



THE STATE OF THE UNIONS 2016

A Profile of Unionization in Iowa and America

May 31, 2016

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Research Report

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EXECUTIVE SUMMARY

Unionization has declined in Iowa. Today, there are approximately 23,500 fewer union members in Iowa than there were in 2006, contributing to the reduction of 573,000 union workers across the nation over the past ten years. The decline in union membership has occurred in both the public sector and the private sector in Iowa.

Consequently, the total number of labor unions and similar labor organizations has declined over the past decade. There are 211 labor unions and similar organizations in Iowa, a decline of 36 establishments over the past ten years (-15.5 percent). There are also 351 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 9.6 percent in Iowa:

- Men are much more likely to be unionized (11.1 percent) than women (8.1 percent) in the state.
- Non-white workers are 1.8 percentage-points more likely to be union members in Iowa than the nation.
- By educational attainment, the most unionized workers in Iowa hold Master's degrees (15.2 percent) and bachelor's degrees (11.7 percent).
- Public sector unionization (27.6 percent) is nearly five times as high in Iowa as private sector unionization (5.7 percent).

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

Labor unions increase individual incomes by lifting hourly wages. In Iowa, unions raise worker wages by an average of 4.8 percent. However, the union wage differential is greatest for the lowest 10 to 25 percent of workers, ranging from a 5.2 percent to a 9.2 percent increase in worker earnings. Unions therefore help in fostering a strong middle class in Iowa.

Organized labor still plays a considerable role in Iowa's economy. The Iowa 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). Iowa has not been immune to these trends. From 2009 to 2012, earnings for the top 1 percent increased by 39.3 percent, while incomes grew by just 2.8 percent for the bottom 99 percent of workers in Iowa—meaning that the richest 1 percent captured almost two-thirds of the growth in income over that time (Sommeiller & Price, 2015).

Income inequality has grown in Iowa since the 1970s. On average, incomes among the bottom 20 percent of households has dropped 6.1 percent from the mid-1990s to the mid-2000s (CBPP, 2012). The richest 25 percent of Iowans capture 47 percent of all the income in Iowa and make on average \$160,000 to \$170,000 a year (Moon & Kieffer, 2016). While the economic gap is larger in other states, income inequality remains an issue in Iowa as the gap continues to increase and the average Iowan sees little to no income gains. Iowa could reduce income inequality by proposing policies that support the bargaining power of ordinary Americans.

This report, conducted by researchers at the Midwest Economic Policy Institute and the Project for Middle Class Renewal at the University of Illinois at Urbana-Champaign analyzes the course of unionization in Iowa and in the United States from 2006 to 2015. Some data from 2015 are also analyzed for the Iowa City metropolitan statistical area (MSA). 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). This version for Iowa 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 Iowa 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 38,395 employed individuals in Iowa and since 2006. In 2015, respondents with at least one job totaled 2,592 in Iowa and 184,915 nationwide. “Iowa City MSA” workers are defined as only those who live in the Iowa City-Cedar Rapids, Iowa Metropolitan Statistical Area.

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 Iowa but working in Illinois) 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 2,259 of the 2,592 surveyed workers (87.2 percent) in Iowa. 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 Iowa and the United States (Figure 1). The total union membership rate was 11.3 percent in Iowa and 12.0 percent nationwide in 2006. Ten years later, both rates have fallen, to 9.6 percent in Iowa and 11.1 percent in America. The gradual decline in the unionization rate has translated into a decrease of about 23,500 union members in Iowa 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 Iowa was right after the Great Recession. In 2010, Iowa had a unionization rate of 11.4 percent and over 158,000 total members. Membership reached a low in 2015, when only about 137,000 workers belonged to a union. Iowa’s unionization rate has remained around 10 or 11 percent over the past decade, but declined to its lowest level in 2015, at 9.6 percent unionization (Figure 2).

Iowa’s union membership rate has consistently been below the national average since 2006. The 10-year combined Iowa unionization rate was 10.7 percent, 0.8 percentage points lower than the 11.7 percent national rate. On a year-by-year basis, Iowa’s union membership rate ranged from 0.4 to 1.8 percentage points lower than the national average from 2006 to 2015 (Figure 2). That said, union membership has generally been higher in Indiana than other “right-to-work” states.

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

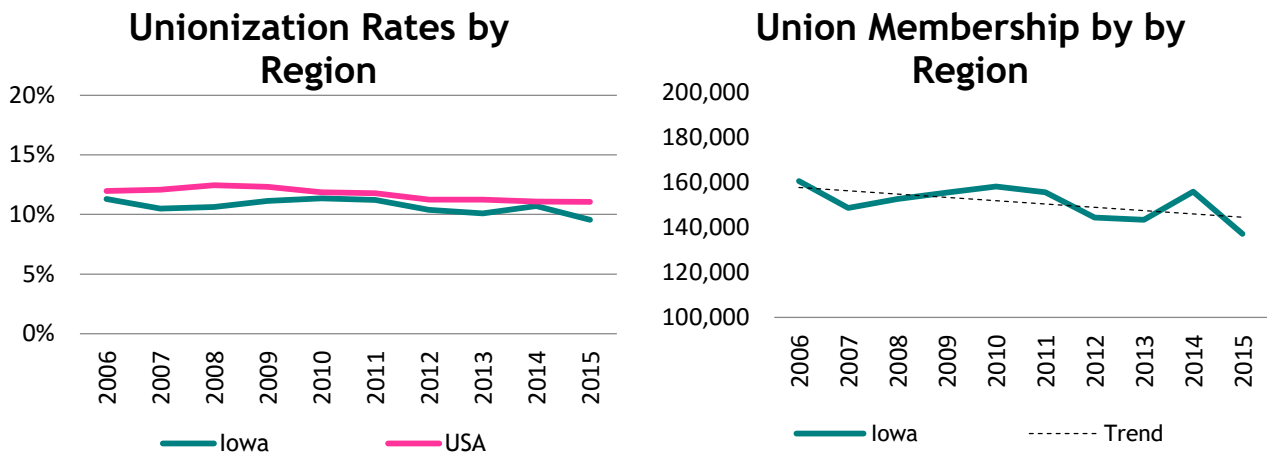


FIGURE 2: TOTAL UNION MEMBERS AND OVERALL UNIONIZATION RATES BY REGION, 2006-2015

Year	Iowa		USA	
	Members	Rate	Members	Rate
2006	160,677	11.29%	15,359,108	11.98%
2007	148,689	10.49%	15,670,352	12.08%
2008	152,589	10.62%	16,097,535	12.44%
2009	155,561	11.13%	15,327,280	12.31%
2010	158,157	11.36%	14,715,061	11.86%
2011	155,614	11.21%	14,754,673	11.78%
2012	144,371	10.38%	14,349,358	11.25%
2013	143,400	10.08%	14,515,755	11.24%
2014	155,938	10.69%	14,569,936	11.08%
2015	137,125	9.56%	14,786,281	11.05%
Totals	1,512,121	10.68%	150,145,339	11.70%

