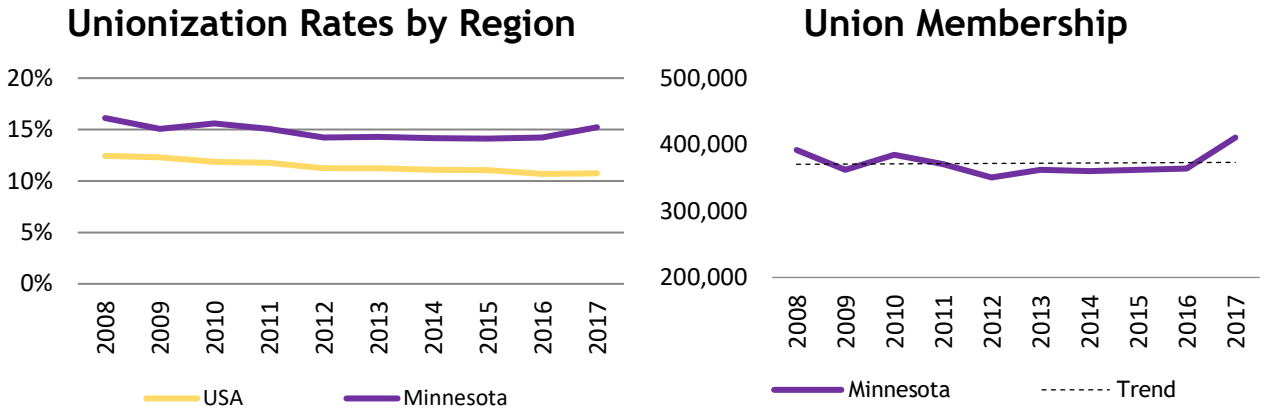
Economic data from the *County Business Patterns* (CBP) series from the U.S. Census Bureau is also used (Census, 2018). The CBP provides annual statistics for businesses with paid employees that are used to study economic activity and market trends. The data are published between 18 months and 24 months after the reference year, so there is a longer time lag compared to the release of CPS-ORG information.

UNIONIZATION RATES AND TRENDS

Since 2008, unionization rates have slightly declined in Minnesota and in the United States (Figure 1). The total union membership rate was 16.1 percent in Minnesota and 12.4 percent nationwide in 2008. Ten

years later, the unionization rate has fallen to 15.2 percent in Minnesota and 10.7 percent in the United States. However, due to robust growth in total employment, overall union membership has increased by about 19,000 union members in Minnesota over the past decade. This bucks the national trend, as the United States has experienced a decline of 1.3 million union members over that time.

FIGURE 1: UNIONIZATION RATES AND TOTAL UNION MEMBERSHIP, 2008-2017



Over the year, unionization increased significantly in Minnesota (Figure 2). The unionization rate increased from 14.2 percent in 2016 to 15.2 percent in 2017. This translated into an increase of over 46,000 union members from 364,000 to more than 410,000 members. Minnesota has more union members now than at any point over the past decade, and considerably more than a low point in 2012.

FIGURE 2: TOTAL UNION MEMBERS AND OVERALL UNIONIZATION RATES, 2008-2017

	Minnesota		USA	
Year	*Members*	*Rate*	*Members*	*Rate*
2008	391,663	16.12%	16,097,535	12.44%
2009	361,907	15.08%	15,327,280	12.31%
2010	384,570	15.58%	14,715,061	11.86%
2011	370,522	15.06%	14,754,673	11.78%
2012	350,503	14.22%	14,349,358	11.25%
2013	361,909	14.29%	14,515,755	11.24%
2014	360,297	14.18%	14,569,936	11.08%
2015	361,831	14.12%	14,786,281	11.05%
2016	364,143	14.21%	14,549,640	10.69%
2017	410,578	15.23%	14,811,525	10.69%
Average	***371,792***	***14.80%***	***14,847,704***	***11.43%***

Lastly, Minnesota's union membership rate has consistently been above the national average. The 10-year combined Minnesota unionization rate was 14.8 percent, 3.4 percentage points higher than the 11.4 percent national rate. On a year-by-year basis, Minnesota's union membership rate has ranged from 2.8 to 4.5 percentage points higher than the national average (Figure 2).

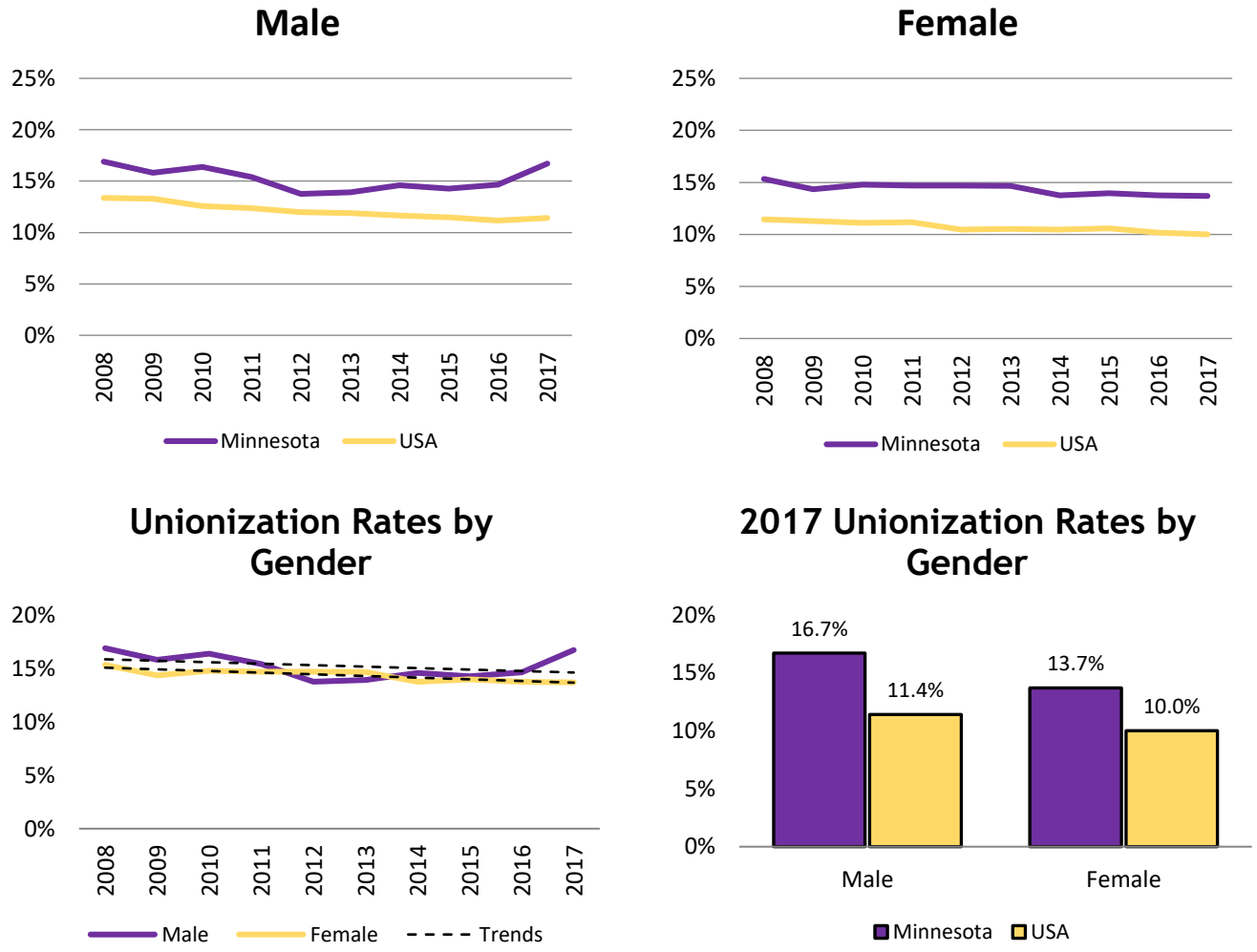
UNIONIZATION BY DEMOGRAPHICS

Since 2008, both men and women in Minnesota have experienced declines in their unionization rates (Figure 3). An estimated 16.9 percent of employed men in Minnesota were unionized in 2008, but the 2017 male unionization rate fell to 16.7 percent, a marginal 0.2 percentage-point drop. However, since a low point in 2012 when the rate was 13.8 percent, Minnesota's male unionization rate has increased by 3.0

percentage point. In the nation as a whole, the male unionization rate has dropped by 2.0 percentage points since 2008 and is now 5.3 percentage points below the comparable Minnesota rate.

