



THE STATE OF THE UNIONS 2016

A Profile of Unionization in the Twin Cities, in Minnesota, and in America

September 5, 2016

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Research Report

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EXECUTIVE SUMMARY

Since 2006, unionization has declined in Minnesota, in the Twin Cities region, and in America. There are approximately 34,000 fewer union members in Minnesota today than there were in 2006, contributing to the 573,000-member drop in union workers across the nation over that time. The decline in union membership has occurred in both the public sector and the private sector in Minnesota.

Consequently, the total number of labor unions and similar labor organizations has declined over the past decade. There are 311 labor unions and similar organizations in Minnesota, a decline of nearly 24 worker establishments over ten years. There are also 326 fewer individuals working for labor unions and similar organizations today than there were one decade ago.

As of 2015, the overall union membership rate is 14.2 percent in Minnesota:

- The number of union members has increased from 351,000 in 2012 to about 362,000 in 2015.
- White, non-Latino workers are more likely to be unionized (15.0 percent) than non-white workers (9.8 percent) in the state.
- Veterans are among the most unionized socioeconomic groups in Minnesota (21.2 percent).
- By educational attainment, the most unionized workers in Minnesota hold Master's degrees (31.0 percent) and associate's degrees (16.9 percent).

Almost one half of all public sector workers are unionized in Minnesota and over half of all public sector workers are unionized in the Twin Cities metropolitan area. Meanwhile, slightly more than one-third of all public sector workers are unionized across the nation. In comparison, fewer than one-in-ten (8.0 percent) Minnesotans who work in the private sector are union members while just 6.7 percent of private sector workers are now unionized across America.

Union membership is influenced by a number of factors. Employment in the public sector, construction, transportation, utilities, mining, leisure, and hospitality all raise the chances that a given worker is a union member. On the other hand, workers employed in management, business, financial and sales occupations, and those with professional or doctorate degrees are less likely to be unionized.

There is positive news for Minnesota's labor movement. Labor unions increase individual incomes by lifting hourly wages - particularly for low-income and middle-class workers. In Minnesota, unions raise worker wages by an average of 11.1 percent. The state's union wage effect is the 11th-highest in the nation. The union wage differential is higher for the median worker (13.6 percent) than the richest 10 percent of workers (11.0 percent), helping to foster a strong middle class and reduce income inequality.

Unions also help to close the racial income gap in the state. On average, unions increase the wages of white workers by 10.3 percent but boost the hourly earnings of non-white workers by 17.3 percent. Unions are therefore one of the most effective anti-poverty institutions in Minnesota.

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. Labor's response to these challenges could define its influence and effectiveness in the decades to come.

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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. Unions have fought on behalf of workers for better pay and fringe benefits, worked to increase 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 American families and communities.

Nevertheless, the labor movement has endured a gradual decline in both membership and influence. Almost one-in-four American workers (23.0 percent) were members of labor unions in 1980. Three and a half decades later, in 2015, only one-in-nine employed persons in America (11.1 percent) are unionized (Hirsch & Macpherson, 2016). 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 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). Minnesota has not been immune to these trends. From 2009 to 2012, earnings for the top 1 percent increased by 37.9 percent, while incomes grew by 5.4 percent for the bottom 99 percent of workers in Minnesota- making the state the 23rd-most unequal in America (Sommeiller & Price, 2015).

Although Minnesota could further reduce income inequality, Minnesota Governor Mark Dayton has taken steps to improve equality since he took office in 2011. For instance, Governor Dayton has raised income taxes on the rich and increased the minimum wage. Despite claims from opponents that these moves would harm the economy, Minnesota now has one of the lowest unemployment rates in the country and the median income of Minnesotans has risen to about \$8,000 *above* the national average (Gibson, 2016). But how have union workers fared?

This report, conducted by researchers at the Midwest Economic Policy Institute, the University of Illinois Project for Middle Class Renewal, and University of Minnesota, analyzes the course of unionization in Minnesota and in the United States from 2006 to 2015. Data from 2015 are also analyzed for the Twin Cities metropolitan statistical area (MSA). It is the first annual report of its kind for union members in Minnesota.

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 2015: 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, 2015) 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). 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 in America. Additionally, data on labor unions and similar labor organizations are included and analyzed. The report concludes by recapping key findings.

DATA AND LIMITATIONS

Except in one section, this Research Report exclusively 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, 2016).

The 10-year dataset from 2006 to 2015 captures information on 3,180,524 individuals aged 16 to 85 in the United States. These observations include 1,914,358 persons with a job, of whom 199,670 reported that they were union members. Survey responses include information from 48,660 employed individuals in Minnesota. In 2015, respondents with at least one job totaled 3,204 in Minnesota and 184,915 nationwide. “Twin Cities MSA” workers are defined as those who live in the Minneapolis-St. Paul-St. Cloud, Minnesota Metropolitan Statistical Area, and include 887 observations of employed workers in 2015.

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 Minnesota 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 2015, union membership data was only available for 2,822 of the 3,204 surveyed workers (88.1 percent) in Minnesota. 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, 2016). 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 2006, unionization has declined in Minnesota and the United States (Figure 1). The total union membership rate was 16.0 percent in Minnesota and 12.0 percent nationwide in 2006. Ten years later, both rates have fallen to 14.1 percent and 11.1 percent, respectively. The gradual decline in the unionization rate has translated into a decrease in union membership of about 34,000 workers in Minnesota since 2006, contributing to the 573,000-member national decline in union workers over that time (Figure 2).

Over the past ten years, the peak of union membership in Minnesota was right before the Great Recession. In 2007, Minnesota had a unionization rate of 16.3 percent and over 400,000 total members. Membership reached a low in 2012, when only about 351,000 workers belonged to a union. Since 2012, however, the number of union members has increased by about 11,000 workers to 362,000 total members in 2015 (Figure 2).

Finally, despite the decline in unionization, Minnesota’s union membership rate has consistently been above the national average. The 10-year combined Minnesota unionization rate was 15.1 percent, 3.4 percentage points higher than the 11.7 percent national rate. On a year-by-year basis, Minnesota’s union

membership rate has ranged from 2.7 to 4.2 percentage points higher than the national average (Figure 2).

FIGURE 1: UNIONIZATION RATES AND TOTAL UNION MEMBERSHIP BY REGION, 2006-2015

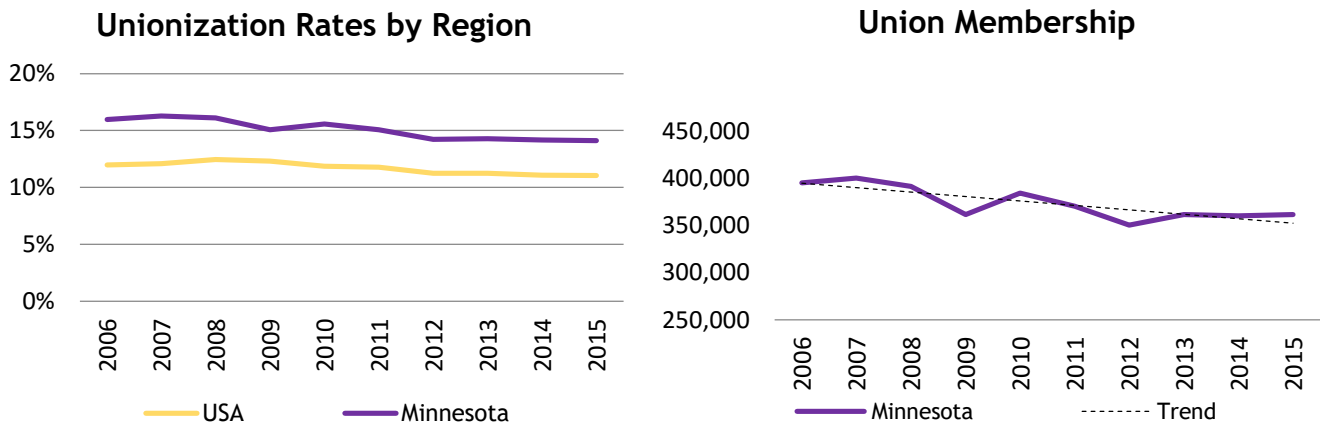


FIGURE 2: TOTAL UNION MEMBERS AND OVERALL UNIONIZATION RATES BY REGION, 2006-2015

Year	Minnesota		USA	
	Members	Rate	Members	Rate
2006	395,480	15.96%	15,359,108	11.98%
2007	400,369	16.27%	15,670,352	12.08%
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%
Totals	3,739,051	15.09%	150,145,339	11.70%