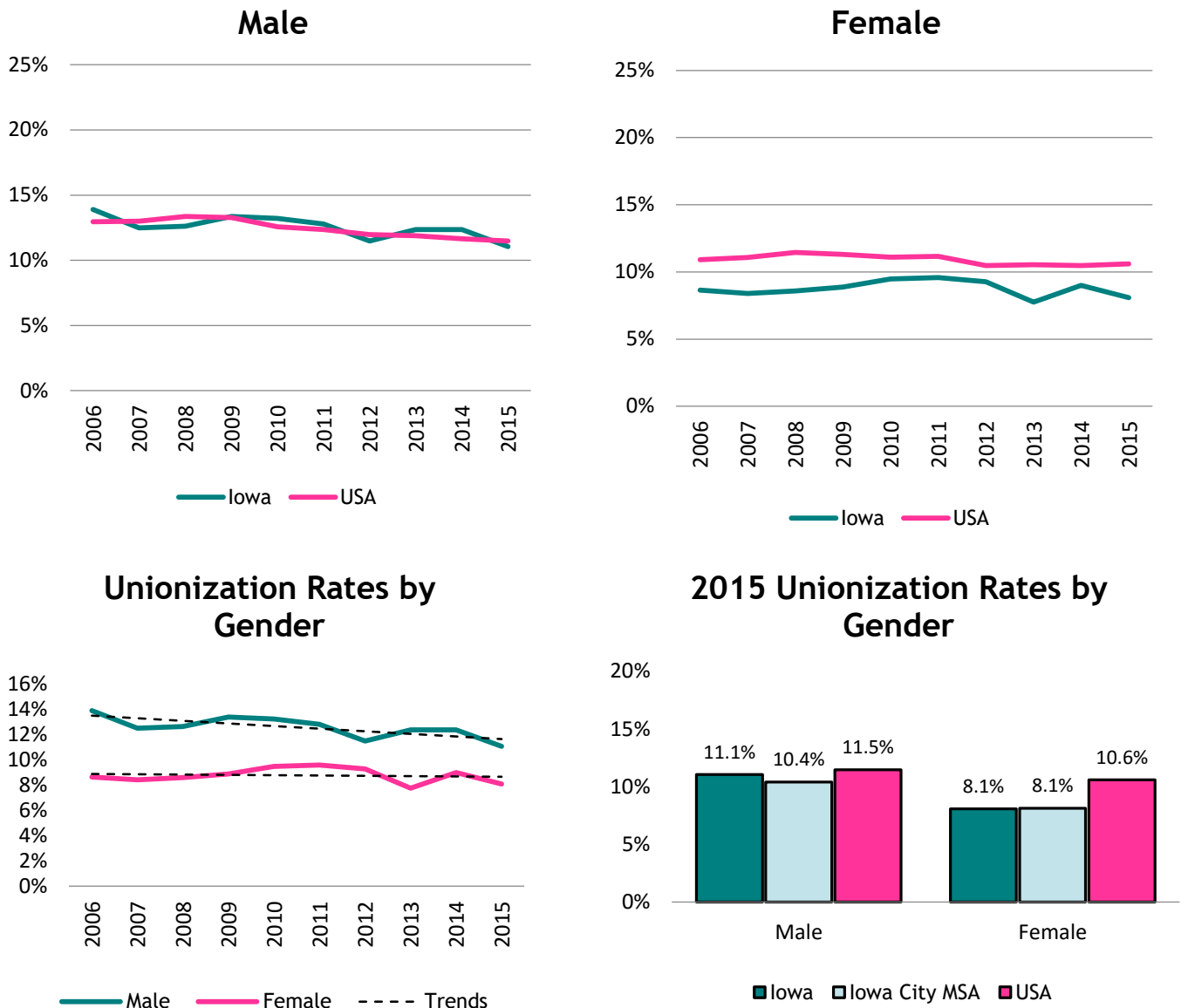
UNIONIZATION BY DEMOGRAPHICS

Falling rates of unionization have reflected declines in union membership among both men and women (Figure 3). An estimated 13.9 percent of employed men were unionized in 2006, but the 2015 male unionization rate in Iowa fell to 11.1 percent. The male unionization rate has also decreased in the nation as a whole. Since 2006, male union density has dropped by 2.8 percentage points in Iowa and by 1.5 percentage points in the United States.

The female union membership rate has also fallen (Figure 3). As of 2015, the female unionization rate is 8.1 percent in Iowa and 10.6 percent nationwide. Since 2006, female union membership has decreased by 0.6 percentage points in Iowa and by 0.3 percentage points in the United States. Iowa’s female unionization rate has consistently been lower than the national average since 2006, while Iowa’s male unionization rate has fluctuated above and below the national average over the past decade.

Iowa and the Iowa City region have similar unionization rates for males and females (Figure 3). At 10.4 percent, male unionization in the Iowa City area is just 1.3 percentage points lower than the comparable Iowa figure. In addition, Iowa and the Iowa City region had the same female unionization rate in 2015. However, both Iowa and the Iowa City region have lower unionization rates for both males and females than the United States.

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



Non-white workers are more likely to be unionized in Iowa (Figure 4). In Iowa, the union membership rate for white, non-Latino workers was 9.2 percent and the unionization rate for all non-white minorities was 12.0 percent. Non-white workers are also more likely to be union members in the Iowa City MSA (15.3 percent) than white employees (8.1 percent). For both the Iowa City MSA and Iowa more broadly, non-white worker unionization rates are above the comparable national average.

Over time, union membership has fallen for white, non-Latino workers but has risen for non-white workers (Figure 5). From 2006 to 2015, unionization in Iowa fell by 2.2 percentage points for white, non-Latino workers and has raised by 2.3 percentage points for all other non-white workers. Union membership for white, non-Latino workers has remained below the national average in Iowa for the past ten years. Non-white worker unionization was below the national average until 2011, when unionization for non-white minorities was at its highest (13.3 percent) in Iowa. Non-white union membership declined from 2011 but improved above the national average in 2015. 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