Female union membership has dropped nationwide and in Minnesota (Figure 3). Nationwide, female union membership has dipped by 1.4 percentage points since 2008. Female union density in Minnesota was 15.3 percent in 2008 but fell to 13.8 percent in 2017, a 1.5 percentage-point decrease over the past 10 years. Unlike employed men in the state, the unionization rate for women in Minnesota did not increase in 2017. Nevertheless, female unionization is 3.7 percentage points higher in Minnesota than it is across the United States.

FIGURE 3: GRAPHS OF UNIONIZATION RATES BY GENDER, 2008-2017



White workers are more unionized than people of color (Figure 4). The unionization rate for white, non-Latino workers is 15.6 percent in Minnesota and 11.1 percent in the United States. In comparison, non-white union density is 13.6 percent in the state and 10.2 percent across the nation.

However, union membership has risen for people of color while falling for white workers over time (Figure 5). From 2008 to 2017, unionization in Minnesota fell by 1.3 percentage points for white, non-Latino workers and rose by 2.3 percentage points for all non-white workers. This may in part be a result of an effort by building trades unions to recruit more workers of color; the rate of people of color in apprenticeship programs has steadily increased in Minnesota (St. Anthony, 2016). It is also worth noting that Minnesota continues to have more unionized white workers and more unionized non-white workers than their respective national averages.

FIGURE 4: UNIONIZATION RATES BY RACIAL OR ETHNIC IDENTIFICATION, 2017

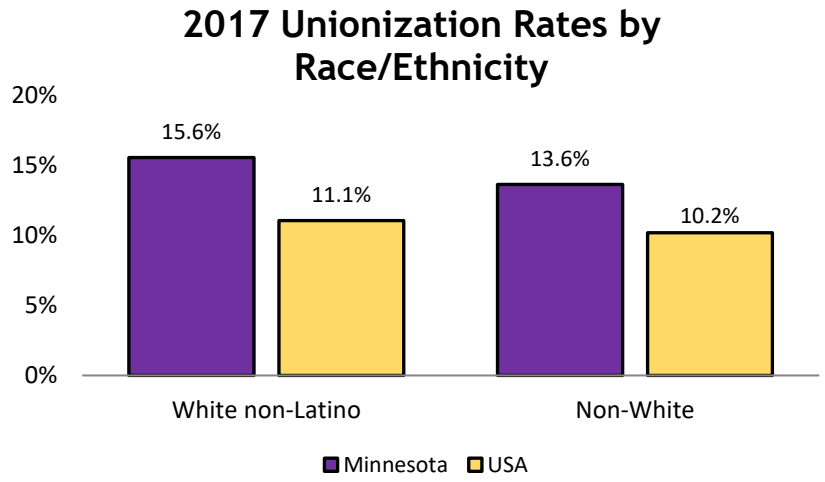
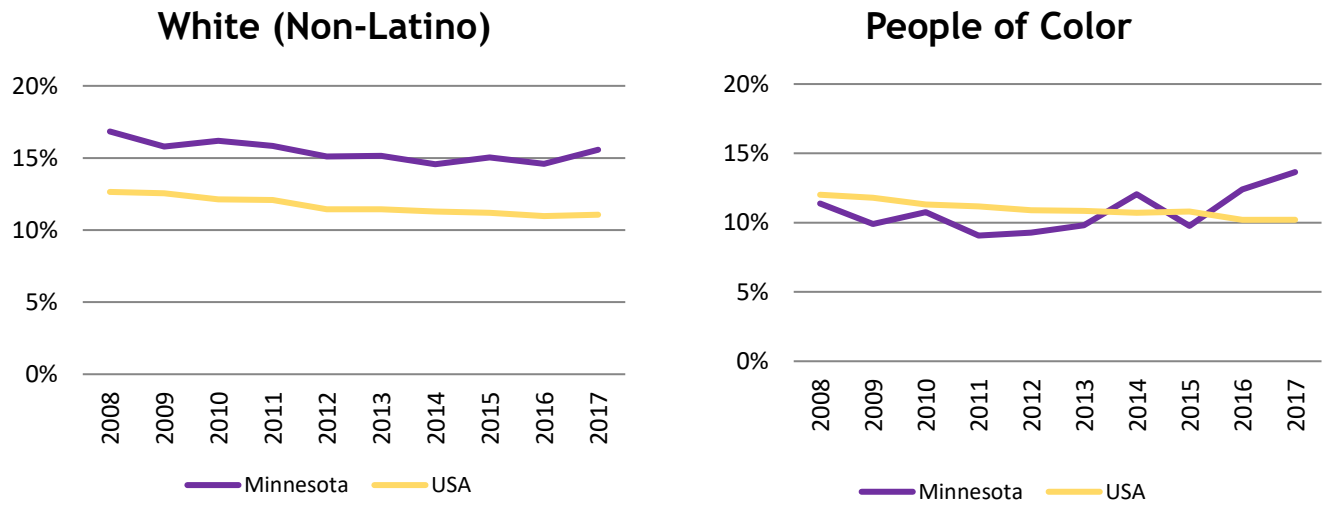


FIGURE 5: GRAPHS OF UNIONIZATION RATES BY RACIAL OR ETHNIC IDENTIFICATION, 2008-2017

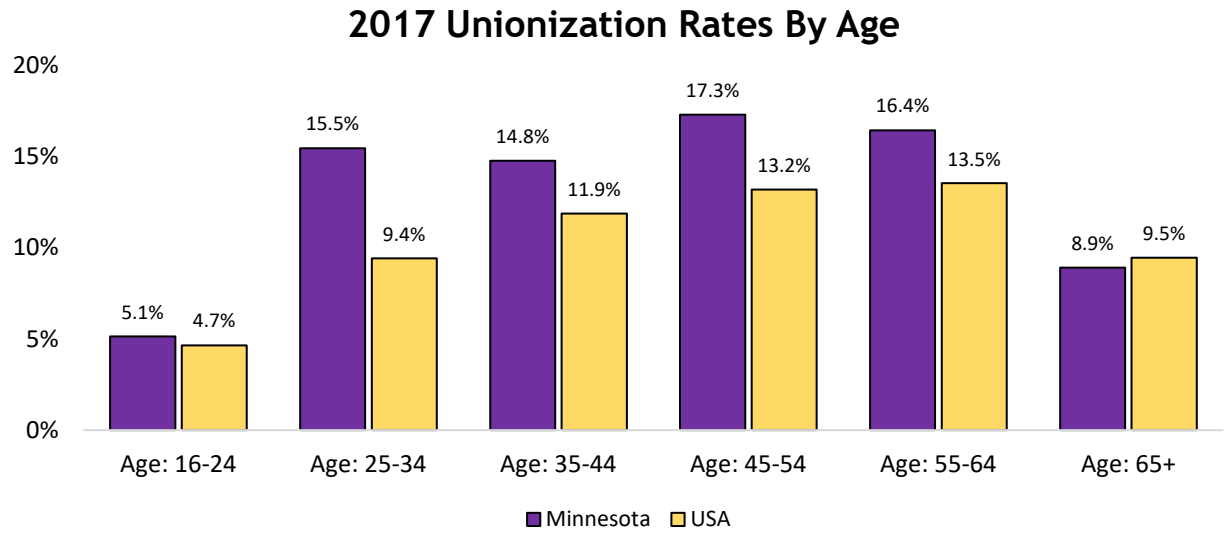


Unionization rates are higher for middle-aged workers as compared to young workers. The average age of union workers is about 44 years old, while the average age of nonunion workers is around 41 years old (Figure 7). Unionization rates are highest for workers aged 45 to 54 (Figure 8). Of workers in this age cohort, 17.3 percent are unionized in Minnesota and 13.2 percent are unionized across the United States. The second-most unionized age cohort in Minnesota is those between the ages of 55 and 64, with a unionization rate of 16.4 percent. Across all age cohorts except workers 65 years old or older, unionization rates in Minnesota exceed the comparable U.S. average. Notably, Millennial workers ages 25 to 34 are 6.1 percentage points more unionized in Minnesota (15.5 percent) than their peers across the country (9.4 percent).

