

THE PREVAILING WAGE IS THE LOCAL MARKET RATE

*Employment and Job Turnover
Evidence from the Border of Illinois*

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Frank Manzo IV, MPP
Policy Director
Illinois Economic Policy Institute



Executive Summary

A prevailing wage law supports blue-collar workers employed in public construction. By preventing government from using its massive purchasing power to undercut local standards, prevailing wage laws ensure that workers employed on taxpayer-funded projects are paid a competitive rate determined by private actors. However, concerted efforts have been made in Illinois and at least ten other states over the past three years to weaken or repeal prevailing wage standards. These efforts are typically based on the premise that prevailing wage laws “inflate” construction worker wages above their market rate, which is a testable claim.

This Illinois Economic Policy Institute (ILEPI) study finds no evidence for the assertion that prevailing wage “inflates” construction worker wages. In fact, based on recent data for 32 counties along the state line of Illinois and 33 border counties, the evidence clearly reveals that prevailing wage is the local market rate in Illinois. After adjusting for seasonality, a higher prevailing wage for operating engineers has no statistical impact on the employment of men working in road construction along the border of Illinois. A higher prevailing wage also has no discernible impact on job turnover, new hires, or layoffs and quits for men in the road construction industry in Illinois.

Local market conditions are far more important to labor market outcomes than prevailing wage:

- A 10 percent increase in the number of men employed in a county is associated with a 7.5-9.3 percent increase in male employment in the road construction sector of that county.
- Up to 75.3 percent of the job turnover rate for men working in road construction is directly attributed to local trends for male workers.
- Up to 74.1 percent of the average monthly income of men working in road construction is directly attributed to local trends for male workers.

Illinois’ prevailing wage law is effective at determining the local market rate. As prevailing wage per hour rises, there is no corresponding change in construction costs, monthly earnings, or employment. This means that workers are completing projects at a faster pace, implying productivity gains associated with the higher prevailing wage on the Illinois side of the border. If prevailing wage was repealed in Illinois, governmental bodies could interfere in the construction market and undercut local standards, resulting in wages that are below levels in the private market. Below-market compensation would put local contractors at a competitive disadvantage and encourage out-of-state contractors to enter Illinois’ public construction industry. Without Illinois’ prevailing wage law, private apprenticeship investment would dramatically decrease. Repealing the state’s prevailing wage law would thus *undermine* the free market.

These conclusions may not be applicable to other states. Prevailing wages accurately reflect local compensation standards in Illinois’ regional markets, but this may not be the case in states with weaker prevailing wage laws. Due in part to the state’s prevailing wage law, road construction workers in Illinois are highly skilled and earn a good, middle-class income. They therefore tend to treat their craft as a lifelong career, rather than a seasonal job.

Prevailing wages are based on privately-established rates negotiated in local labor markets in Illinois. The state’s prevailing wage law prevents government from undercutting local standards, supports in-state contractors, provides a competitive level of compensation to workers, and promotes apprenticeship training. Illinois should continue this high-road public policy.

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About the Author

FRANK MANZO IV, MPP is the Policy Director of the Illinois Economic Policy Institute (ILEPI). He specializes in labor market policies, the low-wage workforce, economic development, infrastructure investment, and the construction industry. He earned a Master of Public Policy from the University of Chicago Harris School of Public Policy, a Bachelor of Arts in Economics and Political Science from the University of Illinois at Urbana-Champaign, and an Advanced Certificate in Labor Studies from the University of Illinois Labor Education Program. He can be contacted at fmanzo@illinoisepi.org.

Jill Manzo, Midwest Researcher at the Midwest Economic Policy Institute (MEPI), contributed research assistance on this report.

I. Introduction

A prevailing wage law supports blue-collar workers employed in public construction. Prevailing wage is essentially a minimum wage for construction workers. The policy ensures that workers employed on infrastructure projects funded by taxpayer dollars are compensated according to rates normally paid on similar projects in an area.