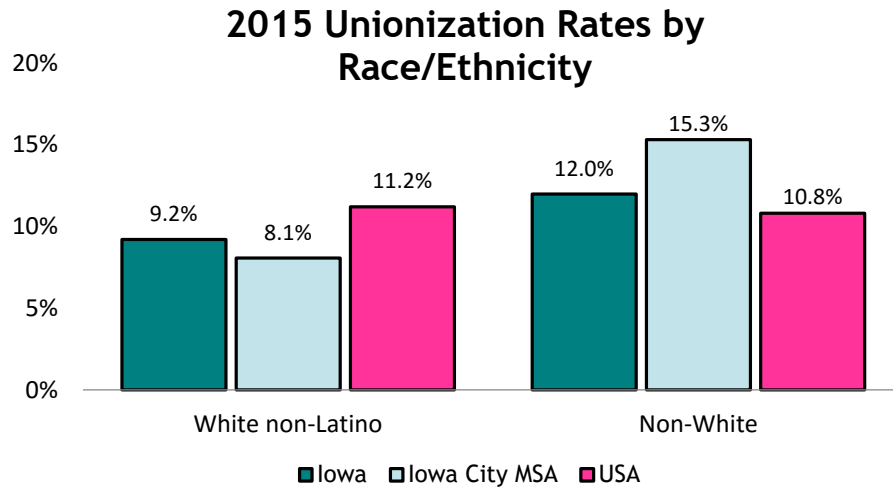
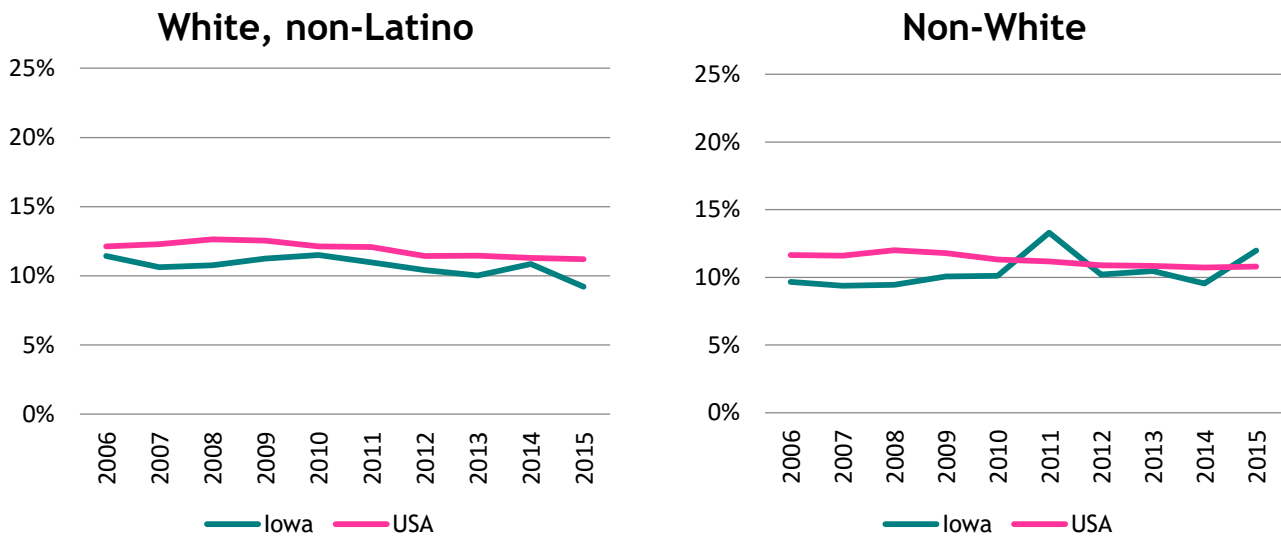


FIGURE 5: GRAPHS OF UNIONIZATION RATES BY RACIAL OR ETHNIC IDENTIFICATION, 2006-2015



Unionization rates are higher for older workers than young workers (Figure 6). In Iowa and the Iowa City economic region, the most unionized workers by age are those between 55 and 64 years old - 13.0 percent in Iowa and 13.4 percent for the Iowa City MSA. For young workers aged 16 to 24, unionization rates are only about 3 or 5 percent for each of Iowa, the Iowa City MSA, and the nation. Overall, the average age of union workers is about 43 years old and the average age of nonunion workers is about 41 years old, regardless of region studied (Figure 7). The findings generally indicate that union organizing of new workers in the labor force has been limited.

Union membership varies across other demographic classifications as well (Figure 8). Among the most unionized socioeconomic groups are married workers. Conversely, foreign-born immigrant workers experience slightly lower union membership rates than native-born and naturalized citizens (0.9 percent difference). Union membership of veterans is considerably lower in Iowa than the rest of the United States. For the United States, approximately 15.1 percent of employed veterans are members of unions. In Iowa, only 7.6 percent of employed veterans are members of unions.

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

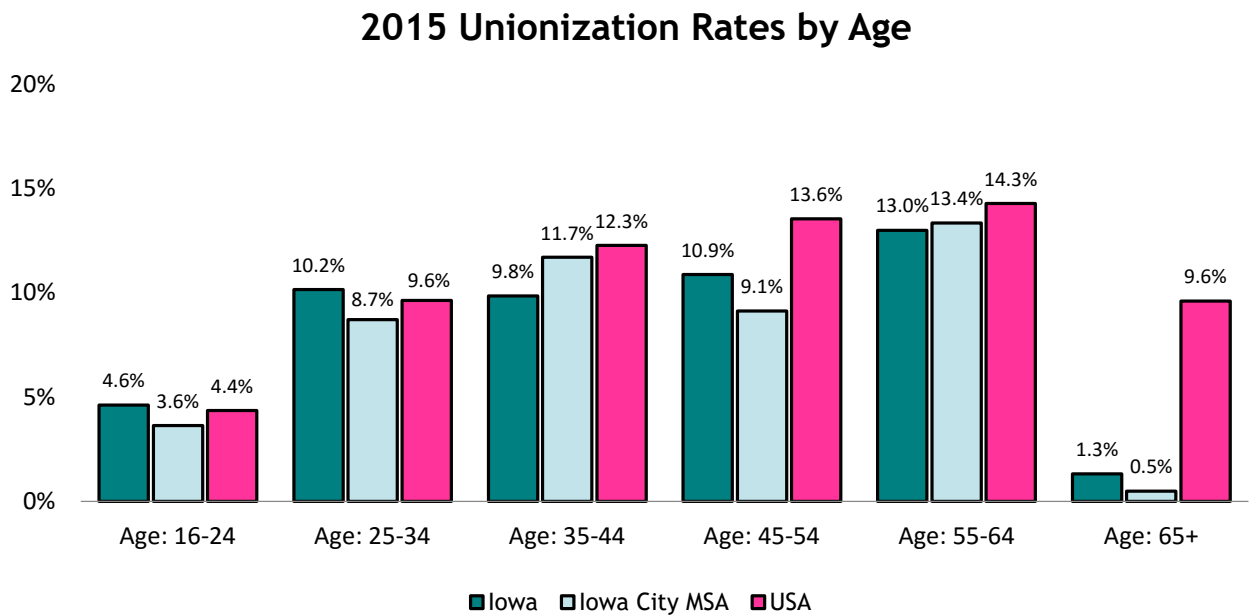
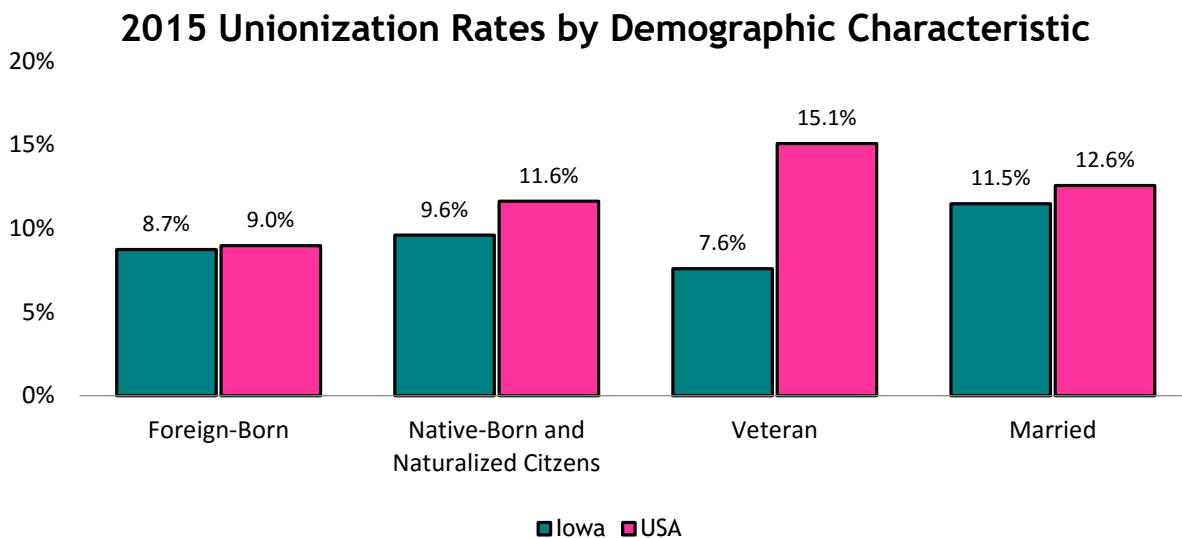