FIGURE 6: AVERAGE AGE OF UNION AND NONUNION WORKERS, 2017

2017	Age (Years)	
Variable	*Nonunion*	*Union*
Minnesota	40.6	43.7
USA	41.0	44.3

FIGURE 7: UNIONIZATION RATES BY AGE GROUP, 2017



Union membership varies across other demographic classifications as well (Figure 8). The unionization rate for married workers is relatively high in Minnesota compared to the nation as a whole. About 17.2 percent of married workers are members of a union in Minnesota, 5.2 percentage points higher than the national average. In addition, about one-in-seven employed veterans are in unions nationwide (14.6 percent) while nearly one-in-five employed veterans are union members in Minnesota (19.2 percent). Native-born and naturalized citizens are more likely to be union members than foreign-born workers, though both native-born and foreign-born workers are more likely to be unionized in Minnesota than their respective national averages.

FIGURE 8: UNIONIZATION RATES OF SELECT DEMOGRAPHIC VARIABLES, 2017

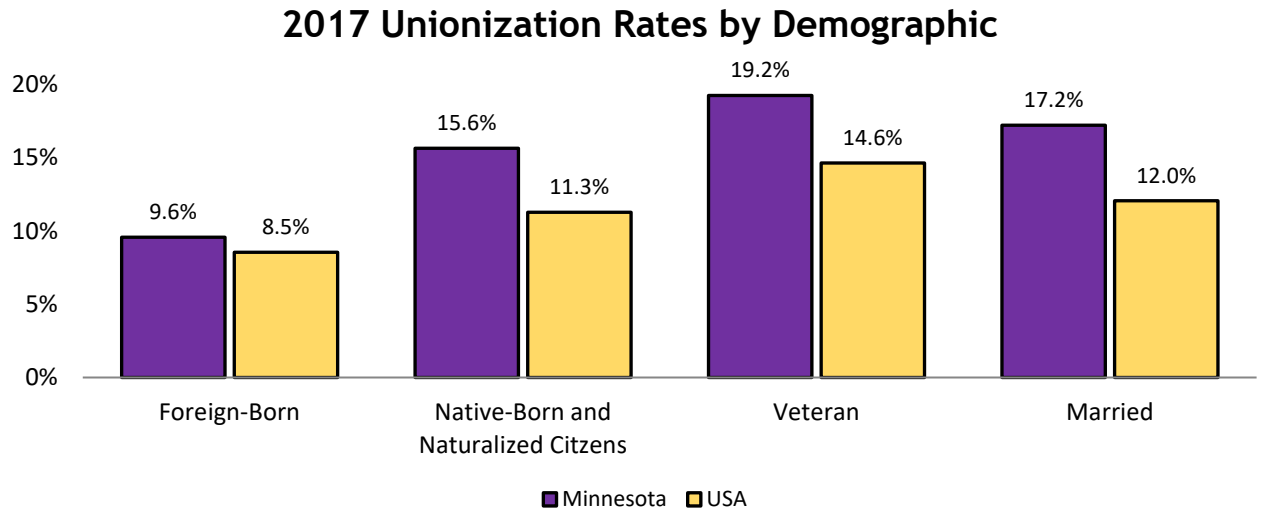
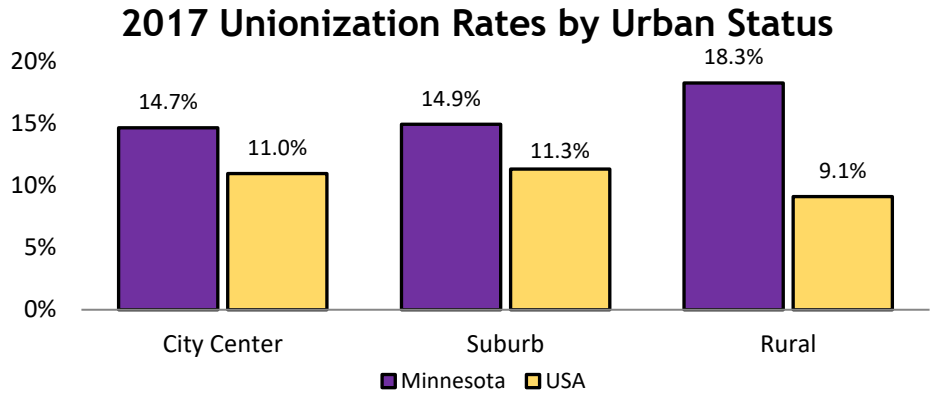


Figure 9 reveals that rural Minnesota has a higher rate of union membership than the more urbanized areas of the state. In fact, 18.3 percent of workers who reside in rural areas are unionized compared to 14.7 percent of workers who reside in the city center and 14.9 percent of workers who reside in the suburbs within Minnesota. The comparable figures for the United States are respectively, 9.1 percent, 11.0 percent, and 11.3 percent. Rural workers are 9.2 percentage points more likely to be unionized in Minnesota than the nation as a whole.

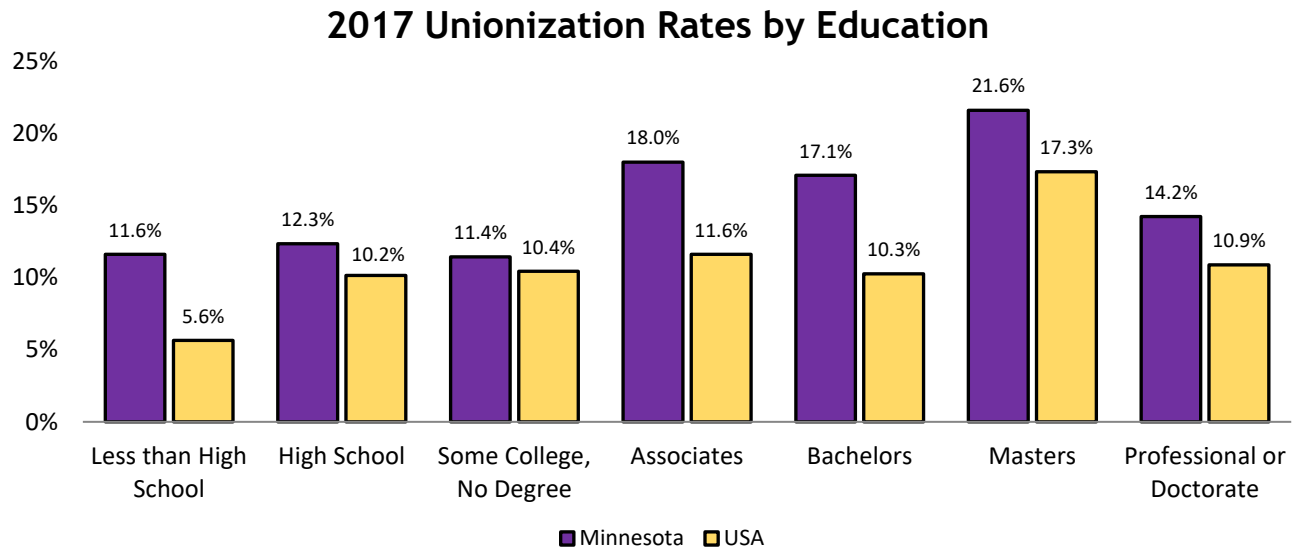
FIGURE 9: UNIONIZATION RATES BY URBAN STATUS, 2017



UNIONIZATION BY EDUCATION

Workers with master's degrees are the most unionized educational group in the United States (Figure 10). Teachers, librarians, nurses, airline pilots, social workers, and other state workers, who are more likely to have master's degrees, are also more likely to belong to a union. At 21.6 percent, unionization among master's degree holders in Minnesota exceeds the rates of all other educational attainment groups in the state and the nation. The second-most unionized employees by educational attainment are those with associate degrees, with 18.0 percent. Those without a high school degree comprise the least unionized educational group. In Minnesota, only 11.6 percent of workers without a high school degree are union members. According to the data, Minnesota has higher union membership rates across all educational groups than the comparable national rates.