By ascertaining the local market rate, a prevailing wage law prevents units of government from undercutting wage standards in a community. This ensures that workers can afford to live in the county where they are building a road, school, or other public project. Preventing government from awarding bids to contractors that pay less than the privately-established local market rate also levels the playing field for contractors. The law discourages cut-rate contractors with cheaper, less-trained workers in other states from coming in, getting the work, and taking their earnings and tax dollars home with them upon project completion.

While the majority of U.S. states have a prevailing wage law, at least 11 states have considered weakening their laws over the past three years– including Illinois ([Manzo et al., 2016a](#)). Corporate interests in Illinois have pushed for the state to eliminate its prevailing wage law or allow local units of government to opt out of paying prevailing wage laws. The primary argument of those who wish to weaken or repeal the state’s prevailing wage standards is that the law “inflates” construction worker wages above the private-market level and consequently increases total construction costs. Due to the emerging academic consensus that state prevailing wage laws have no discernible impact on project costs, this claim has not been persuasive in Illinois.

Market wages are determined by supply and demand in local economies. If contractors and the taxpaying public have a high demand for well-trained construction workers that build safe and high-quality public infrastructure, the market wage will tend to be high. If workers view construction careers as too dangerous or unstable due to the seasonal and job-to-job nature of the work, then contractors will have to compensate by paying higher wages in order to attract skilled blue-collar workers. If 90 percent of the skilled construction workforce is unionized in a local economy, the market wage will largely reflect collectively-bargained rates. These and other factors influence the wages paid to public works construction employees in all states.

The argument that a state prevailing wage law inflates construction worker wages above the private-market rate is a testable claim using economic data. This Illinois Economic Policy Institute (ILEPI) Research Report utilizes a border-county approach to evaluate whether prevailing wages reflect the local market rate in Illinois. The analysis examines the employment, job turnover rate, rate of new hires, rate of job separations, and monthly earnings of men working in road construction along the border of Illinois and concludes, based on all the evidence, that the prevailing wage rate is in fact the local market rate in Illinois.

The remainder of this Research Report is organized as follows: Section II presents the economic theory and research on prevailing wages, construction costs, construction employment, and job turnover. Section III discusses the data and methodology used in this study as well as their limitations. Section IV then explores the effect of prevailing wage laws on the local labor market outcomes of road construction workers in counties along Illinois’ state line. Finally, Section V concludes by considering implications for Illinois and recapping key findings.

II. Economic Theory and Research

Prevailing Wages and the Free Market

Government is the largest purchaser of local construction services. In Illinois, public works projects account for 25.4 percent of total construction purchases, including 21.6 percent funded by state and local units of government ([Census, 2015](#)). With this massive purchasing power, government unavoidably influences the free market through increased demand.

Bidding procedures, however, are different for taxpayer-funded public infrastructure projects than for private sector construction jobs. In public procurement, a construction company is awarded a project if it submits the lowest start-cost bid. Competition to submit the lowest apparent bid exerts significant pressure on contractors to cut labor costs, sacrificing long-term investments for short-term gain. The low-bid model is used in public construction to maximize taxpayer value while eliminating patronage and cronyism. In the private sector, a company can freely give preferential treatment regardless of whether the contractor would have submitted the absolute lowest bid.

The absence of prevailing wage standards creates a vicious cycle in public procurement. The low-bid model used in taxpayer-funded projects gives contractors the incentive to push wages and benefits below their private market levels. Low-bid encourages contractors to compete based on start-price and less on infrastructure quality and final price. In the short-run endeavor to become the lowest bidder, contractors are tempted to slash training costs, exclude health benefits, eliminate pension contributions, and cut wages. As contractors reduce apprenticeship investments for short-term gain, the productivity of the blue-collar construction workforce deteriorates over the long run. This results in lower-quality infrastructure, increased maintenance costs, and additional on-the-job injuries.

On the other hand, prevailing wage laws are actually designed to minimize governmental inference in the free market. By requiring that contractors on public works projects pay wages, benefits, and apprenticeship contributions that reflect rates normally paid on similar projects in the community, prevailing wage *prevents* units of government from undercutting free market outcomes. The result is that contractors compete on a level playing field. Instead of underinvesting in worker training and paying poverty-level wages, contractors compete based on worker productivity, managerial competencies, materials costs, technological efficiencies, profit margins, and other factors included in the bid process. Thus, prevailing wage laws effectively prohibit the government from impacting local labor standards.