UNIONIZATION BY DEMOGRAPHICS

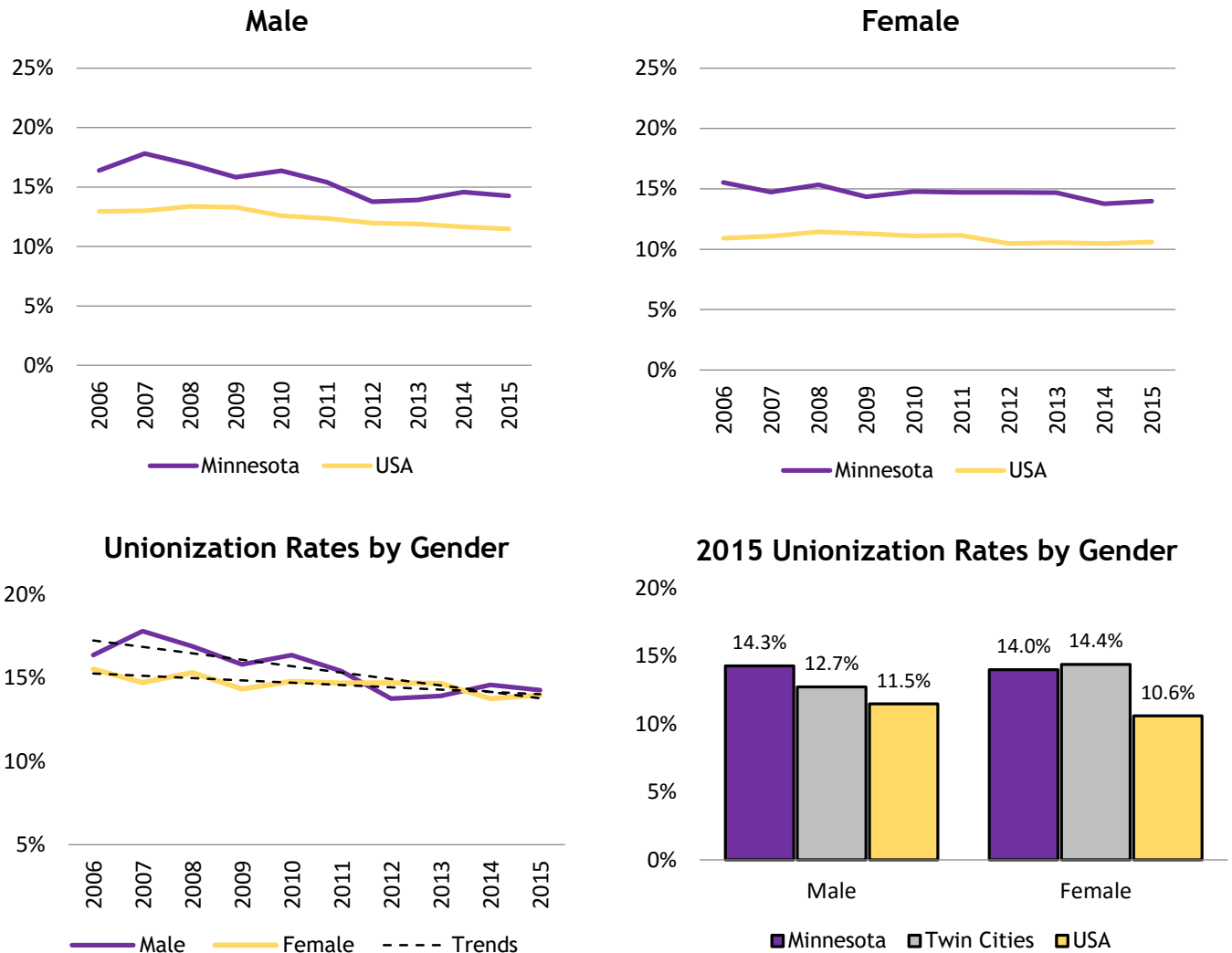
Falling rates of unionization have reflected declines in union membership among both men and women in Minnesota (Figure 3). An estimated 16.4 percent of employed men were unionized in 2006, but the 2015 male unionization rate in Minnesota fell to 14.3 percent. The male unionization rate has also decreased in the nation as a whole. Since 2006, male union density has dropped by 1.5 percentage points in the United States.

Furthermore, female union membership has also dropped in Minnesota and nationwide. Female union density in Minnesota was 15.5 percent in 2006 but fell to 14.0 percent in 2015, a 1.5 percentage-point decrease over the decade (Figure 3). Nationwide, female union membership has dipped slightly by 0.3 percentage points since 2006.

As of 2015, 14.3 percent of men and 14.0 percent of women are members of a union in Minnesota. Female workers are more likely to be unionized than male workers in the Twin Cities region. The female

unionization rate is 14.4 percent in the Twin Cities, approximately 1.7 percentage points higher than the 12.7 percent male unionization rate. Unionization rates are higher in Minnesota and the Twin Cities region than the U.S. average for both men and women.

FIGURE 3: GRAPHS OF UNIONIZATION RATES BY GENDER, 2006-2015



White, non-Latinos are more unionized than their non-white counterparts (Figure 4). The unionization rate for white, non-Latino workers is 15.0 percent in Minnesota, 15.2 percent in the Twin Cities, and 11.2 percent in the United States. In comparison, non-white union density is 9.8 percent in the state, 7.4 percent in the state’s largest metropolitan area, and 10.8 percent across the nation. Minnesota has relatively more white unionized workers than the national average and slightly less non-white unionized workers than the national average.

Over time, union membership has fallen for both racial identity groups (Figure 5). From 2006 to 2015, unionization in Minnesota fell by 1.3 percentage points for white, non-Latino workers and by 3.5 percentage points for all other non-white workers. It is worth noting, however, that non-white union membership estimates fluctuate from year to year due to relatively smaller sample sizes.

FIGURE 4: UNIONIZATION RATES BY RACIAL OR ETHNIC IDENTIFICATION BY REGION, 2015

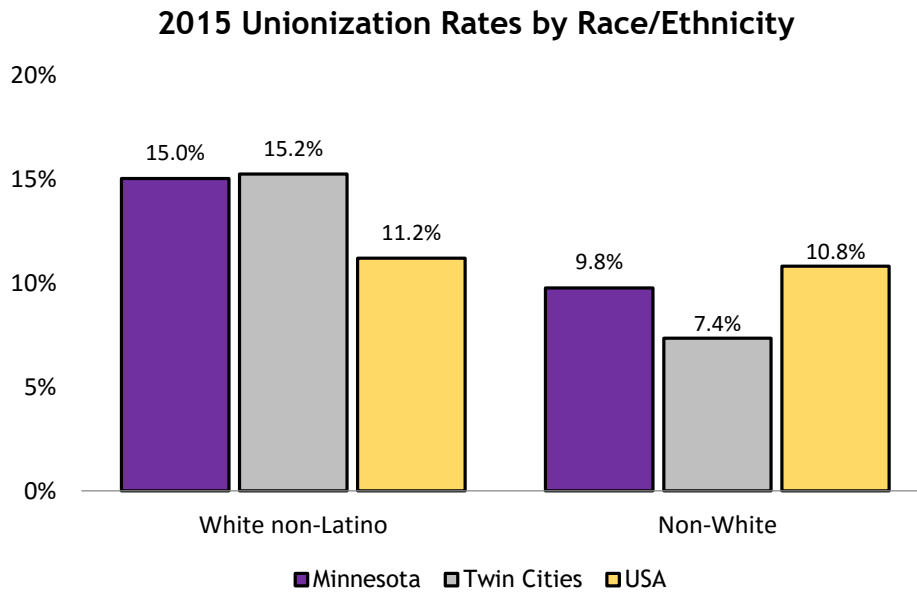
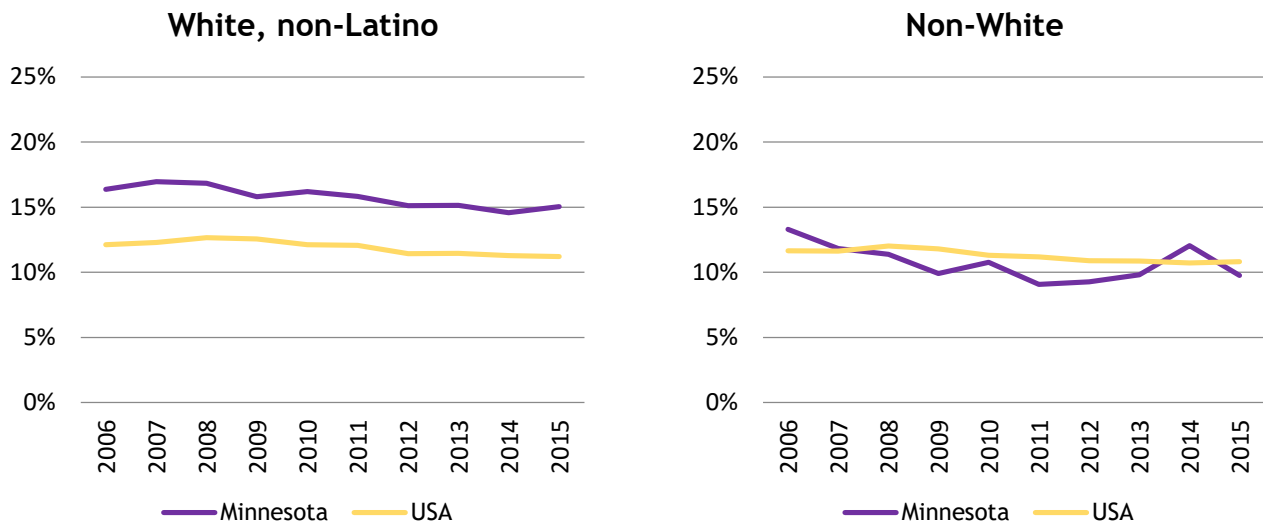