FIGURE 10: UNIONIZATION RATES BY EDUCATIONAL ATTAINMENT OR STATUS, 2017



Over the past six years, unionization rates have slightly increased for most educational groups (Figure 11). To ensure statistical significance, Figure 11 compares the three-year averages of union membership rates of educational attainment groups in Minnesota for 2012-2014 and 2015-2017. The three years are grouped together to ensure statistical significance. Across the seven educational classifications, the union membership rate has increased in five cases: Workers with less than a high school degree (+4.3 percentage points), workers with some college (+0.3 percentage point), workers with bachelor's degrees (+0.9

percentage point), workers with master's degrees (+2.5 percentage points), and workers with professional or doctorate degrees (+1.7 percentage points). The declines in unionization were for individuals with high school degrees (-1.6 percentage points) and individuals with associate degrees (-1.6 percentage points).

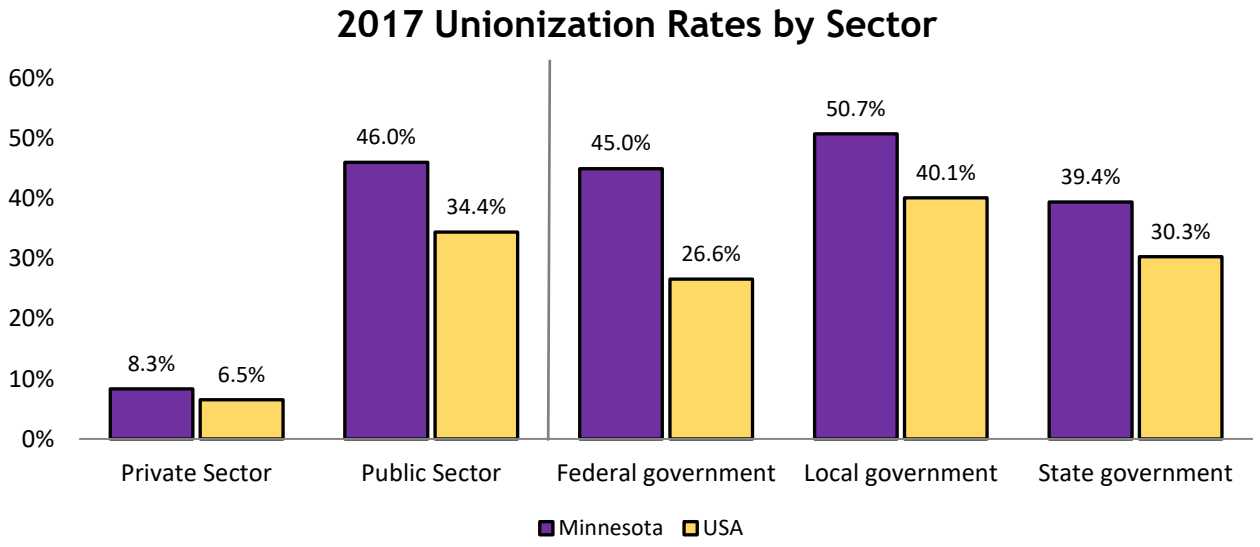
FIGURE 11: CHANGE IN UNIONIZATION RATES BY EDUCATION, THREE-YEAR AVERAGES, 2012-2017

	Minnesota		
Variable	*2012-14*	*2015-17*	*Change*
Less than High School	4.5%	8.8%	*+4.3%*
High School	13.1%	11.5%	*-1.6%*
Some College, No Degree	11.0%	11.3%	*+0.3%*
Associate	19.0%	17.4%	*-1.6%*
Bachelors	13.3%	14.2%	*+0.9%*
Masters	24.8%	27.4%	*+2.5%*
Professional/Doctorate	12.2%	13.9%	*+1.7%*

UNIONIZATION BY SECTOR, INDUSTRY, AND OCCUPATION

Unionization rates are significantly higher for public sector workers (Figure 12). Almost half of all public sector workers are unionized in Minnesota (46.0 percent) compared to fewer than one out of every 10 private sector workers in the state (8.3 percent). This means that public sector unionization is over five times as high as private sector unionization. Minnesota also has a significantly higher unionization rate in the public sector than the nation (34.4 percent); public sector unionization is 11.6 percentage-points higher in Minnesota.

FIGURE 12: UNIONIZATION RATES BY SECTOR OR LEVEL OF GOVERNMENT, 2017

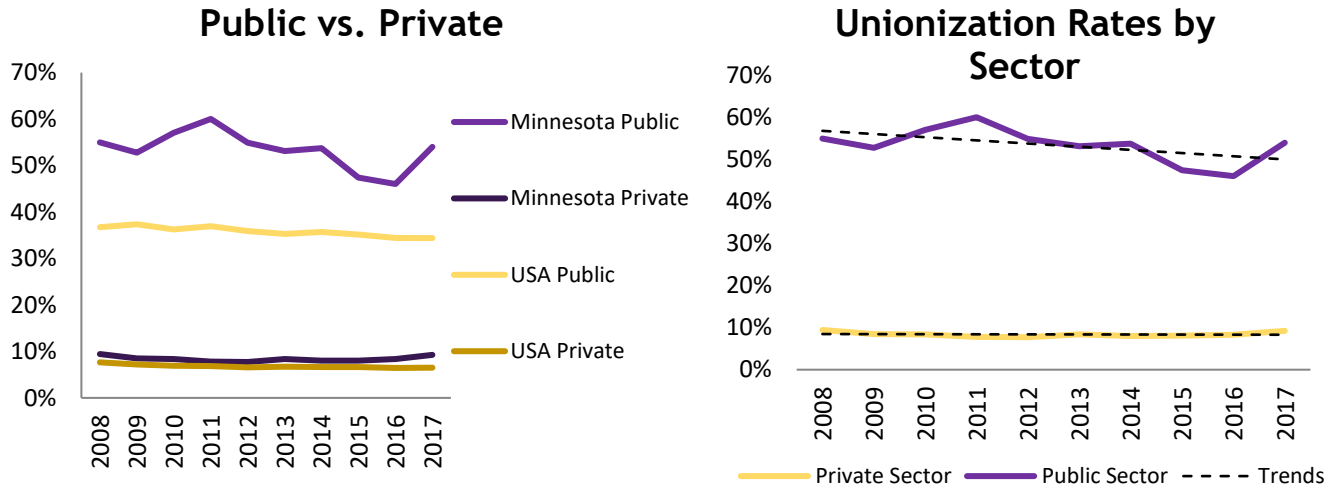


In general, the most unionized public sector group is local government employees, including teachers, with just over half of these workers belonging to a union in Minnesota (50.7 percent). Federal government employees command the second-highest unionization rate in Minnesota (45.0 percent). About 39.4 percent of all state government workers belong to a union. Unionization is higher in Minnesota across all sectors and all levels of government compared to the United States average (Figure 12).

Public sector unionization in Minnesota has fluctuated over time (Figure 13). Public sector union membership experienced gains in Minnesota from 2009 to 2011, declined from 2012 to 2016, and increased

again from 2016 to 2017. Today, the union membership rate for public sector workers is 1.0 percentage point lower and the analogous private sector rate is 0.2 percentage point lower than in 2008. There has been variability in the public sector unionization rates over the past 10 years, with both growth and decline. Nevertheless, both public sector unionization and private sector unionization have consistently been higher than their respective national averages.

FIGURE 13: UNIONIZATION RATES BY SECTOR, 2008-2017



Union membership varies significantly by industry (Figure 14). The top five industries by unionization rates in Minnesota are public administration (51.1 percent); information (39.9 percent); transportation and warehousing (34.2 percent); construction (33.9 percent); and educational and health services (25.2 percent). The least-unionized industries generally are professional and business services; financial activities; and leisure and hospitality.