Research on Prevailing Wage, Construction Costs, and Local Bidding Behavior

The preponderance of economic research finds that prevailing wages have no discernible impact on total construction costs. State-of-the-art statistical methods allow researchers to compare total costs of projects covered by prevailing wage laws to total costs of projects that are not covered by the wage policy, after controlling for other important project characteristics that influence costs. Economists and policy researchers have examined the effect of prevailing wage on the cost of building schools, highways, and other structures ([Mahalia, 2008](#)).

Several studies have compared construction costs for schools built with and without prevailing wage regulations. Many have taken advantage of the introduction of a prevailing wage policy in British Columbia to evaluate impacts on school construction costs. After accounting for the business cycle, the number of competitors, the type of school, and trends over time, Bilginsoy and Philips (2000) find that construction bid costs were not statistically different after prevailing wage was introduced. Duncan, Philips, and Prus (2014) add a control group of private sector projects and find that the cost differential between building public schools and building private schools did not change after the wage policy was introduced. The authors also find that the average total efficiency for public school construction was 94.6 percent prior to British Columbia enacting the

law. Then, 17 months after the law was introduced, average efficiency of covered projects increased to 99.8 percent due to new apprenticeship training requirements. This increase in productivity offset increases in labor expenses, resulting in stable total construction costs (Duncan et al., 2009).

Economic research on school construction costs in the United States yields comparable results. After controlling for differences in project size, project type, project location, and other factors for 4,000 new schools built across America, Azari-Rad, Philips, and Prus (2003) find no evidence that schools built in states with prevailing wage laws are more costly. Philips (2001) investigates changes in public school construction costs in Kentucky, Ohio, and Michigan from 1991 to 2000 and discovers that prevailing wage has no significant impact on school construction costs but does entice contractors to hire and train a more-skilled workforce. Similar conclusions are reached in studies for Maryland and five neighboring states and a comparison of 15 Great Plains states (Prus, 1999; O’Leary, 2015; Philips, 1998).

Professor Kevin Duncan has published recent studies on the effect of prevailing wage requirements on the cost of highway resurfacing projects in Colorado. He finds that prevailing wage has no discernible impact on average project costs after taking project complexity, project size, and other characteristics into account (Duncan, 2015a). In addition, from the mid-1990s until 2002, union rates prevailed for all of the job classifications involved in highway resurfacing in Colorado. Then, from 2002 through 2011, average rates prevailing for 85 percent of the job classifications, resulting in an 18 percent hourly wage cut for blue-collar construction workers on average. When prevailing wage and benefits rates changed from the union scale to the average rate, the relative cost of federal resurfacing projects and the level of bid competition did not change (Duncan, 2015b).

Fully 75 percent of recent peer-reviewed studies indicate that construction costs are not affected by prevailing wages (Manzo et al., 2016b). There are many reasons why prevailing wages have no discernible impact on total project costs. First, labor costs comprise a low and historically declining share of total costs in the construction industry. As of 2012, wages and benefits represent just 22.8 percent of total construction costs, according to data from the *Economic Census of Construction*. Second, research indicates that, when wages increase in the construction industry, skilled workers replace less-skilled workers (Blankenau & Cassou, 2011). Recent Census data reveals that public construction workers are 21 to 33 percent more productive in states with prevailing wage laws (Philips, 2014). Prevailing wage laws improve productivity because they support apprenticeship training and human capital skills upgrading. After nine states repealed their prevailing wage laws in the 1980s, apprenticeship training fell by 40 percent, resulting in an increase in cost overruns and an increase in the injury rate (Philips et al., 1995). In addition, when wages are higher, contractors reduce materials costs, rental equipment costs, and profit margins to keep bids competitive in the market. Since labor costs are a small share of total construction costs, only minor adjustments are needed to maintain stable costs when wage rates increase (Manzo et al., 2016b).