FIGURE 5: GRAPHS OF UNIONIZATION RATES BY RACIAL OR ETHNIC IDENTIFICATION, 2006-2015



Unionization rates are much higher for middle-aged workers than young workers (Figure 6). Regardless of region studied, unionization rates are highest for workers between the ages of 35 and 64 years old. Specifically, the most unionized age groups are those aged 55 to 64. Of workers in this age cohort, 20.1 percent are unionized in Minnesota, 20.1 percent are unionized in the Twin Cities area, and 14.3 percent are unionized across the United States. The second-most unionized age cohort in Minnesota is those between the ages of 35 and 44, with a unionization rate of 18.3 percent across the state. Aside from the workers aged 45 to 54, unionization rates in both Minnesota and the Twin Cities region exceed or meet the comparable U.S. average by age (Figure 6).

Union organizing of young workers in the labor force has been relatively limited. For young workers aged 16 to 24, unionization rates are less than 9 percent for Minnesota, the Twin Cities area, and the nation (Figure 6). Additionally, the average age of union workers is slightly around 44 years old and the average age of nonunion workers is just under 41 years old, regardless of region studied (Figure 7).

FIGURE 6: UNIONIZATION RATES BY AGE GROUP BY REGION, 2015

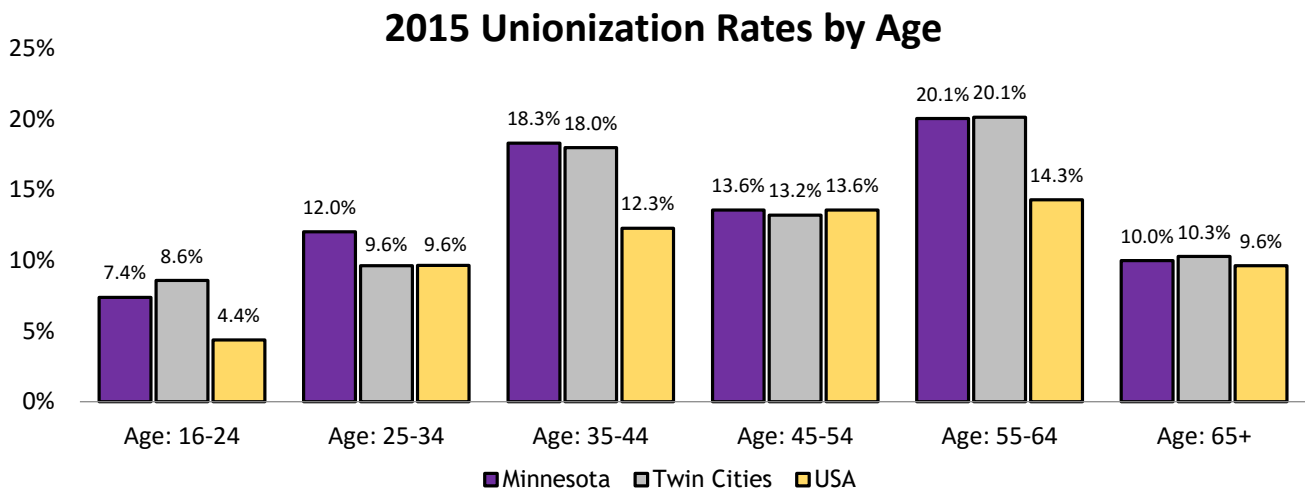


FIGURE 7: AVERAGE AGE OF UNION AND NONUNION WORKERS BY REGION, 2015

2015 Variable	Age (Years)	
	Nonunion	Union
Minnesota	40.90	43.57
Twin Cities MSA	40.28	44.27
USA	40.94	44.51

Union membership varies across other demographic classifications as well (Figure 8). Among the most unionized socioeconomic groups are military veterans. About one-in-five employed veterans is in a union in the Twin Cities area (20.0 percent) and Minnesota (21.3 percent). For the United States, approximately 15.1 percent of employed veterans are members of unions. The unionization rate for married workers is also relatively high in the Twin Cities MSA, in Minnesota, and in America. Conversely, foreign-born immigrant workers experience lower union membership rates than their respective regional averages. Foreign-born workers across America are more likely to be union members than those in the Twin Cities region and in Minnesota. Native-born and naturalized citizens are more likely to be union members than foreign-born workers.

FIGURE 8: UNIONIZATION RATES OF SELECT DEMOGRAPHIC VARIABLES BY REGION, 2015

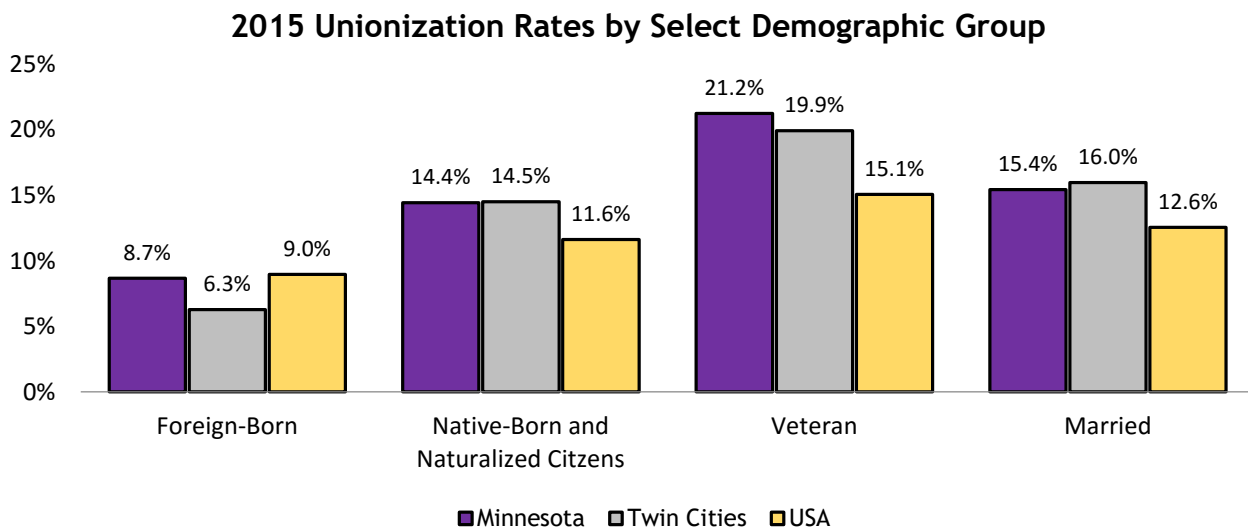
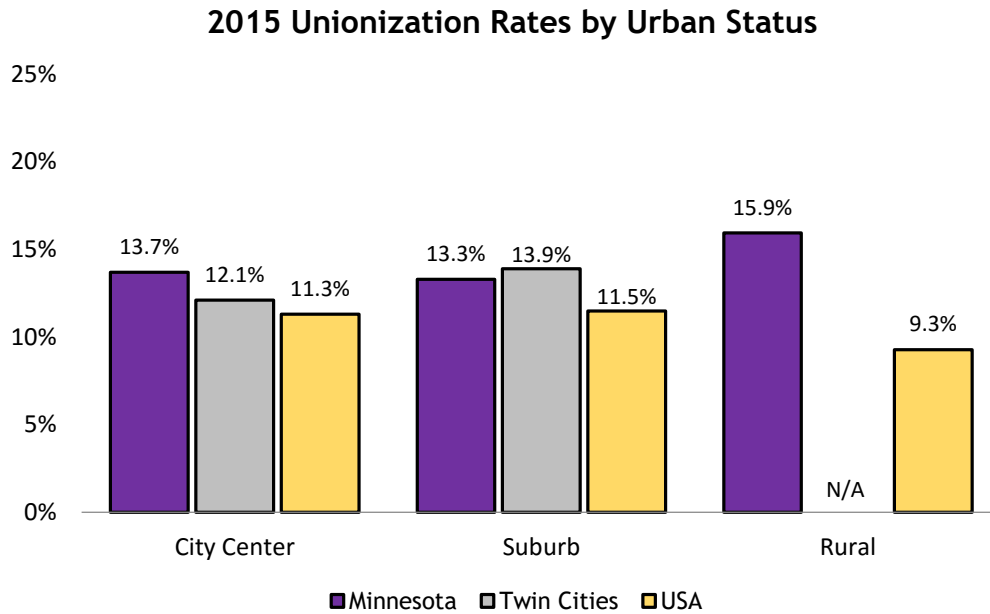


Figure 9 reveals that geographic distance from an urban core is a minor factor in union membership. In the Twin Cities, workers who reside in the central city are less likely to be unionized (12.1 percent) than those who live in the suburbs (13.9 percent). In Minnesota overall, 13.7 percent of urban workers are members of unions, 13.3 percent of suburban workers are unionized, and 16.0 percent of rural workers belong to a union. The comparable figures for the United States are respectively 11.3 percent, 11.5 percent, and 9.3 percent.