Figures 15 and 16 present industry breakdowns of total union membership in Minnesota 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 office support workers and architects. The top five industries with the most union members in Minnesota are educational and health services (170,000 members), construction (53,000 members), public administration (52,000 members), manufacturing (49,000 members), and transportation and warehousing (44,000 members) (Figure 15). Together, union members from these five industries account for over 87 percent of all union workers in Minnesota (Figure 16).

A cautionary note should be mentioned: Grouping the data by industry results in relatively small sample sizes. 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.

FIGURE 14: UNIONIZATION RATES BY INDUSTRY, 2017

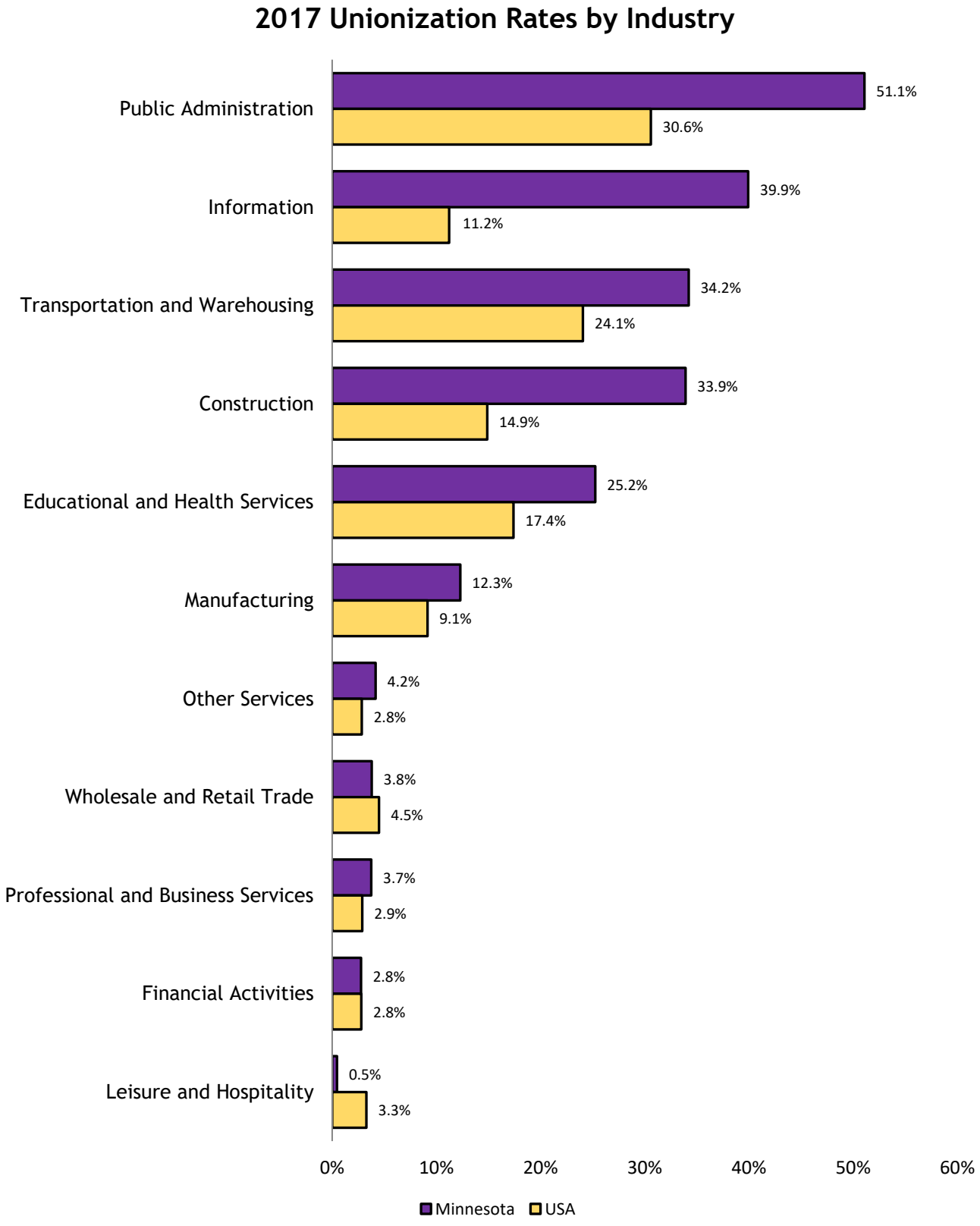


FIGURE 15: MINNESOTA INDUSTRY UNIONIZATION RATES, EMPLOYMENT, AND UNION MEMBERS, 2017

Minnesota (2017)	Unionization Rate	Total Employment	Total Union Members	Total Sample
Public Administration	51.1%	102,00	52,000	91
Information	39.9%	47,000	19,000	42
Transportation & Warehousing	34.2%	128,000	44,000	118
Construction	33.9%	157,000	53,000	136
Educational & Health Services	25.2%	671,000	170,000	600
Manufacturing	12.3%	401,000	49,000	358
Other Services	4.2%	95,000	4,000	83
Wholesale & Retail Trade	3.8%	345,000	13,000	305
Professional & Business Services	3.7%	255,000	10,000	223
Financial Activities	2.8%	214,000	6,000	195
Leisure and Hospitality	0.5%	252,000	1,000	217

FIGURE 16: COMPOSITION OF MINNESOTA UNION WORKFORCE BY INDUSTRY, 2017

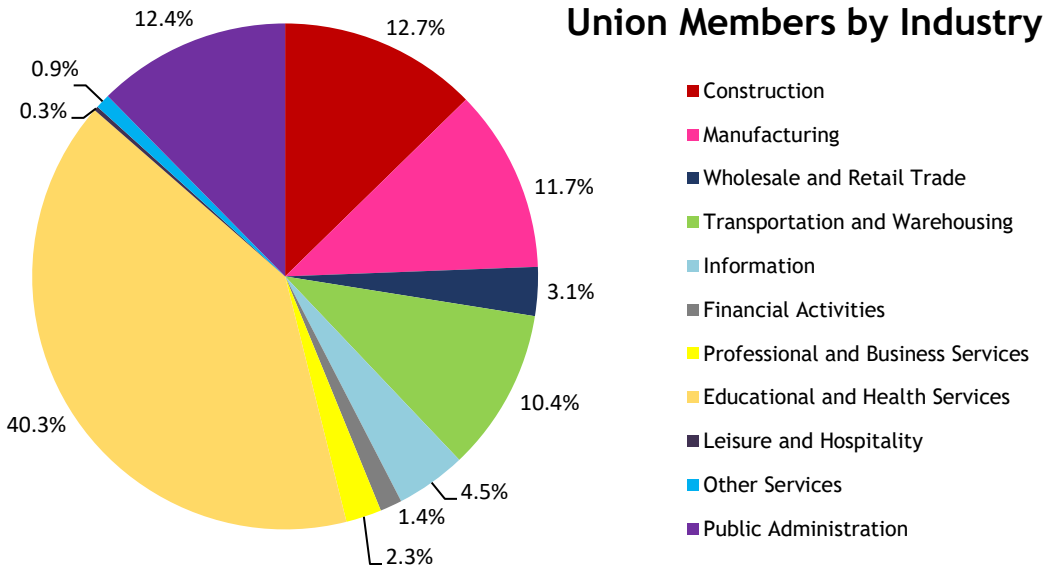


FIGURE 17: UNIONIZATION RATES BY OCCUPATION, 2017

Occupation (2017)	Minnesota	USA
Management, Business, and Financial	6.5%	4.4%
Professional and Related	23.2%	16.0%
Service	8.5%	9.9%
Sales and Related	2.7%	3.2%
Office and Administrative Support	11.1%	8.7%
Construction and Extraction	44.4%	19.3%
Installation, Maintenance, and Repair	29.2%	15.5%
Production	19.4%	12.4%
Transportation and Material Moving	18.9%	14.7%

Lastly, Figure 17 depicts unionization rates by occupation. In Minnesota, the most unionized occupation groups are construction and extraction occupations such as carpenters and operating engineers (44.4

percent); installation, maintenance, and repair occupations such as mechanics (29.2 percent); and professional and related occupations including teachers (23.2 percent). Compared to the nation, unionization rates in these three occupations are significantly higher in Minnesota. Union membership in construction and extraction occupations, as an example, is 25.1 percentage points higher in Minnesota than the comparable United States average. The least-unionized occupations are sales and related jobs; management, business, and financial careers; and service positions in Minnesota.