An additional body of empirical research finds that prevailing wages are market wages set through competitive practices that are based on local wage, benefits, and apprenticeship standards. Prevailing wages are typically ascertained through *actual* payroll records for public works and similar projects submitted by both employers and workers. Researchers have found that survey methods used to ascertain the prevailing wage are both valid and reliable through clear, reproducible processes (Jordan et al., 2006).

The fact that prevailing wage policies have no statistical impact on bidding behavior is evidence that they reflect local market wages. An examination of public works projects in five San Francisco Bay-area municipalities finds that prevailing wage standards have no effect on the number of bidders or on contractor bidding behavior relative to the engineer’s estimate of the value of the project (Kim et al., 2012). Furthermore, from 1997 to 2008, school construction was exempt from coverage under Ohio’s prevailing wage law. In response, some localities introduced “responsible contractor policies.” Many of these local ordinances required contractors to incorporate health insurance coverage or even prevailing wages into their bids. Using data on elementary school projects, Waddoups and May (2014) find that responsible contracting policies such as prevailing wage have no negative impact on construction bid costs once the geographic location of schools is taken into account. Finally, research has indicated that there is no significant difference between bid costs per square foot for union contractors and nonunion contractors building schools (Atalah, 2012). Union contractors bidding on highway and other heavy

projects in 14 northern Indiana counties were awarded the projects just as frequently after the state weakened its prevailing wage by raising the coverage threshold as they were prior to the change (Manzo et al., 2014).

The absence of a prevailing wage law has negative consequences for local contractors. Without an effective prevailing wage law, cut-rate contractors with less-trained workers in other states can come in, undermine the local market rate, win public bids, and take taxpayer dollars back with them to their own states upon project completion. Data from the 2012 *Economic Census of Construction* reveals that states with weak prevailing wage laws or no law at all have 2.4 percent less of the total value of construction work completed by in-state construction firms compared to states with strong or average prevailing wage laws (Manzo & Bruno, 2016). Similarly, Prus (1999) discovered that the probability of winning a bid on a public school construction project is 5 percent lower for out-of-state contractors in states with prevailing wage laws. Another study by Duncan (2011) concluded that repealing prevailing wage in San Jose, California would cause 6 percent of the value of public projects to leak out of the county economy to out-of-area businesses.

The cumulative economic impact of not having prevailing wage is negative. In fact, if all states with strong or average prevailing wage legislation were to weaken their laws, local contractors would lose bids and the wages of all construction workers would fall, especially for the lowest-paid employees. The result would be an additional 102,000 construction workers relying on food stamps and 319,000 construction workers losing their health insurance coverage. The corresponding loss of income tax revenue and increased reliance on public assistance would cost U.S. taxpayers at least \$4 billion per year (Manzo et al., 2016b). Local contractors are hurt, local blue-collar construction workers are pushed into poverty, and tax revenues decline when prevailing wage is weakened or repealed.

Research on Wages, Job Turnover, and Local Labor Markets

There are many factors that affect job turnover. Younger workers are significantly more likely to leave their jobs than older workers. Seniority reduces the probability of a worker quitting and the probability of an employer laying off the employee. Economic data also demonstrates that the rate of job loss is higher among lesser-educated workers. Finally, studies have found that the rise in wage inequality in America is correlated with increased job instability (Borjas, 2010).

The high rate of turnover is an important “friction” in the blue-collar labor market. Many blue-collar workers are constrained by scheduling responsibilities, high child care costs, limited access to transportation, and inadequate information about job vacancies in the local labor market. As a result, companies that employ blue-collar workers face significant recruitment and training costs associated with high job turnover. Paying a higher, “efficiency wage” can make it easier for employers to attract and retain skilled workers. The cost savings from reduced worker turnover help to offset some or all of the increased labor costs (Schmitt, 2013).

Dube, Lester, and Reich (2014) use a contiguous county approach to study the effect of higher minimum wages on employment and job turnover among teen workers and restaurant workers. Adjacent border counties share similar labor force characteristics to one another and are part of the same integrated regional economy (Allegretto et al., 2013). Firms on both sides of the border “are generally affected by the same idiosyncratic local trends and experience macroeconomic shocks at roughly the same time” (Dube et al., 2014). Total private sector employment, population, the private sector employment rate, average private sector earnings, overall turnover, and the teen share of the population are similar in these geographically proximate jurisdictions.