FIGURE 7: AVERAGE AGE OF UNION AND NONUNION WORKERS BY REGION, 2015

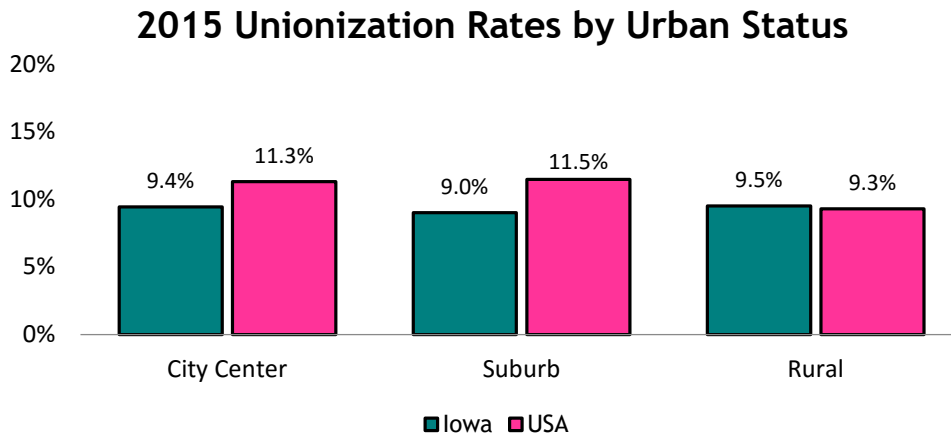
2015 Variable	Age (Years)	
	Nonunion	Union
Iowa	40.06	42.34
USA	40.94	44.51

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



In Iowa overall, rural areas are more unionized (9.5 percent). However, city centers, suburbs, and rural areas all have similar union membership rates in Iowa (Figure 9). Suburban areas are the least unionized region for Iowa at 9.0 percent, but the most unionized region for the nation at 11.5 percent.

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

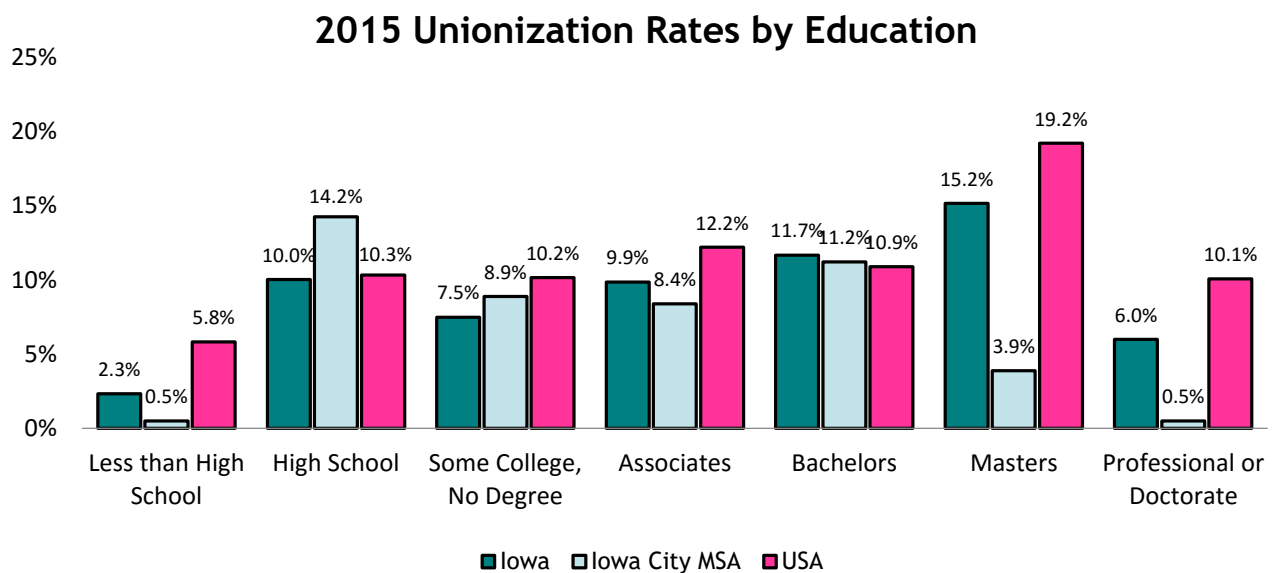


UNIONIZATION BY EDUCATION

Workers with master’s degrees are the most unionized educational group in Iowa and in America (Figure 10). At 15.2 percent and 19.2 percent respectively, unionization among master’s degree holders in Iowa and in America largely tower over the rates of all other educational attainment groups. However, those with a master’s degree and living in the Iowa City region are considerably less likely to be unionized than Iowa and the United States. Only 3.9 percent of master’s degree holders are union members in the Iowa City MSA (Figure 10).

According to the data, the Iowa City region is a bit of an outlier. In the Iowa City MSA, the most unionized educational group is those without a high school degree (14.2 percent). Workers without a high school degree are the least unionized educational group in Iowa, in the Iowa City region, and in America. Only 2.3 percent of workers without a high school degree are union members in Iowa and 0.5 percent are unionized in the Iowa City MSA.

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



Over the past six years, unionization rates have slightly declined 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 Iowa for 2010-2012 and 2013-2015. Across the seven educational classifications, the union membership rate has increased in only one case: Workers with less than a high school degree (0.8 percentage points). The largest declines in unionization were for individuals with high levels of educational attainment, as workers with a master’s degree experienced a 3.4 percentage-point decline and individuals with some college experience but no degree saw a 2.1 percentage-point drop in unionization.