PREDICTING UNION MEMBERSHIP IN MINNESOTA

An advanced analytic model is developed to predict the chances that any given worker is a union member in Minnesota, using data from 2015 through 2017. The model, which is detailed in 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 6,624 Minnesota workers, and weights are applied to match the sample to the actual Minnesota population.

Many factors increase the likelihood that an employed person is a union member in Minnesota (Figure 18). Relative to workers in the private sector, employment in local government, the largest contributor to an individual's chances of being a union member, raises the probability by 20.0 percentage points on average. State and federal government employment respectively increase the union probability by 19.5 percentage points and 16.0 percentage points. Relative to a comparable individual in manufacturing, a Minnesota worker's chance of being a union member is between 6 and 12 percentage points higher in each of the following industries: transportation and utilities, educational and health services, construction, public administration, and information such as news media. Being a native-born U.S. citizen or naturalized citizen also increases the chances of being a union member in Minnesota by about 5 percentage points.

FIGURE 18: PROBABILITY OF BEING A UNION MEMBER IN MINNESOTA, LARGEST FACTORS, 2015-2017

Probability of Union Membership	Minnesota Mean
Predictor	*Percentage Point Change*
Sector: Local government	+19.97%
Sector: State government	+19.48%
Sector: Federal government	+16.00%
Industry: Transportation & warehousing	+11.94%
Industry: Educational & health services	+9.05%
Industry: Construction	+8.56%
Industry: Public administration	+7.17%
Industry: Information	+6.07%
Status: Citizen	+5.24%
Industry: Professional & business services	-5.30%
Occupation: Transportation & material moving	-5.42%
Education: Professional or doctorate degree	-8.30%
Occupation: Sales & related	-9.45%
Occupation: Service	-10.95%
Occupation: Office & administrative support	-11.15%
Occupation: Management, business, & financial	-18.96%
Constant	14.22%
Observations	6,624

Source: CPS-ORG, Center for Economic and Policy Research Uniform Data Extracts, 2014-2016. Only statistically significant variables with a coefficient over ±5.0 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.

Some educational, occupational, and industry factors contribute negatively to the probability that a worker is in a union. Holding a professional or doctorate degree reduces the likelihood that a worker is a union member by 8.3 percentage points. Compared to the manufacturing industry, employment in the professional and business services industry reduces the chances of unionization by 5.3 percentage points. Additionally, workers in sales, service, office and administrative support, and management, business, and financial positions are all 9 to 19 percentage points less likely to be union members than similar workers in production occupations.

WORKER WAGES

Unionized workers 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 Minnesota 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 approximately $4.00 per hour, or by about 17 percent. The gap between union and nonunion wages appears to be smaller in Minnesota, which is generally a high-wage state for both union and nonunion workers. The wage difference in Minnesota increased over the past year, up from a $3.02 hourly benefit to a $3.33 hourly benefit as of 2017 (Figure 20). Unions raise individual incomes by lifting wages per hour.

The data presented in Figure 19 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 20. The national average further controls for an individual respondent's state of residence. Data are for employed persons aged 16 and older from 2015 through 2017 and are based on the natural logarithm of hourly wages to "normalize the data" in percentage terms. For more on the union wage premium regressions, see Table B in the Appendix.

FIGURE 19: UNION WAGE DIFFERENCES, PERCENTAGE AND DOLLAR VALUES, 2008-2017

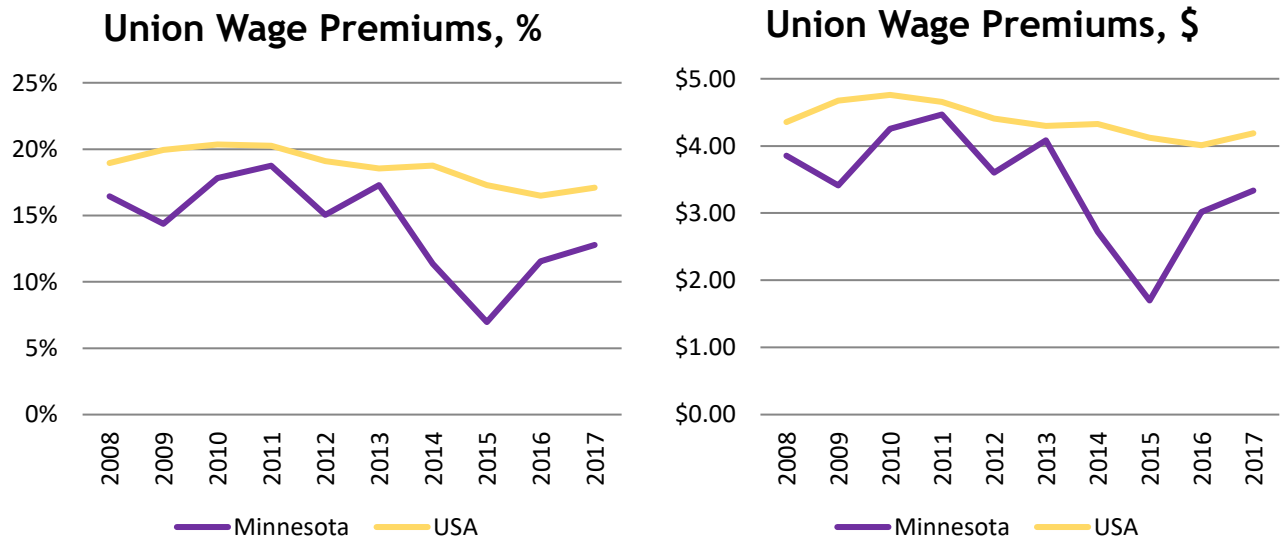


FIGURE 20: WAGES OF UNION AND NONUNION WORKERS IN MINNESOTA AND THE U.S., 2017

	Minnesota		USA	
Variable	*Nonunion*	*Union*	*Nonunion*	*Union*
Wage	$26.10	$29.44	$24.51	$28.70
Union Difference, %		*+12.77%*		*+17.09%*
Union Difference, $		*+$3.33*		*+$4.19*

FIGURE 21: REGRESSIONS OF UNION WAGE PREMIUMS FOR THE U.S. AND MINNESOTA, 2015-2017

Union Wage Premium: Ordinary Least Squares (OLS) and Quantile Regressions, 2015-2017							
USA	*Minnesota*						
Mean	Mean	Bottom 10%	Bottom 25%	Median	Top 25%	Top 10%	Top 1%
10.28%***	6.96%***	7.37%***	8.77%***	8.78%***	7.82%***	7.16%**	-6.10%
R^2=0.447	R^2=0.468	R^2=0.209	R^2=0.288	R^2=0.319	R^2=0.330	R^2=0.321	R^2=0.202

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, 2015-2017. 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.