FIGURE 9: UNIONIZATION RATES BY URBAN STATUS BY REGION, 2015



UNIONIZATION BY EDUCATION

Workers with master’s degrees are the most unionized educational group in America (Figure 10). At 31.0 percent, unionization among master’s degree holders in Minnesota largely towers over the rates of all other educational attainment groups in each region studied. In Minnesota, the Twin Cities area, and the United States, the second-most unionized employees by educational attainment are those with associate’s degrees. Those without a high school degree comprise the least unionized educational group. In Minnesota, only 7.7 percent of workers without a high school degree are union members. According to the data, the only educational groups in which employed workers nationwide have higher union membership rates than the Twin Cities are for workers who have less than a high school degree and those with a professional or doctorate degree.

Over the past six years, unionization rates have slightly decreased 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 2010-2012 and 2013-2015. Across the seven educational classifications, the union membership rate has increased in only one case: Workers with an associate’s degree (1.3 percentage points). The largest declines in unionization were for individuals with a Master’s degree (-2.3 percentage points) and individuals with a professional or doctorate degree (-3.7 percentage points).

FIGURE 10: UNIONIZATION RATES BY EDUCATIONAL ATTAINMENT OR STATUS BY REGION, 2015

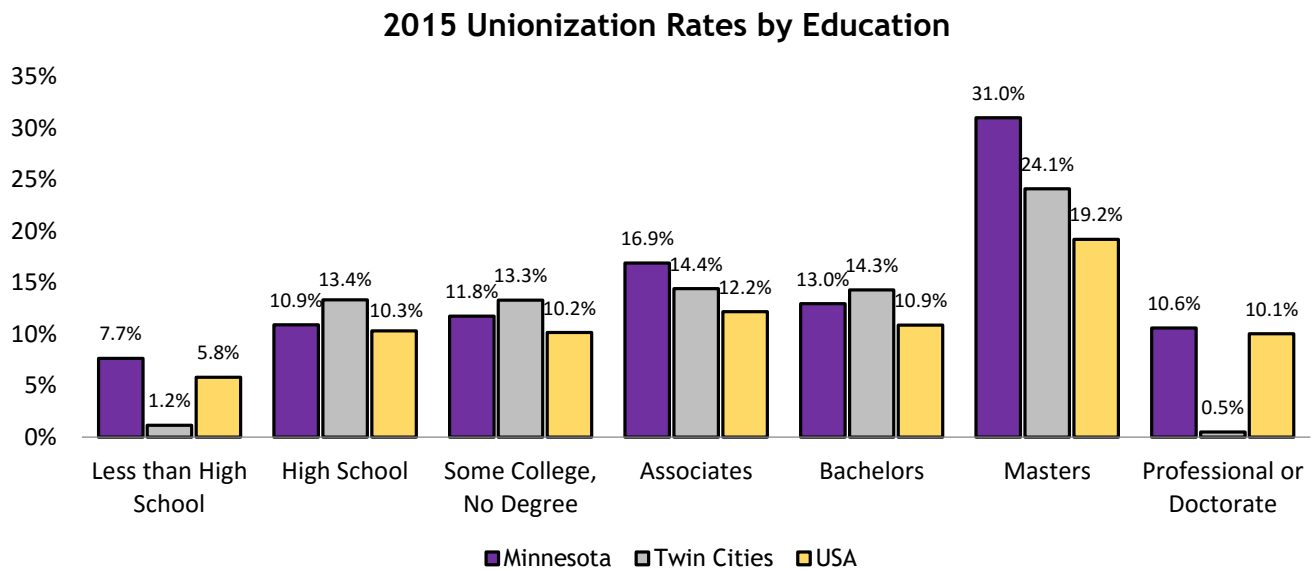


FIGURE 11: CHANGE IN UNIONIZATION RATES BY EDUCATION, THREE-YEAR AVERAGES, 2010-2015

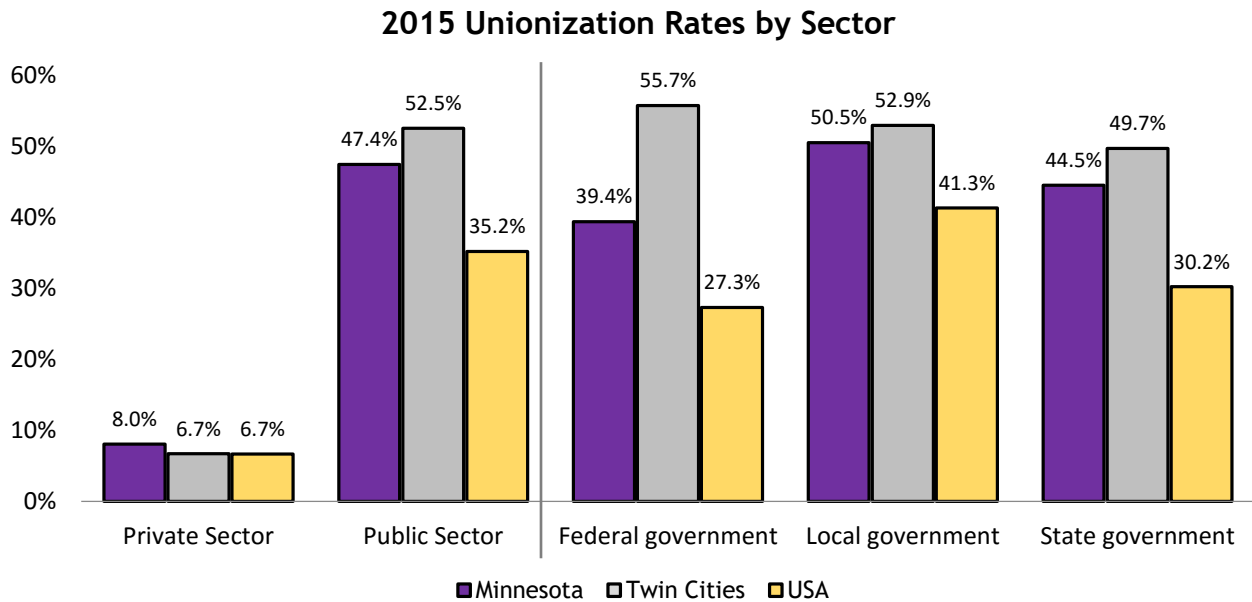
Variable	Minnesota		
	2010-12	2013-15	Change
Less than High School	6.4%	5.5%	-0.9%
High School	13.7%	12.6%	-1.1%
Some College, No Degree	12.62%	11.4%	-1.3%
Associates	17.26%	18.4%	+1.2%
Bachelors	14.04%	12.8%	-1.2%
Masters	29.06%	26.8%	-2.3%
Professional/Doctorate	14.50%	10.9%	-3.7%

UNIONIZATION BY SECTOR, INDUSTRY, AND OCCUPATION

Unionization rates are significantly higher for public sector workers (Figure 12). Almost one half of all public sector workers are unionized in Minnesota (47.4 percent) and over half of all public sector workers are unionized in the Twin Cities region (52.5 percent). Minnesota and the Twin Cities area have significantly higher unionization rates among public sector workers than the entire nation (35.2 percent). In comparison, fewer than one out of every ten private sector workers is now a union member in Minnesota (8.0 percent), the Twin Cities MSA (6.7 percent), and the United States (6.7 percent). In fact, the private sector unionization rates are closer to one out of every fifteen workers.