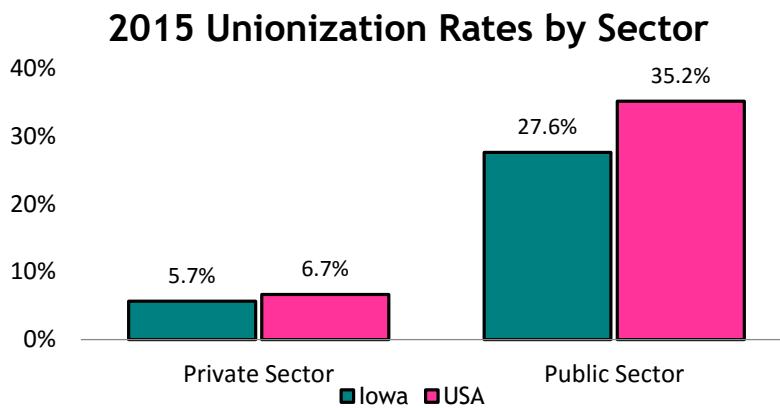
FIGURE 11: CHANGE IN UNIONIZATION RATES BY EDUCATION, THREE-YEAR AVERAGES, 2010-2015

Variable	Iowa		
	2010-12	2013-15	Change
Less than High School	5.5%	6.2%	+0.8%
High School	10.5%	10.3%	-0.1%
Some College, No Degree	10.2%	8.1%	-2.1%
Associates	10.5%	9.6%	-0.8%
Bachelors	12.0%	11.0%	-1.0%
Masters	21.3%	17.9%	-3.4%
Professional/Doctorate	9.6%	8.1%	-1.5%

UNIONIZATION BY SECTOR, INDUSTRY, AND OCCUPATION

Unionization rates are significantly higher for public sector workers (Figure 12). About three-in-ten public sector workers are union members in both Iowa (27.6 percent) and America (35.2 percent). By contrast, about one out of every fifteen private sector workers is now a union member in both Iowa (5.7 percent) and the United States (6.7 percent).

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



Compared to the national average, Iowa has had consistently lower private sector unionization over time (Figure 13). Public sector unionization in Iowa has varied over time, but has also consistently fallen below the U.S. public sector average. Public sector unionization in Iowa peaked at 35.9 percent in 2011. In 2015, the public sector is now 27.6 percent unionized. Private sector unionization, which has been 0.3 percentage-points lower in Iowa than the United States over the past decade, has gradually fallen from 7.1 percent in 2010 to 5.7 percent in 2015.

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

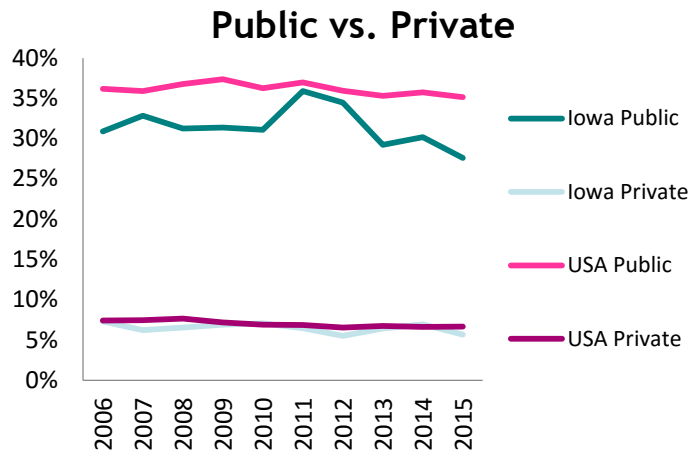
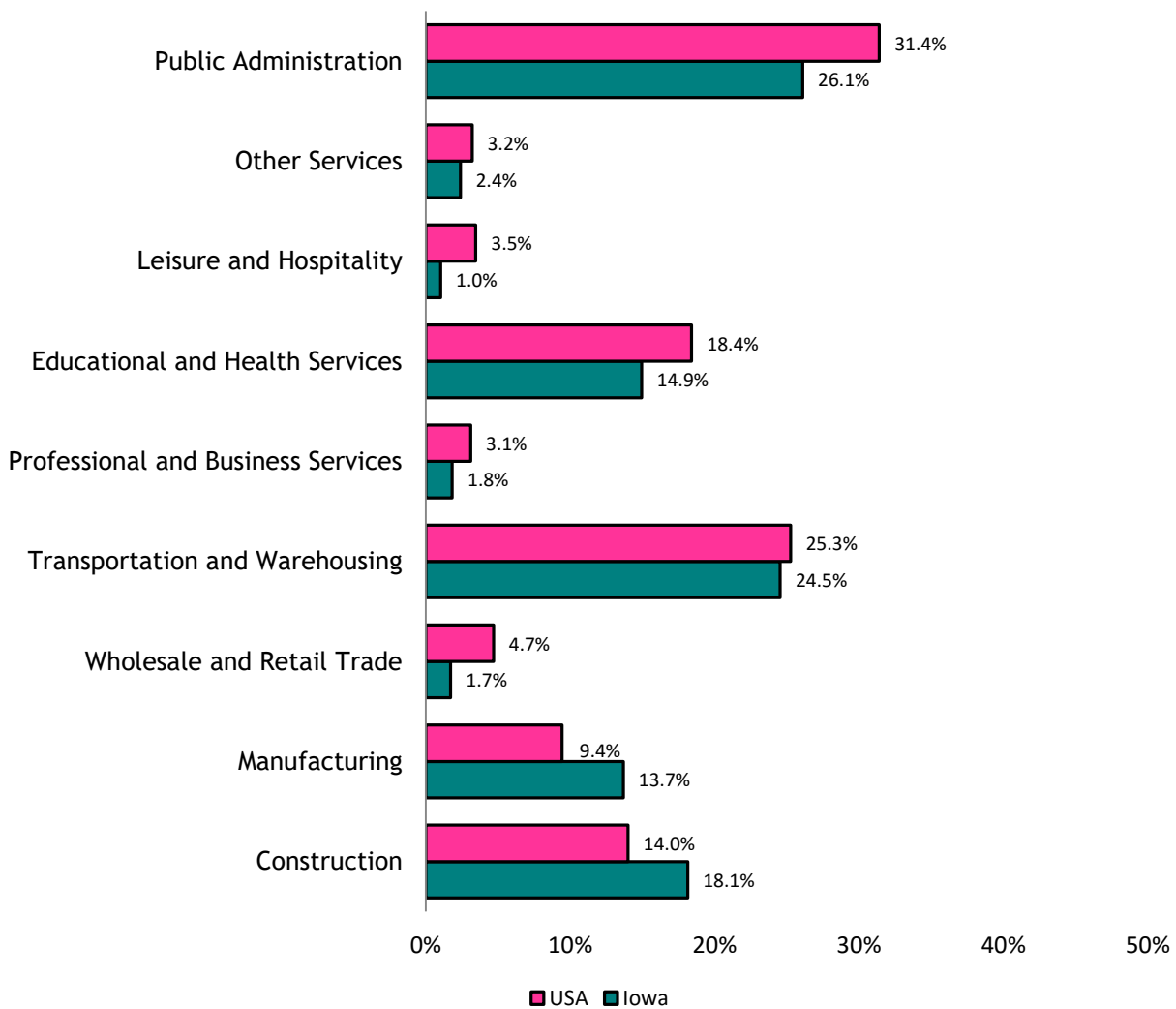


FIGURE 14: UNIONIZATION RATES BY INDUSTRY BY REGION, 2015

2015 Unionization Rates by Industry



Union membership varies significantly by industry of employment (Figure 14). The top five industries by unionization rates in Iowa are public administration (26.1 percent); transportation and warehousing (24.5 percent); construction (18.1 percent); educational and health services (14.9 percent); and manufacturing (13.7 percent). The manufacturing workforce, associated historically as a leader in industrial unionization, is more unionized in Iowa (13.7 percent) than in America (just 9.4 percent). In addition, the manufacturing unionization rate across the border in Illinois is just 10.6 percent (Manzo et al., 2016). The least-unionized industries across the nation are generally professional and business services, financial activities, leisure and hospitality, and other services.