FIGURE 22: UNION WAGE PREMIUMS BY STATE, OLS REGRESSIONS, 2015-2017

Rank	State	Union Premium
	United States	*10.28%*
1	Nevada	16.88%
2	Indiana	16.11%
3	South Carolina	14.76%
4	California	12.68%
5	New Jersey	12.65%
6	Arkansas	12.44%
7	Wisconsin	11.95%
8	Idaho	11.87%
9	Mississippi	11.54%
10	Montana	11.39%
11	Missouri	11.33%
12	Tennessee	11.22%
13	Illinois	11.07%
14	Georgia	10.30%
15	Pennsylvania	10.11%
16	Hawaii	9.98%
17	Ohio	9.97%
18	Maryland	9.84%
19	Oregon	9.53%
20	Arizona	9.32%
21	Texas	9.17%
22	Washington	9.03%
23	Kentucky	8.60%
24	Delaware	8.42%
25	Wyoming	8.19%
26	Louisiana	7.95%
27	Rhode Island	7.82%
28	North Dakota	7.69%
29	Vermont	7.69%
30	Oklahoma	7.68%
31	Virginia	7.67%
32	West Virginia	7.29%
33	Kansas	7.15%
34	Alaska	7.09%
35	South Dakota	6.99%
36	Michigan	6.97%
37	**Minnesota**	**6.96%**
38	Massachusetts	6.81%
39	New Mexico	6.55%
40	Colorado	6.27%
41	Utah	6.17%
42	New York	6.16%
43	Iowa	6.02%
44	District of Columbia	5.90%
45	Connecticut	5.70%
46	Maine	5.67%
47	Nebraska	5.56%
48	New Hampshire	5.36%
49	Florida	5.34%
50	Alabama	5.29%
51	North Carolina	1.45%

All estimates are significant at the 1-percent level except for the following: Oklahoma, South Dakota, New Mexico, Utah, Iowa, Connecticut, Maine, Nebraska, and New Hampshire (which are all significant at the 5-percent level) and North Carolina (which is not statistically significant). Source: CPS-ORG, Center for Economic and Policy Research Uniform Data Extracts, 2015-2017. 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.

After controlling for education, demographics, and employment factors, the union wage premium is smaller but 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 10.3 percent in the United States. In Minnesota, the union wage premium is an estimated 7.0 percent on average, holding all else constant (including occupation and industry). Both results are statistically meaningful with 99 percent confidence.

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 a 7.0 percent increase in the *average* Minnesota worker's wage, the benefit is actually higher for those at the middle of the state's hourly income distribution (Figure 21). In fact, over the past three years, the union wage effects produced hourly earnings that were 8.8 percent higher for the bottom 25 percent of workers and 8.9 percent for the median worker. But the union wage premium for the richest 10 percent of workers was lower, at 7.2 percent, and statistically insignificant for the richest 1 percent of earners. The estimates corroborate national findings from Schmitt (2008) in *The Union Wage Advantage for Low-Wage Workers*. The data strongly indicate that unionization benefits low-income and middle-class workers most, helping to foster a strong middle class and reduce income inequality.

How does the average Minnesota union wage premium of 7.0 percent compare to the union effect in other states? Similar 2015-2017 ordinary least squares regression models are run to assess each of the 49 other states plus the District of Columbia against Minnesota. The results, reported in Figure 22, lead to the conclusion that the Minnesota union wage premium is the 37th-highest in the nation. Additionally, a total of 14 states have union wage premiums that are found to be higher than the national average of 10.3 percent. Importantly, a positive union wage premium exists in every state.

The Minnesota union wage premium (7.0 percent) is lower than the national average (10.3 percent). This could be due to many reasons. As an example, because unionization is higher in Minnesota relative to the nation, the "threat effect" could be stronger. That is, nonunion employers in Minnesota may have raised wages to union standards to avert the threat of unionization, which benefits nonunion workers and closes the gap (Eren & Ozbeklik, 2014; Western & Rosenfeld, 2011). The weaker threat could also explain why the union premium is particularly high in some so-called "right-to-work" states, such as Nevada, Indiana, and South Carolina.

UNION AND NONUNION WAGES BY DEMOGRAPHIC GROUP

By benefiting low-income and middle-class workers most, unionization also helps close the racial and gender inequality gap in Minnesota. After controlling for education, demographics, and employment factors, the union wage premium is higher for workers of color in Minnesota (Figure 23). While the union wage premium is 7.0 percent in Minnesota, the personal benefit to being a union member is 12.1 percent on average for people of color. The union wage premium is also a strong 6.4 percent advantage for white (non-Latino) workers in Minnesota. Similarly, after controlling for other observable factors, the union wage premium is positive for both genders but is slightly larger for male workers (Figure 24). The personal benefit to being a union member is 7.4 percent on average for men and a 7.1 percent advantage for women. Accordingly, unions are one of the most effective anti-poverty institutions in Minnesota.

FIGURE 23: REGRESSIONS OF UNION WAGE PREMIUMS BY RACIAL IDENTIFICATION, 2015-2017

Union Wage Premium: Ordinary Least Squares (OLS), 2013-2015		
State Mean	Racial Identification: White	Racial Identification: Nonwhite
6.96%***	6.43%***	12.10%***
R^2=0.468	R^2=0.449	R^2=0.491

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.

Similarly, after controlling for other observable factors, the union wage premium is positive for both genders but is slightly larger for male workers (Figure 24). The personal benefit to being a union member is 7.4 percent on average for men and a 7.1 percent advantage for women. Unionization helps workers close the gender-based wage gap, especially compared to nonunion workers.

FIGURE 24: REGRESSIONS OF UNION WAGE PREMIUMS BY GENDER IDENTIFICATION, 2015-2017

Union Wage Premium: Ordinary Least Squares (OLS), 2013-2015		
State Mean	Gender Identification: Male	Gender Identification: Female
6.96%***	7.39%***	7.13%***
R^2=0.468	R^2=0.458	R^2=0.473

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.

UNION WAGE PREMIUM BY INDUSTRY AND OCCUPATION

Certain industries and occupations have higher union wage premiums than others. The sizeable differences in wage premiums by major industry and major occupation are displayed in Figures 25 and 26. Notably, the most-unionized industries and occupations tend to have the highest wage premiums.

Figure 25 displays the three industries with the highest union wage premiums. Industries are defined as a group of establishments, firms, and occupations which produce similar products or provide similar services. Industries include all occupational classifications, from blue-collar workers to white-collar employees to CEOs. The information industry, which includes the news media, has the highest union wage premium at 35.9 percent. The transportation and warehousing industry has a union wage premium of 18.9 percent, while the leisure and hospitality industry has a union wage premium of 16.9 percent (Figure 25).

FIGURE 25: UNION WAGE PREMIUM BY INDUSTRY IN MINNESOTA, 2015-2017

Industry	Union Wage Premium
Information	35.89%
Transportation & Warehousing	18.89%
Leisure & Hospitality	16.90%

At the occupational level, workers in transportation and material moving careers experience the largest wage premium in Minnesota. After controlling for other factors, transportation and material moving workers who belong to a union earn 25.8 percent more per hour than comparable nonunion workers. Construction and extraction occupations also tend to earn a significantly higher wage when unionized, with a wage premium of 19.8 percent. Service occupations– which include positions such as janitors, food service workers, and security guards– rank third in union wage premium, with an average hourly wage increase of 12.9 percent. Both the industry-level and occupational-level analyses corroborate the notion that unions boost middle-class incomes most because the union wage premium is highest in middle-class careers (Figure 26).

FIGURE 26: UNION WAGE PREMIUM BY OCCUPATION IN MINNESOTA, 2015-2017

Occupation	Wage Premium
Transportation & Material Moving	25.79%
Construction & Extraction	19.75%
Service	12.90%

DATA ON LABOR UNION ESTABLISHMENTS

The total number of "labor unions and similar labor organizations" in Minnesota has declined since 2007. Figure 27 presents *County Business Patterns* data on the number of establishments and paid employees as well as officers 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.

The total number of independent organizations in 2016, the latest year for which data are available, was 303. This is down from the 338 establishments of labor unions and similar labor organizations in Minnesota back in 2007. Over the past 10 years, there has been a 35-establishment decline (-10.4 percent) in labor unions and similar labor organizations in Minnesota. Consequently, the number of officers and paid employees working directly for labor unions and similar labor organizations has decreased from 4,771 workers in 2007 to 4,542 workers in 2016. Paid employment at Minnesota labor unions and similar organizations has thus decreased by 229 employees (-4.8 percent) since 2007. These job losses and decreases in certified bargaining units and independent local unions have occurred despite the overall rise in both total employment and union membership in the state (Figure 26).