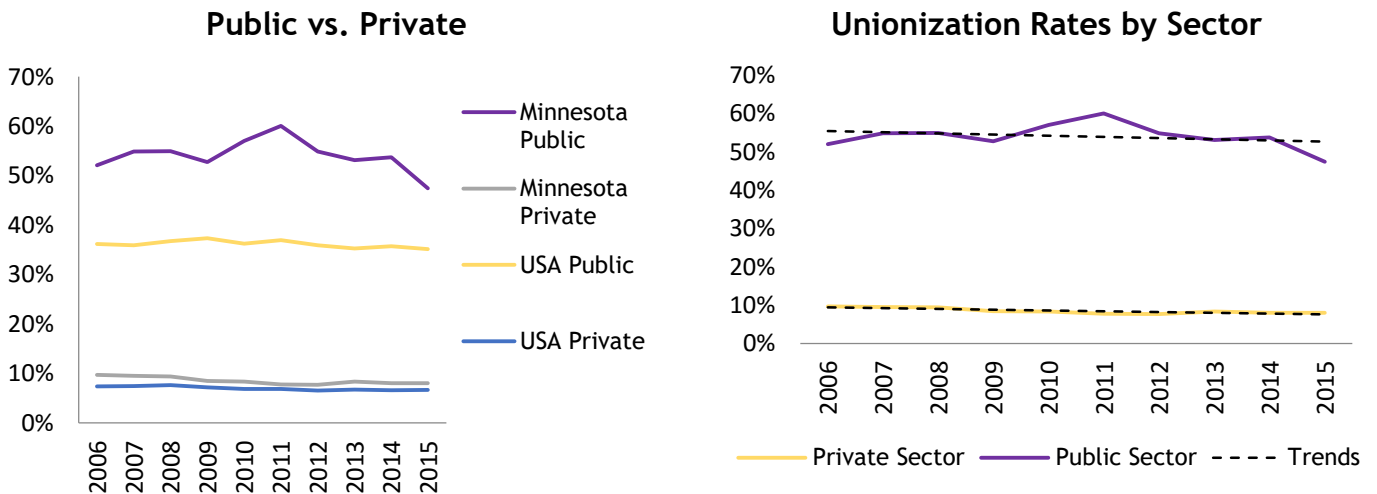
In general, the most unionized public sector group is local government employees, with approximately half of workers belonging to a union in Minnesota (50.5 percent) and the Twin Cities MSA (52.9 percent). State government commands the second-highest unionization rate in Minnesota (44.5 percent). However, in the Twin Cities region, the highest levels of unionization are for federal workers (55.7 percent). Public sector unionization is over five times as high as private sector unionization (Figure 12).

FIGURE 12: UNIONIZATION RATES BY SECTOR OR LEVEL OF GOVERNMENT BY REGION, 2015



Public sector unionization in Minnesota has fluctuated over time (Figure 13). While private sector unionization has gradually decreased in Minnesota and the United States, public sector union membership has experienced gains in Minnesota from 2009 to 2011, but has since declined. Nationwide, public sector unionization has marginally declined throughout the last decade. In Minnesota, 2006 union membership rates were 52.1 percent for public sector workers and 11.7 percent for private sector workers. Today, the union membership rate for public sector workers is 4.7 percentage points lower and the analogous private sector rate is 1.7 percentage points lower than in 2006. There has been variability in the public sector unionization rates over the decade, with both growth and decline. Nevertheless, both public sector unionization and private sector unionization have consistently been higher than their respective national averages.

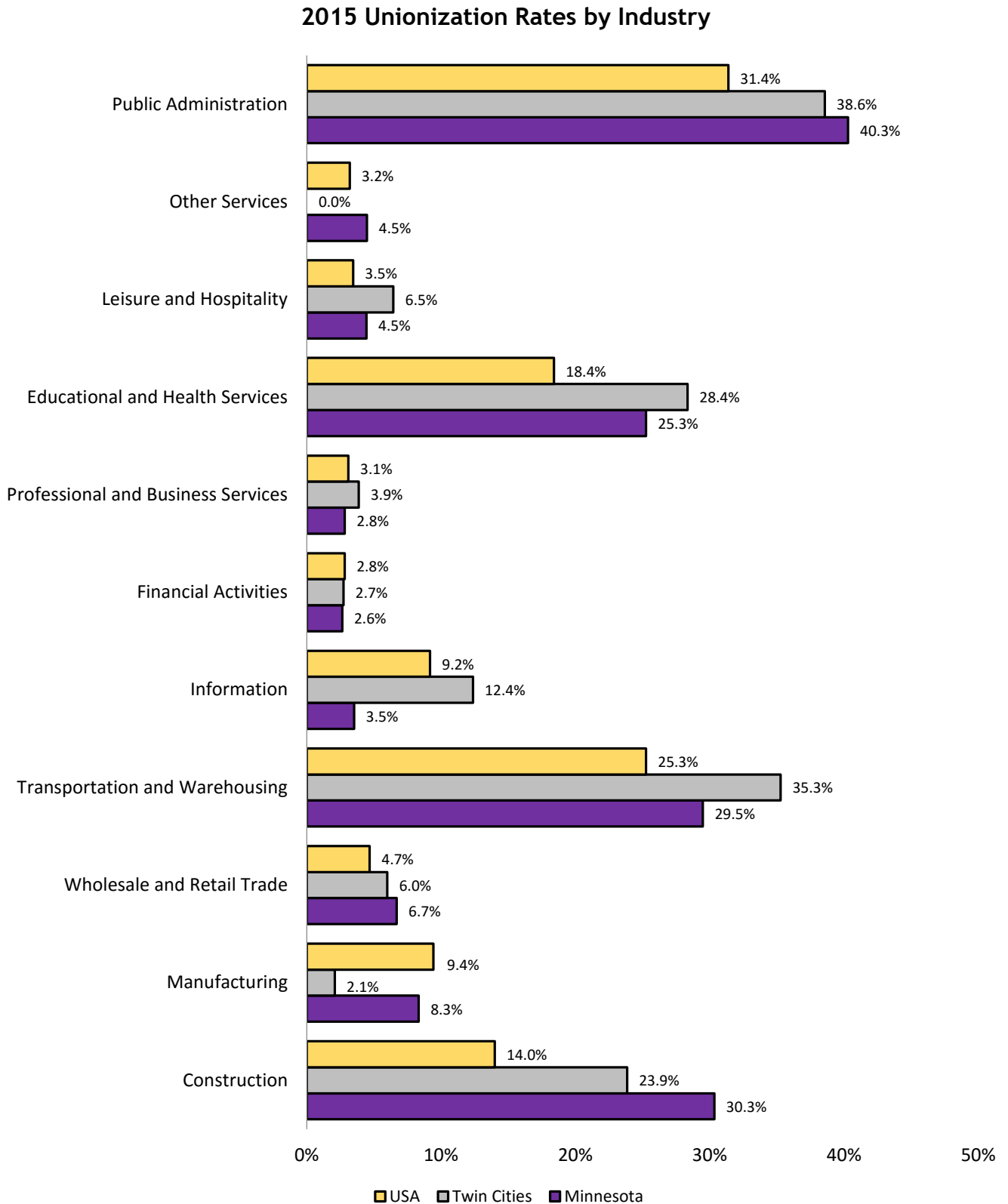
FIGURE 13: UNIONIZATION RATES BY SECTOR BY REGION, 2006 TO 2015



Union membership varies significantly by industry of employment (Figure 14). The top five industries by unionization rates in Minnesota are public administration (40.3 percent); construction (30.3 percent); transportation and warehousing (29.5 percent); educational and health services (25.3 percent); and

manufacturing (8.3 percent). The least-unionized industries generally are professional and business services; financial activities; and leisure and hospitality.

FIGURE 14: UNIONIZATION RATES BY INDUSTRY BY REGION, 2015

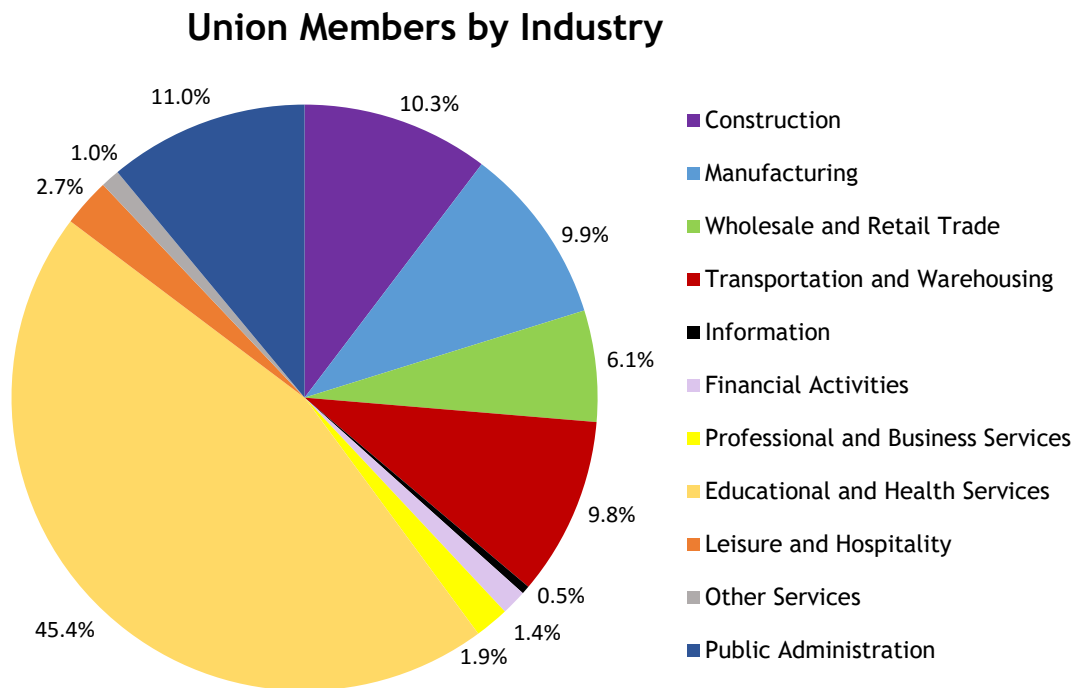


Figures 15 and 16 present industry breakdowns of total union membership in Minnesota compared to total employment in the state. In Figure 15, industries are organized in descending order by unionization rate and weighted estimates are rounded to the nearest thousand. Note that the estimates include all *occupations* within an industry. The construction industry, for example, includes white-collar workers who typically are not union members, such as lawyers, office support workers, and architects. The top five industries with the most union members in Minnesota are educational and health services (164,000 members), public administration (40,000 members), construction (37,000 members), manufacturing (36,000 members) and transportation and warehousing (36,000 members) (Figure 15). Together, union members from these five industries account for 86.4 percent of all union workers in Minnesota (Figure 16).