Figures 15 and 16 present industry breakdowns of total union membership in Iowa 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 Iowa are educational and health services (56,000 members), manufacturing (28,000 members), transportation and warehousing (16,000 members), construction (14,000 members), and public administration (14,000 members) (Figure 15). Together, union members from these five industries account for 94.1 percent of all union workers in Iowa (Figure 16).

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

Iowa (2015)	Unionization Rate	Total Employment	Total Union Members	Total Sample
Public Administration	26.1%	55,000	14,000	82
Transportation & Warehousing	24.5%	66,000	16,000	106
Construction	18.1%	77,000	14,000	114
Educational & Health Services	15.0%	372,000	56,000	597
Manufacturing	13.7%	207,000	28,000	331
Other Services	2.4%	54,000	1,000	83
Professional & Business Services	1.8%	85,000	2,000	135
Wholesale & Retail Trade	1.7%	239,000	4,000	372
Leisure & Hospitality	1.0%	110,000	1,000	170

One cautionary note must be mentioned, however. While the total sample included 2,592 respondents of persons living in Iowa who were employed (2,259 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 15 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. In Iowa, the most unionized occupation groups are construction and extraction occupations such as carpenters and operating engineers (26.7 percent); production occupations such as machinists (18.9 percent); and installation, maintenance, and repair occupations such as mechanics (15.8 percent). In each of these three occupations, the unionization rate is higher in Iowa than the national average. Union membership in construction and extraction occupations, as an example, is 9.5 percentage points higher in Iowa than the comparable national average. However, every other major occupational grouping is less unionized in Iowa than the rest of the nation.

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

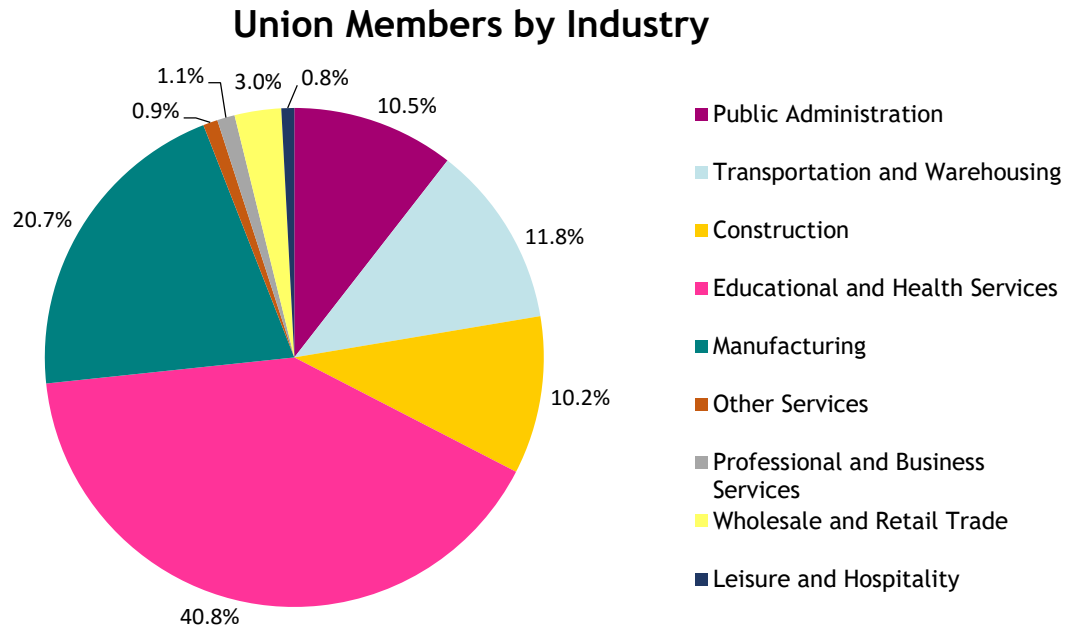


FIGURE 17: UNIONIZATION RATES BY OCCUPATION BY REGION, 2015

Occupation (2015)	Iowa	USA
Management, Business, & Financial	2.5%	4.4%
Professional & Related	12.1%	16.8%
Service	6.5%	10.6%
Sales & Related	2.2%	3.2%
Office & Administrative Support	6.7%	9.3%
Construction & Extraction	26.7%	17.2%
Installation, Maintenance, & Repair	15.8%	14.7%
Production	18.9%	12.6%
Transportation & Material Moving	15.4%	15.7%

PREDICTING UNION MEMBERSHIP IN IOWA

An advanced analytic model is developed to predict the chances that any given worker is a union member in Iowa, 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 over 7,500 Iowa workers, and weights are applied to match the sample to the actual Iowa population. Given that Iowa averaged about 1.6 million workers over this time, the sample size would yield a normal ± 1.1 percent margin of error in a standard survey report.

A few factors increase the likelihood that an employed person is a union member in Iowa (Figure 18). Relative to workers in the private sector, employment in federal government, the largest contributor to an individual’s chances of being a union member, raises the probability by 14.8 percentage points on average. State and local government employment respectively increase the union probability by 13.9 and 12.2 percentage points relative to private sector workers.

Many occupational and industry factors contribute negatively to the probability that a worker is in a union. Figure 18 pits occupations against “production” jobs and industries against the “manufacturing”

sector. Compared to those in production occupations, workers in the following jobs are all between 6 and 13 percentage-points less likely to be union members: office and administrative support; service; sales and related; and management, business, and financial services. Similarly, compared to comparable workers in manufacturing, those in mining, information, professional services, other services, financial activities, wholesale and retail trade, leisure and hospitality, and agriculture are between 5 and 18 percentage-points less likely to be union members in Iowa (Figure 18).

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

Probability of Union Membership	Iowa Mean
<i>Predictor</i>	<i>Percentage Point Change</i>
<i>Sector: Federal government</i>	+14.84%
<i>Sector: Local government</i>	+13.90%
<i>Sector: State government</i>	+12.15%
<i>Industry: Mining</i>	-5.32%
<i>Industry: Information</i>	-5.50%
<i>Occupation: Office & administrative support</i>	-6.93%
<i>Industry: Professional & related services</i>	-7.39%
<i>Occupation: Service</i>	-7.62%
<i>Education: Professional or doctorate degree</i>	-7.89%
<i>Industry: Other services</i>	-9.05%
<i>Industry: Financial activities</i>	-11.16%
<i>Industry: Wholesale & retail trade</i>	-11.93%
<i>Occupation: Sales & related</i>	-12.17%
<i>Occupation: Management, business, & financial</i>	-12.57%
<i>Industry: Leisure & hospitality</i>	-14.09%
<i>Industry: Agriculture, forestry, fishing, & hunting</i>	-17.04%
<i>Constant</i>	9.37%
<i>Observations</i>	7,544

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 Iowa 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 Iowa as of 2015: The wage difference is \$1.96 per hour in Iowa (Figure 20). Unions raise individual incomes by lifting wages per hour.