FIGURE 27: UNIONS AND SIMILAR ORGANIZATIONS, ESTABLISHMENTS AND EMPLOYMENT, 2007-2016

Minnesota	NAICS Code: 81393 - Labor Unions and Similar Labor Organizations	
Year	*Establishments*	*Paid Employees*
2007	338	4,771
2008	332	4,637
2009	332	4,709
2010	321	5,069
2011	316	4,652
2012	316	4,884
2013	314	4,875
2014	311	4,611
2015	314	4,844
2016	303	4,542
2007-2016 Change	***-35***	***-229***

CONCLUSIONS

Minnesota's labor movement has recently posted strong gains. From 2016 to 2017, the unionization rate of workers increased by 1.0 percent, translating into an increase of 46,000 members. Since 2008, Minnesota has bucked the national trend and added union members. Currently, workers between the ages of 45 and 54 years old are the most unionized age cohort, while rural workers are more unionized that those in the urban core, and workers with Master's degrees are more unionized than their lesser-educated peers in Minnesota.

Nearly half of all public sector workers are unionized in Minnesota. Meanwhile, slightly more than one-third of all public sector workers are unionized across the nation. In comparison, fewer than one-in-ten

workers in Minnesota's private sector are now union members. In the future, the recent *Janus v. American Federation of State, County, and Municipal Employees, Council 31, et al*. Supreme Court decision could have a negative impact on public sector unions in Minnesota.

Union membership is influenced by a number of factors. For example, employment in the public sector, transportation and warehousing industry, educational and health services, and construction all raise the chances that a given worker is a union member. On the other hand, workers employed in professional and businesses services and office and administrative support positions are less likely to be unionized.

Labor unions increase individual incomes by lifting hourly wages, particularly for middle-class workers. In Minnesota, unions raise worker wages by an average of 7.0 percent. The state's union wage effect is the 37th-highest in the nation. The union wage differential is highest for the median worker. Moreover, the union wage premium is particularly high for middle-class occupations, such as transportation and material moving jobs, construction and extraction careers, and service positions such as janitors, food service workers, and security guards. Moreover, union increase the wages of white workers by 6.4 percent but boost the hourly earnings of people of color by 12.1 percent. The data strongly indicate that unionization helps to foster a strong middle class and reduces income inequality.

Unions play a vital role in Minnesota's economy and communities. The Minnesota labor movement, however, will continue to face both short- and long-term challenges due to the political environment, the makeup of the United States Supreme Court, and broader economic trends. Labor's response to these challenges will define its influence and effectiveness in the years to come and will be critical to the survival of Minnesota's middle class.

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APPENDIX

TABLE A: PROBIT REGRESSION ON PROBABILITY OF UNION MEMBERSHIP, AVERAGE MARGINAL EFFECTS, MINNESOTA WORKERS, 2015-2017

	Minnesota	
Prob(Union Member)	Coefficient	(St. Err.)
Age	0.0065***	(0.0018)
Age^2	-0.0001***	(0.0000)
Female	-0.0072	(0.0088)
Citizen	0.0524**	(0.0236)
White, non-Latino	0.0170	(0.0196)
African American	0.0283	(0.0249)
Latino or Latina	0.0121	(0.0266)
Center City	0.0296**	(0.0122)
Suburb	0.0142*	(0.0086)
Federal government	0.1600***	(0.0238)
State government	0.1948***	(0.0146)
Local government	0.1997***	(0.0115)
Usual hours worked	0.0021***	(0.0004)
Less than high school	0.0378*	(0.0198)
Some college, no degree	0.0093	(0.0136)
Associate's	0.0238*	(0.0128)
Bachelor's	0.0066	(0.0133)
Master's	0.0343**	(0.0150)
Professional/Doctorate	-0.0830***	(0.0274)
Industry/Occupation Dummies	Y	
Constant	0.1451***	(0.0027)
R^2	0.2741	
Observations	6,624	

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, 2015-2017. The total number of observations of employed persons was 6,624 in Minnesota. Sampling weights are applied to the probit model.

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. Sampling weights to match the sample size to the actual population are applied.

TABLE B: OLS AND QUANTILE REGRESSIONS OF THE IMPACT OF UNION MEMBERSHIP ON THE NATURAL LOG OF REAL HOURLY WAGES, 2015-2017

	(1) USA Mean		(1) Minnesota Mean		(2) Minnesota Median		(3) Wisconsin Mean	
Ln(Real Wage)	Coefficient	(St. Err.)	Coefficient	(St. Err.)	Coefficient	(St. Err.)	Coefficient	(St. Err.)
Union member	0.1058***	(0.0002)	0.0696***	(0.0177)	0.0878***	(0.0202)	0.1195***	(0.0186)
Age	0.0395***	(0.0000)	0.0403***	(0.0026)	0.0375***	(0.0028)	0.0361***	(0.0027)
Age^2	-0.0004***	(0.0000)	-0.0004***	(0.0000)	-0.0004***	(0.0000)	-0.0004***	(0.0000)
Female	-0.1593***	(0.0001)	-0.1335***	(0.0136)	-0.1232***	(0.0142)	-0.1409***	(0.0128)
Veteran	0.0058***	(0.0002)	-0.0364	(0.0292)	-0.0064	(0.0303)	0.0055	(0.0266)
Citizen	0.0687***	(0.0002)	-0.0079	(0.0338)	-0.0225	(0.0396)	0.1594***	(0.0448)
Immigrant	-0.0218***	(0.0002)	-0.0651**	(0.0285)	-0.0699**	(0.0335)	-0.0242	(0.0345)
White	0.0056***	(0.0002)	0.0392	(0.0293)	0.0285	(0.0291)	0.0087	(0.0285)
African American	-0.1093***	(0.0002)	-0.0916***	(0.0335)	-0.0769**	(0.0367)	-0.0588	(0.0360)
Latino	-0.0707***	(0.0002)	-0.0607**	(0.0341)	-0.1055***	(0.0370)	-0.0120	(0.0325)
Center City	0.0487***	(0.0025)	0.0966***	(0.0177)	0.0973***	(0.0191)	0.0142	(0.0153)
Suburb	0.0665***	(0.0022)	0.1264***	(0.0126)	0.1120***	(0.0145)	0.0781***	(0.0122)
Federal government	0.0376***	(0.0061)	-0.0269	(0.0604)	0.0416	(0.0573)	-0.0700	(0.0549)
State government	-0.1085***	(0.0043)	-0.1168***	(0.0302)	-0.1739***	(0.0327)	-0.0962***	(0.0233)
Local government	-0.0915***	(0.0038)	-0.0923***	(0.0239)	-0.1361***	(0.0277)	-0.0788***	(0.0259)
Usual hours worked	0.0045***	(0.0001)	0.0059***	(0.0007)	0.0075***	(0.0007)	0.0058***	(0.0008)
Involuntarily part-time	-0.1425***	(0.0045)	-0.1749***	(0.0353)	-0.1542***	(0.0374)	-0.1310***	(0.0278)
Less than high school	-0.1358***	(0.0032)	-0.0907***	(0.0353)	-0.0426	(0.0299)	-0.1299***	(0.0243)
Some college	0.0339***	(0.0024)	0.0239	(0.0163)	0.0258	(0.0205)	0.0216	(0.0146)
Associate's	0.0853***	(0.0030)	0.0820***	(0.0181)	0.0745***	(0.0213)	0.0910***	(0.0162)
Bachelor's	0.3043***	(0.0028)	0.3198***	(0.0196)	0.3068***	(0.0205)	0.2839***	(0.0175)
Master's	0.4135***	(0.0038)	0.3964***	(0.0258)	0.4063***	(0.0270)	0.3364***	(0.0270)
Professional/Doctorate	0.5431***	(0.0062)	0.5898***	(0.0429)	0.6437***	(0.0405)	0.5793***	(0.0470)
Industry Dummies	Y		Y		Y		Y	
Occupation Dummies	Y		Y		Y		Y	
State Dummies	Y		N		N		N	
Constant	1.4586***	(0.0139)	1.6071***	(0.0816)	1.5926***	(0.1035)	1.3161***	(0.0989)
R^2	0.4474		0.4683		0.3186		0.4870	
Observations	406,975		6,539		6,539		6,604	
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, 2015-2017. The total number of observations of employed persons was 6,624 in Minnesota. 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 Minnesota compared to the nation from OLS analyses, regression (2) provides the median regression as an example of outputs from the quartile regressions for Minnesota, and regression (3) uses Wisconsin 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.