FIGURE 15: MINNESOTA INDUSTRY UNIONIZATION RATES, EMPLOYMENT, AND UNION MEMBERS, 2015

Minnesota (2015)	Unionization Rate	Total Employment	Total Union Members	Total Sample
Public Administration	40.3%	99,000	40,000	114
Construction	30.4%	123,000	37,000	129
Transportation & Warehousing	29.5%	121,000	36,000	138
Educational & Health Services	25.3%	650,000	164,000	715
Manufacturing	8.33%	428,000	36,000	456
Wholesale & Retail Trade	6.7%	332,000	22,000	367
Other Services	4.5%	84,000	4,000	95
Leisure & Hospitality	4.5%	216,000	10,000	235
Information	3.5%	47,000	2,000	56
Professional & Business Services	2.8%	240,000	7,000	267
Financial Activities	2.6%	191,000	5,000	217

FIGURE 16: COMPOSITION OF MINNESOTA UNION WORKFORCE BY INDUSTRY, 2015



One cautionary note must be mentioned, however. While the total sample included 3,304 respondents of persons living in Minnesota who were employed (2,822 of whom offered their union membership status), cutting the data into industry-level investigations results in relatively small sample sizes. Thus, the statistics in Figure 16 are simply *estimates*. Nevertheless, they are informative in that they shed light on the state's union membership and provide, at the very least, general parameters on the composition of the union workforce.

Lastly, Figure 17 depicts unionization rates by occupation. The most unionized occupation groups are construction and extraction occupations such as carpenters and operating engineers (37.6 percent in Minnesota); professional and related occupations including teachers (22.8 percent in Minnesota); and installation, maintenance, and repair occupations such as mechanics (22.8 percent in Minnesota). 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 20.4 percentage points higher in Minnesota than the comparable United States average. The least-unionized occupations are management, business, and financial careers; sales and related jobs; and office and administrative support occupations in Minnesota.

FIGURE 17: UNIONIZATION RATES BY OCCUPATION BY REGION, 2015

Occupation (2015)	Minnesota	Twin Cities MSA	USA
Management, Business, & Financial	4.5%	6.9%	4.4%
Professional & Related	22.8%	20.3%	16.8%
Service	11.3%	14.7%	10.6%
Sales & Related	5.6%	6.0%	3.2%
Office & Administrative Support	10.5%	14.7%	9.3%
Construction & Extraction	37.6%	26.2%	17.2%
Installation, Maintenance, & Repair	22.8%	15.8%	14.7%
Production	14.2%	1.3%	12.6%
Transportation & Material Moving	15.3%	17.6%	15.7%

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 2013 through 2015. 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 nearly 10,000 Minnesota workers, and weights are applied to match the sample to the actual Minnesota population. Given that Minnesota averaged about 3 million workers over this time, the sample size would yield a normal ± 1.0 percent margin of error in a standard survey report.

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 21.3 percentage points on average. State and federal government employment respectively increase the union probability by 15.8 and 21.2 percentage points. Relative to a comparable individual in manufacturing, a Minnesota worker's chance of being a union member is between 5 and 17 percentage points more likely in each of the following industries: mining, transportation and utilities, educational and health services, and leisure and hospitality.

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 10.1 percentage points. Compared to the manufacturing industry, the financial

activities, professional and related services, and other services industries reduce the chances of unionization by between 5 and 8 percentage points. Additionally, workers in service, office, administrative support, services, sales, management, business, and financial positions are all 6 to 18 percentage points less likely to be union members than similar workers in production occupations.

FIGURE 18: PROBABILITY OF BEING A UNION MEMBER IN MINNESOTA, LARGEST FACTORS, 2013-2015

Probability of Union Membership	Minnesota Mean
<i>Predictor</i>	<i>Percentage Point Change</i>
<i>Sector: Local government</i>	+21.27%
<i>Sector: State government</i>	+21.20%
<i>Industry: Mining</i>	+17.20%
<i>Sector: Federal government</i>	+15.84%
<i>Industry: Transportation & utilities</i>	+10.28%
<i>Occupation: Construction & extraction</i>	+8.67%
<i>Industry: Educational & health services</i>	+8.22%
<i>Industry: Leisure & hospitality</i>	+5.54%
<i>Industry: Financial activities</i>	-5.30%
<i>Occupation: Service</i>	-5.53%
<i>Industry: Professional & related services</i>	-7.90%
<i>Industry: Other services</i>	-8.01%
<i>Occupation: Office & administrative support</i>	-9.85%
<i>Education: Professional or doctorate degree</i>	-10.09%
<i>Occupation: Sales & related</i>	-10.26%
<i>Occupation: Management, business, & financial</i>	-18.03%
<i>Constant</i>	13.80%
<i>Observations</i>	9,964

Source: CPS-ORG, Center for Economic and Policy Research Uniform Data Extracts, 2013-2015. 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.

UNION 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 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 about \$4.00 per hour, or by about 17 percent. The gap between union and nonunion wages appears to be smaller in Minnesota. Over the past three years, the union wage difference in Minnesota has been \$3.65 per hour, \$2.62 per hour, and \$1.64 per hour (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 2013 through 2015 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, 2006 TO 2015

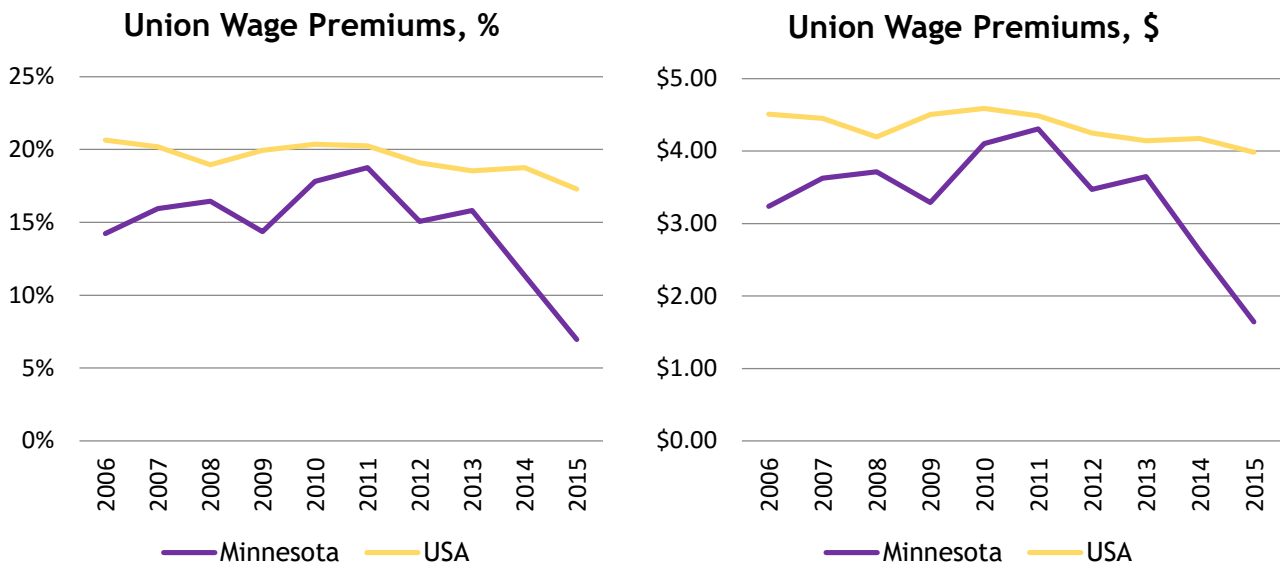


FIGURE 20: WAGES OF UNION AND NONUNION WORKERS BY REGION, 2015

Variable	Minnesota		USA	
	Nonunion	Union	Nonunion	Union
Wage	\$23.56	\$25.20	\$23.05	\$27.03
Union Difference, %		+6.97%		+17.29%
Union Difference, \$		+\$1.64		+\$3.98

After controlling for education, demographics, and employment factors, the union wage premium is higher but 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 11.1 percent in the United States. In Minnesota, the union wage premium is an estimated 11.1 percent on average as well, holding all else constant (including occupation and industry). Both results are statistically significant, even at the 1-percent level.