FIGURE 19: UNION WAGE DIFFERENCES BY REGION, PERCENTAGE AND DOLLAR VALUES, 2006 TO 2015

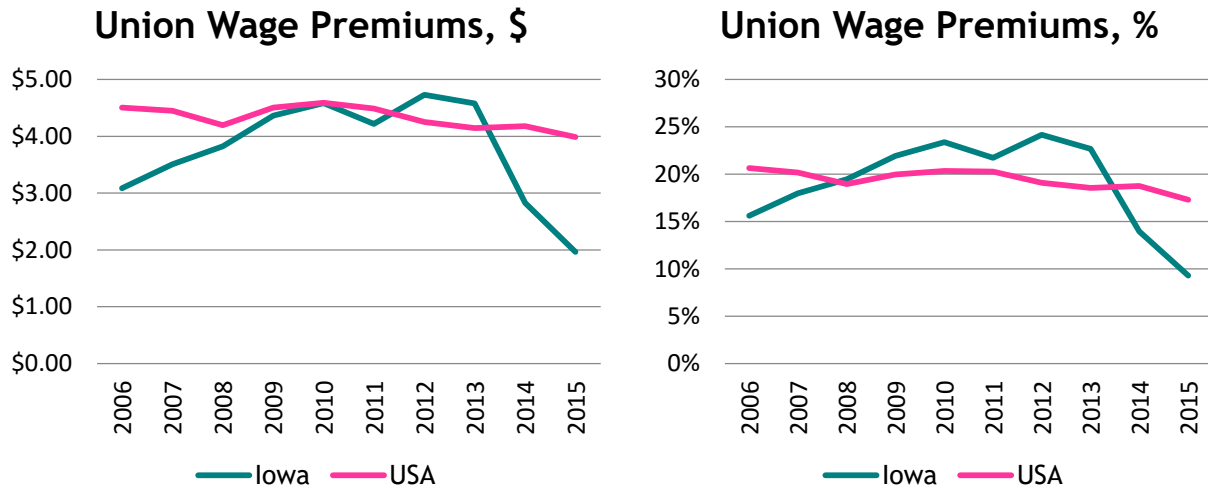


FIGURE 20: WAGES OF UNION AND NONUNION WORKERS BY REGION, 2015

Variable	Iowa		USA	
	Nonunion	Union	Nonunion	Union
Wage	\$21.16	\$23.12	\$23.05	\$27.03
Union Difference, %		+9.28%		+17.29%
Union Difference, \$		+\$1.96		+\$3.98

The data presented in Figure 20 may overstate or understate the union wage effect because union members may be more or less likely to have characteristics associated with higher wages such as age, education, job experience, and geographic location. Regression analyses (OLS and quantile regressions) are utilized to control for these and similar factors in order to isolate the independent effect of unionization on wages and report them in Figure 21. The national average further controls for an individual respondent’s state of residence. Data are for employed persons aged 16 and older from 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.

After controlling for education, demographics, and employment factors, the union wage premium is lower but still generally aligns with the differences reported in Figures 19 and 20 (Figure 21). On average, unions are found to increase a worker’s per-hour wage by 11.1 percent in the United States. In Iowa, the union wage premium is an estimated 4.8 percent on average, holding all else constant (including occupation and industry). Both results are statistically significant, even at the 1-percent level.

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 4.8 percent increase in the average Iowa worker’s wage, the benefit is actually higher for those at the lowest end of the state’s hourly income distribution (Figure 21). In fact, over the past three years, the union wage effects produced raises of between 5.2 percent and 9.2 percent for the lowest 10 to 25 percent of workers. The union wage difference was much smaller for the richest 10 percent of earners (4.6 percent) and richest 25 percent of earners (3.1 percent) in Iowa. Thus, the data strongly indicate that unionization fosters a strong middle class, providing the most benefits to workers in the lowest end of the income distribution.

FIGURE 21: REGRESSIONS OF UNION WAGE PREMIUMS FOR THE UNITED STATES AND IOWA, 2013-2015

Union Wage Premium: Ordinary Least Squares (OLS) and Quantile Regressions, 2013-2015						
United States	Iowa					
Mean	Mean	Percentile: 10 th	Percentile: 25 th	Median	Percentile: 75 th	Percentile: 90 th
11.06%***	4.75%***	5.22%***	9.24%***	4.74%***	3.06%***	4.63%***
R ² =0.456	R ² =0.424	R ² =0.195	R ² =0.266	R ² =0.293	R ² =0.292	R ² =0.279

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.

How does the average Iowa union wage premium of 4.8 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 Iowa. The results, reported in Figure 22, lead to the conclusion that the Iowa union wage premium is very low. In fact, Iowa’s union wage premium is the 47nd-highest, or the 5th-lowest, in the nation. Iowa has the lowest union wage premium out of all of its neighboring states. However, 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
	United States	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

The union wage premium is positive in Iowa across both racial identification and gender identification. After controlling for education, demographics, and employment factors, the union wage premium is slightly higher for white, non-Latino workers in Iowa (Figure 23). The personal benefit to being a union member is 5.5 percent on average for white, non-Latino workers. The union wage premium is also 1.5 percent advantage for non-white minority workers in Iowa. Accordingly, one way to reduce racial income inequality in the state would be to increase the unionization among non-white workers.

FIGURE 23: 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
4.75%***	5.55%***	1.52%***
R ² =0.424	R ² =0.415	R ² =0.478

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 24). While the union wage premium is 4.8 percent in Iowa, the personal benefit to being a union member is 4.4 percent on average for men and 5.5 percent on average for women. Unionization thus helps female workers partially close the gender-based wage gap, especially compared to nonunion male workers.

FIGURE 24: 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
4.75%***	4.44%***	5.51%***
R ² =0.424	R ² =0.410	R ² =0.420

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 long-term decline in union membership in Iowa, the total number of “labor unions and similar labor organizations” has declined over the past decade. Figure 25 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 211. This is down from the 248 establishments of labor unions and similar labor organizations in Iowa in 2005. Over the past ten years, there has been a 36 establishment decline (-15.5 percent) in labor unions and similar labor organizations in Iowa.

Consequently, the number of paid employees working directly for labor unions and similar labor organizations has fallen from 1,857 workers in 2005 to 1,506 workers in 2014 (-18.9 percent). There are thus 351 fewer individuals working for labor unions and similar organizations today than there were a decade ago. As unionization has decreased, revenue from membership dues has relatively declined, resulting in these nonprofit organizations closing down and laying off their workers (Figure 25).