FIGURE 21: REGRESSIONS OF UNION WAGE PREMIUMS FOR AMERICA AND MINNESOTA, 2013-2015

Union Wage Premium: Ordinary Least Squares (OLS) and Quantile Regressions, 2013-2015						
United States	Minnesota					
Mean	Mean	Percentile: 10 th	Percentile: 25 th	Median	Percentile: 75 th	Percentile: 90 th
11.06%***	11.14%***	12.19%***	12.68%***	13.59%***	11.25%***	10.98%***
R ² =0.456	R ² =0.477	R ² =0.230	R ² =0.309	R ² =0.333	R ² =0.324	R ² =0.305

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, 2013-2015. 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 11.1 percent increase in the average Minnesota worker’s wage, the benefit is actually higher for those at the middle-to-bottom 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 12.2 percent higher for workers in the bottom 10 percent of workers and 13.6 percent for the median worker. But the union wage premium for the richest

10 percent of workers was lower, at 11.0 percent. 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 11.1 percent compare to the union effect in other states? Similar 2013-2015 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 11th-highest in the nation. Interestingly, the union wage premium is actually highest for Louisiana (16.3 percent), Indiana (15.1 percent), and Missouri (15.0 percent). A total of 12 states have union wage premiums that are found to be higher than the national average of 11.1 percent. Importantly, a positive union wage premium exists in every state.

FIGURE 22: UNION WAGE PREMIUMS BY STATE, OLS REGRESSIONS, 2013-2015

Rank	State	Union Premium	Rank	State	Union Premium
	<i>United States</i>	11.06%	26	Arizona	9.38%
1	Louisiana	16.30%	27	Michigan	9.31%
2	Indiana	15.06%	28	Maryland	9.21%
3	Missouri	14.95%	29	Oregon	9.01%
4	Kansas	14.72%	30	Rhode Island	8.65%
5	Nevada	13.95%	31	West Virginia	8.35%
6	California	13.88%	32	Nebraska	8.23%
7	Arkansas	13.62%	33	Maine	8.20%
8	Idaho	11.94%	34	Kentucky	8.17%
9	Tennessee	11.68%	35	Georgia	7.91%
10	New Jersey	11.60%	36	Washington	7.64%
11	Minnesota	11.14%	37	Texas	7.54%
12	North Dakota	11.13%	38	Delaware	7.49%
13	Pennsylvania	11.02%	39	Connecticut	7.34%
14	Wisconsin	10.98%	40	District of Columbia	7.11%
15	Montana	10.75%	41	New Hampshire	6.46%
16	South Dakota	10.73%	42	Alaska	6.31%
17	Illinois	10.52%	43	North Carolina	5.48%
18	Hawaii	10.40%	44	Mississippi	5.20%
19	Alabama	10.19%	45	Vermont	5.15%
20	Oklahoma	10.14%	46	Florida	4.76%
21	Wyoming	10.13%	47	Iowa	4.75%
22	Ohio	9.75%	48	Colorado	3.83%
23	South Carolina	9.75%	49	Utah	1.75%
24	Massachusetts	9.55%	50	New Mexico	1.53%
25	New York	9.45%	51	Virginia	0.82%

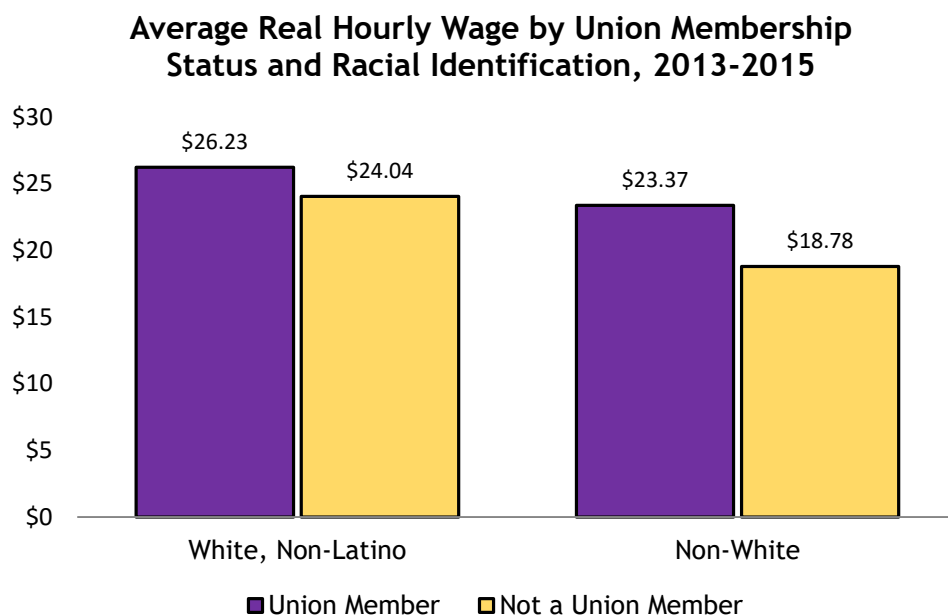
All estimates are significant at least at the 5-percent level. Source: CPS-ORG, Center for Economic and Policy Research Uniform Data Extracts, 2013-2015. Statistics are adjusted by the outgoing rotation group earnings weight to match the total population 16 years of age or older. For more, see the Appendix.

UNION AND NONUNION WAGES BY DEMOGRAPHIC GROUP

By benefiting low-income and middle-class workers most, unionization also helps close the racial inequality gap in Minnesota (Figure 23). Figure 23 displays the average union wage and the average

nonunion wage in Minnesota by racial identification for 2013 through 2015. The results do not control for other factors which may increase a worker’s wages. The overall averages show that, union membership raises wages regardless of race or ethnicity. In Minnesota, the average white, non-Latino worker earns \$24.04 per hour if he or she is not a union member. The average white worker belonging to a union, however, earns \$26.23 per hour - a \$1.99 per hour increase. The union difference is even larger for non-white workers. Unionized non-white workers earn \$23.37 an hour on average, approximately \$4.59 more per hour than comparable nonunion employees. In Minnesota, the wages of unionized minority workers are on par with the wages of non-union white workers.

FIGURE 23: AVERAGE HOURLY WAGE BY UNION MEMBERSHIP STATUS AND RACE, 2013-2015



Once again, the data presented in Figure 23 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, and job experience. Figure 24 therefore presents results from OLS regression analyses by race. The analysis is used to isolate the independent effect that unionization has on wages.

After controlling for education, demographics, and employment factors, the union wage premium is higher for non-white workers in Minnesota (Figure 24). While the union wage premium is 11.1 percent in Minnesota, the personal benefit to being a union member is 17.3 percent on average for non-white workers. The union wage premium is also a strong 10.3 percent advantage for white, non-Latino workers in Minnesota. Accordingly, one of the most effective ways to reduce racial income inequality in the state would be to increase the relatively low unionization rate of non-white workers.

FIGURE 24: REGRESSIONS OF UNION WAGE PREMIUMS BY RACIAL IDENTIFICATION, 2013-2015

Union Wage Premium: Ordinary Least Squares (OLS), 2013-2015		
State Mean	Racial Identification: White	Racial Identification: Nonwhite
11.14%***	10.31%***	17.28%***
R ² =0.477	R ² =0.467	R ² =0.309

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, 2013-2015. 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 the union wage premium is positive for both genders, after controlling for other observable factors (Figure 25). While the union wage premium is 11.1 percent in Minnesota, the personal benefit to

being a union member is 12.9 percent on average for men and a strong 10.2 percent advantage for women. Unionization helps female workers close the gender-based wage gap, especially compared to nonunion male workers.

FIGURE 25: REGRESSIONS OF UNION WAGE PREMIUMS BY GENDER IDENTIFICATION, 2013-2015

Union Wage Premium: Ordinary Least Squares (OLS), 2013-2015		
State Mean	Gender Identification: Male	Gender Identification: Female
11.14%***	12.95%***	10.25%***
R ² =0.477	R ² =0.483	R ² =0.467

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, 2013-2015. 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.

ADDITIONAL INFORMATION: DATA ON LABOR UNION ESTABLISHMENTS

As a result of the gradual, long-term decline in union membership in Minnesota, the total number of “labor unions and similar labor organizations” has declined over the past decade. Figure 26 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.

The total number of establishments in 2014, the latest year for which data are available, was 311. This is down marginally from the 335 establishments of labor unions and similar labor organizations in Minnesota in 2005. Over the past ten years, there has been a 24 establishment decline (-7.2 percent) in labor unions and similar labor organizations in Minnesota - despite a rise in overall employment.

Consequently, the number of paid employees working directly for labor unions and similar labor organizations has fallen from 4,937 workers in 2005 to 4,611 workers in 2014 (-6.6 percent). There are thus 326 fewer individuals working for labor unions and similar organizations today than there were a decade ago. Note that employees of unions peaked in 2010, at 5,069 individuals employed at union halls and similar establishments. As unionization has decreased, revenue from membership dues has relatively declined, resulting in these nonprofit organizations closing down and laying off their workers (Figure 26).

FIGURE 26: UNIONS AND SIMILAR ORGANIZATIONS, ESTABLISHMENTS AND EMPLOYMENT, 2005-2014

Minnesota	NAICS Code: 81393 - Labor Unions and Similar Labor Organizations	
Year	Establishments	Paid Employees
2005	335	4,937
2006	324	4,816
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
Totals	-24	-326

CONCLUSIONS

Since 2006, unionization has declined in Minnesota, in the Twin Cities region, and in America. There are approximately 34,000 fewer union members in Minnesota today than there were in 2006, contributing to the 573,000-member drop in union workers across the nation over that time. The decline in union membership has occurred in both the public sector and the private sector in Minnesota.

Consequently, the total number of labor unions and similar labor organizations has declined over the past decade. In 2014, the most recent year for which data were available, there were 311 labor unions and similar organizations in Minnesota, a decline of nearly 24 establishments over ten years. There are 326 fewer individuals working for labor unions and similar organizations today than there were one decade ago.

As of 2015, the overall union membership rate is 14.2 percent in Minnesota. The total number of union members has increased from 351,000 in 2012 to about 362,000 in 2015. White, non-Latino workers are more likely to be unionized (15.0 percent) than non-white workers (9.8 percent) in the state. In addition, veterans are among the most unionized socioeconomic groups in Minnesota (21.2 percent). By educational attainment, the most unionized workers in Minnesota hold Master's degrees (31.0 percent) and associate's degrees (16.9 percent).

Almost one half of all public sector workers are unionized in Minnesota and over half of all public sector workers are unionized in the Twin Cities metropolitan area. Meanwhile, slightly more than one-third of all public sector workers are unionized across the nation. In comparison, fewer than one-in-ten (8.0 percent) Minnesotans who work in the private sector are union members while just 6.7 percent of private sector workers are now unionized across America.

Union membership is influenced by a number of factors. Employment in the public sector, construction, transportation, utilities, mining, leisure, and hospitality all raise the chances that a given worker is a union member. On the other hand, workers employed in management, business, financial, and sales occupations, and those with professional or doctorate degrees are less likely to be unionized.

There is positive news for Minnesota's labor movement. Labor unions increase individual incomes by lifting hourly wages - particularly for low-income and middle-class workers. In Minnesota, unions raise worker wages by an average of 11.1 percent. The state's union wage effect is the 11th-highest in the nation. The union wage differential is higher for the median worker (13.6 percent) than the richest 10 percent of workers (11.0 percent), helping to foster a strong middle class and reduce income inequality.

Unions also help to close the racial income gap in the state. On average, unions increase the wages of white workers by 10.3 percent but boost the hourly earnings of non-white workers by 17.3 percent. Unions are therefore one of the most effective anti-poverty institutions in Minnesota.

Organized labor still plays a vital role in Minnesota's economy and communities. The Minnesota labor movement, however, will continue to face both short- and long-term challenges. In the short term, there are political pressures to weaken unions through various legislative and corporate measures. Over the long term, the trend of declining union membership rates may persist. Labor's response to these challenges could define its influence and effectiveness in the decades to come.

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APPENDIX

TABLE A: PROBIT REGRESSION ON PROBABILITY OF UNION MEMBERSHIP, AVERAGE MARGINAL EFFECTS, MINNESOTA WORKERS, 2013-2015

<u>Minnesota</u>		
Prob(Union Member)	Coefficient	(St. Err.)
Age	0.0073***	(0.0001)
Age ²	-0.0001***	(0.0000)
Female	-0.0078***	(0.0005)
Citizen	0.0227***	(0.0011)
White, non-Latino	-0.0003	(0.0009)
African-American	-0.0387***	(0.0012)
Latino or Latina	-0.0218***	(0.0013)
Center City	0.0055***	(0.0006)
Suburb	0.0107***	(0.0004)
Federal government	0.1584***	(0.0013)
State government	0.2120***	(0.0008)
Local government	0.2127***	(0.0006)
Usual hours worked	0.0016***	(0.0000)
Less than high school	-0.0125***	(0.0011)
Some college, no degree	-0.0065***	(0.0007)
Associate's	0.0135***	(0.0006)
Bachelor's	-0.0080***	(0.0007)
Master's	0.0254***	(0.0008)
Professional/Doctorate	-0.1009***	(0.0014)
Industry/Occupation Dummies	Y	
Constant	0.1380***	(0.0002)
R ²	0.2845	
Observations	9,964	

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, 2013-2015. The total number of observations of employed persons was 9,964 in Minnesota. 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, 2013-2015

Ln(Real Wage)	(1) USA Mean		(1) Minnesota Mean		(2) Minnesota Median		(3) Illinois, Mean	
	Coefficient	(St. Err.)	Coefficient	(St. Err.)	Coefficient	(St. Err.)	Coefficient	(St. Err.)
Union member	0.1106***	(0.0002)	0.1114***	(0.0010)	0.1359***	(0.0009)	0.1051***	(0.0007)
Age	0.0403***	(0.0000)	0.0456***	(0.0001)	0.0434***	(0.0001)	0.0390***	(0.0001)
Age ²	-0.0004***	(0.0000)	-0.0005***	(0.0000)	-0.0004***	(0.0000)	-0.0004***	(0.0000)
Female	-0.1553***	(0.0001)	-0.1317***	(0.0007)	-0.1151***	(0.0006)	-0.1364***	(0.0005)
Veteran	0.0142***	(0.0002)	-0.0177***	(0.0014)	-0.0224***	(0.0013)	0.0585***	(0.0011)
Citizen	0.0725***	(0.0002)	-0.0100***	(0.0019)	0.0286***	(0.0018)	0.0256***	(0.0011)
Immigrant	-0.0224***	(0.0002)	-0.0269***	(0.0016)	0.0087***	(0.0015)	-0.0766***	(0.0009)
White	0.0110***	(0.0002)	0.0844***	(0.0014)	0.0777***	(0.0013)	0.0038***	(0.0010)
African-American	-0.1039***	(0.0002)	-0.0223***	(0.0017)	-0.0250***	(0.0016)	-0.1408***	(0.0012)
Latino	-0.0701***	(0.0002)	-0.0646***	(0.0018)	-0.0924***	(0.0017)	-0.0665***	(0.0011)
Chicago MSA							0.0066***	(0.0007)
Center City	0.0467***	(0.0001)	0.1087***	(0.0009)	0.0990***	(0.0008)	0.0255***	(0.0009)
Suburb	0.0650***	(0.0001)	0.1276***	(0.0007)	0.1311***	(0.0006)	0.0370***	(0.0008)
Federal government	0.0441***	(0.0003)	0.0002	(0.0025)	-0.0092***	(0.0024)	-0.0433***	(0.0019)
State government	-0.1060***	(0.0002)	-0.1247***	(0.0016)	-0.1460***	(0.0015)	-0.1169***	(0.0013)
Local government	-0.0932***	(0.0002)	-0.1200***	(0.0014)	-0.1553***	(0.0013)	-0.0771***	(0.0010)
Usual hours worked	0.0043***	(0.0000)	0.0051***	(0.0000)	0.0062***	(0.0000)	0.0053***	(0.0000)
Involuntarily part-time	-0.1454***	(0.0002)	-0.1586***	(0.0015)	-0.1309***	(0.0014)	-0.1579***	(0.0011)
Less than high school	-0.1411***	(0.0002)	-0.0890***	(0.0014)	-0.0646***	(0.0013)	-0.1125***	(0.0010)
Some college	0.0397***	(0.0001)	0.0130***	(0.0010)	0.0204***	(0.0009)	0.0576***	(0.0007)
Associate's	0.0919***	(0.0002)	0.0919***	(0.0010)	0.0952***	(0.0009)	0.0738***	(0.0009)
Bachelor's	0.3073***	(0.0001)	0.2797***	(0.0010)	0.2878***	(0.0009)	0.2946***	(0.0007)
Master's	0.4183***	(0.0002)	0.3652***	(0.0013)	0.3932***	(0.0012)	0.4259***	(0.0009)
Professional/Doctorate	0.5554***	(0.0003)	0.5527***	(0.0019)	0.5886***	(0.0018)	0.6318***	(0.0014)
Industry Dummies	Y		Y		Y		Y	
Occupation Dummies	Y		Y		Y		Y	
State Dummies	Y		N		N		N	
Constant	1.5691***	(0.0009)	1.4728***	(0.0062)	1.5026***	(0.0039)	1.4112***	(0.0048)
R ²	0.4558		0.4769		0.3328		0.4538	
Observations	409,959		9,938		9,938		13,196	
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, 2013-2015. The total number of observations of employed persons was 9,964 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 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.