FIGURE 25: UNIONS AND SIMILAR ORGANIZATIONS, ESTABLISHMENTS AND EMPLOYMENT, 2005-2014

Iowa	NAICS Code: 81393 - Labor Unions and Similar Labor Organizations	
Year	Establishments	Paid Employees
2005	249	1,857
2006	233	1,932
2007	244	2,190
2008	232	1,875
2009	231	1,724
2010	222	1,790
2011	217	1,523
2012	214	1,550
2013	214	1,476
2014	211	1,506
2005-2014 Change	-36	-351

CONCLUSIONS

Unionization has declined in Iowa recently. Today, there are approximately 23,500 fewer union members in Iowa than there were in 2006, contributing to the reduction of 573,000 union workers across the nation over the past ten years. The decline in union membership has occurred in both the public sector and the private sector in Iowa.

Consequently, the total number of labor unions and similar labor organizations has declined over the past decade. There are 211 labor unions and similar organizations in Iowa, a decline of 36 establishments over the past ten years (-15.5 percent). There are also 351 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 9.6 percent in Iowa. Men are much more likely to be unionized (11.1 percent) than women (8.1 percent) in the state. By educational attainment, the most unionized workers in Iowa hold Master's degrees (15.2 percent) and bachelor's degrees (11.7 percent). Finally, public sector unionization (27.6 percent) is nearly five times as high in Iowa as private sector unionization (5.7 percent). However, Iowa's public sector unionization rate is below the national average, while its private sector unionization rate has varied both above and below the comparable national average.

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

Labor unions increase individual incomes by lifting hourly wages - particularly for middle-class workers. In Iowa, unions raise worker wages by an average of 4.8 percent. The union wage differential is greatest for the lowest 10 to 25 percent of workers, ranging from a 5.2 percent to a 9.2 percent increase in worker earnings. Unions foster a middle-class lifestyle in Iowa.

Organized labor still plays a considerable role in Iowa's economy. However, the trend of declining union membership is likely to persist. Labor's response to this decline 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, IOWA WORKERS, 2013-2015

<u>Iowa</u>		
Prob(Union Member)	Coefficient	(St. Err.)
Age	0.0056***	(0.0001)
Age ²	-0.0001***	(0.0000)
Female	-0.0009	(0.0006)
Citizen	0.0367***	(0.0015)
White, non-Latino	0.0114***	(0.0014)
African-American	0.0435***	(0.0019)
Latino or Latina	0.0221***	(0.0017)
Center City	0.0231***	(0.0015)
Suburb	0.0225***	(0.0007)
Federal government	0.1484***	(0.0014)
State government	0.1215***	(0.0009)
Local government	0.1390***	(0.0008)
Usual hours worked	0.0018***	(0.0000)
Less than high school	-0.0042***	(0.0013)
Some college, no degree	-0.0111***	(0.0008)
Associate's	0.0009	(0.0008)
Bachelor's	0.0034***	(0.0008)
Master's	0.0253***	(0.0011)
Professional/Doctorate	-0.0789***	(0.0017)
Industry/Occupation Dummies	Y	
Constant	0.0937***	(0.0002)
R ²	0.2369	
Observations	7,544	

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 7,544 in Iowa. 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) Iowa Mean		(2) Iowa Median		(3) Illinois, Mean	
	Coefficient	(St. Err.)	Coefficient	(St. Err.)	Coefficient	(St. Err.)	Coefficient	(St. Err.)
Union member	0.1106***	(0.0002)	0.0475***	(0.0015)	0.0474***	(0.0016)	0.1051***	(0.0007)
Age	0.0403***	(0.0000)	0.0414***	(0.0002)	0.0381***	(0.0002)	0.0390***	(0.0001)
Age ²	-0.0004***	(0.0000)	-0.0004***	(0.0000)	-0.0004***	(0.0000)	-0.0004***	(0.0000)
Female	-0.1553***	(0.0001)	-0.1691***	(0.0009)	-0.1648***	(0.0010)	-0.1364***	(0.0005)
Veteran	0.0142***	(0.0002)	-0.0026	(0.0017)	-0.0129***	(0.0018)	0.0585***	(0.0011)
Citizen	0.0725***	(0.0002)	0.0609***	(0.0031)	0.0567***	(0.0032)	0.0256***	(0.0011)
Immigrant	-0.0224***	(0.0002)	-0.0157***	(0.0027)	-0.0564***	(0.0028)	-0.0766***	(0.0009)
White	0.0110***	(0.0002)	0.0512***	(0.0024)	0.0306***	(0.0028)	0.0038***	(0.0010)
African-American	-0.1039***	(0.0002)	-0.0720***	(0.0034)	-0.0574***	(0.0035)	-0.1408***	(0.0012)
Latino	-0.0701***	(0.0002)	0.0225***	(0.0027)	-0.0144***	(0.0028)	-0.0665***	(0.0011)
Chicago MSA							0.0066***	(0.0007)
Center City	0.0467***	(0.0001)	0.0675***	(0.0024)	0.0655***	(0.0025)	0.0255***	(0.0009)
Suburb	0.0650***	(0.0001)	0.0877***	(0.0011)	0.0781***	(0.0011)	0.0370***	(0.0008)
Federal government	0.0441***	(0.0003)	0.0556***	(0.0034)	0.1018***	(0.0036)	-0.0433***	(0.0019)
State government	-0.1060***	(0.0002)	-0.0088***	(0.0018)	0.0286***	(0.0019)	-0.1169***	(0.0013)
Local government	-0.0932***	(0.0002)	-0.0702***	(0.0019)	-0.0555***	(0.0020)	-0.0771***	(0.0010)
Usual hours worked	0.0043***	(0.0000)	0.0031***	(0.0000)	0.0055***	(0.0000)	0.0053***	(0.0000)
Involuntarily part-time	-0.1454***	(0.0002)	-0.1158***	(0.0023)	-0.1003***	(0.0024)	-0.1579***	(0.0011)
Less than high school	-0.1411***	(0.0002)	-0.0926***	(0.0019)	-0.0283***	(0.0020)	-0.1125***	(0.0010)
Some college	0.0397***	(0.0001)	0.0248***	(0.0012)	0.0285***	(0.0013)	0.0576***	(0.0007)
Associate's	0.0919***	(0.0002)	0.1137***	(0.0013)	0.1193***	(0.0014)	0.0738***	(0.0009)
Bachelor's	0.3073***	(0.0001)	0.2896***	(0.0013)	0.2665***	(0.0014)	0.2946***	(0.0007)
Master's	0.4183***	(0.0002)	0.3753***	(0.0019)	0.3384***	(0.0020)	0.4259***	(0.0009)
Professional/Doctorate	0.5554***	(0.0003)	0.5364***	(0.0028)	0.5228***	(0.0030)	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)	1.4038***	(0.0061)	1.5372***	(0.0064)	1.4112***	(0.0048)
R ²	0.4558		0.4242		0.2929		0.4538	
Observations	409,959		7,464		7,464		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 7,544 in Illinois. 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 Iowa compared to the nation from OLS analyses, regression (2) provides the median regression as an example of outputs from the quartile regressions for Iowa, 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.