Dube, Lester, and Reich (2014) find evidence that teen employment and restaurant employment are not considerably reduced due to a higher minimum wage. However, they discover that job separations, job hires, and job turnover rates all fall significantly among teens and restaurant workers. Based on their analysis, a 31 percent increase in the federal minimum wage from \$7.25 to \$9.50 would reduce worker turnover by 6.3 percent for teens and 6.6 percent for restaurant workers. Minimum wage hikes “have substantially reduced turnover and increased job stability” in the United States (Dube et al., 2014).

Liu, Hyclak, and Regmi (2016) also examine the impact of a higher minimum wage on hiring, separations, and establishment-level job creation for workers aged 14 to 18, workers aged 19 to 21, and workers aged 22 to 24. The authors consistently find negative effects of a higher minimum wage on job ascensions and job separations, implying that higher minimum wages help retain workers and encourage greater work effort– leading to fewer employees getting fired. Overall, the researchers conclude that higher minimum wages raise earnings for young workers, marginally reduce employment, but significantly reduce worker turnover rates.

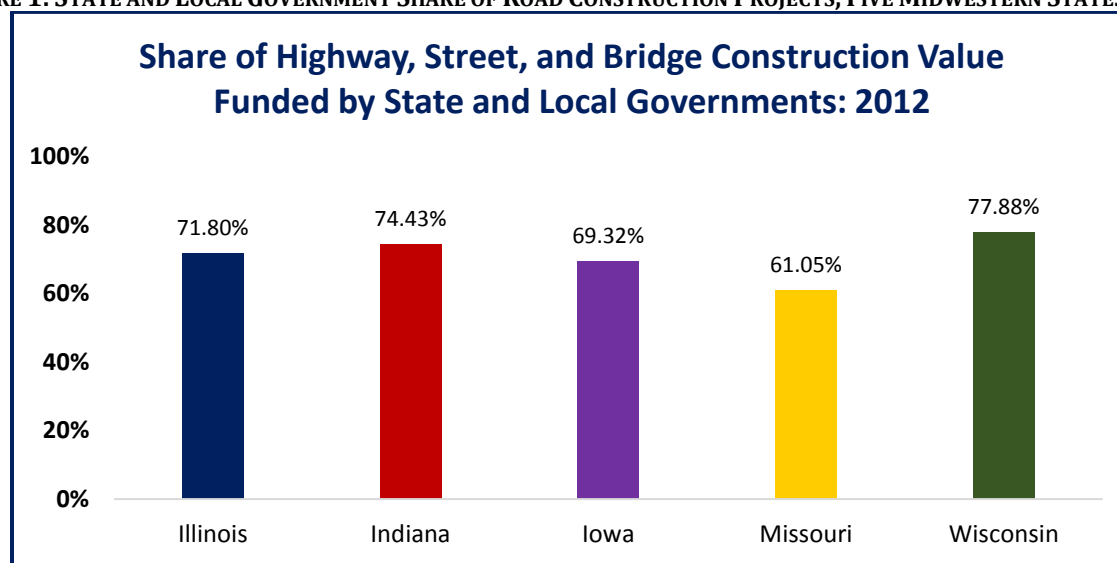
A higher minimum wage reduces employee turnover, raises worker wages, and has a mixed impact on employment because the policy is a wage floor that is set above the free-market wage, or “market-clearing wage.” A prevailing wage is essentially a minimum wage for public construction. However, prevailing wages reflect local labor standards and require that contractors pay workers at least the rate established in the private marketplace. Thus, prevailing wage is based on competitive practices rather than a floor mandated by the government. Contractors can also pay more than the ascertained prevailing wage, and many do– especially if they are signatory to a collective bargaining agreement that sets higher rates.

III. Data, Methodology, and Limitations

This analysis uses national data from the Quarterly Workforce Indicators (QWI) dataset provided by the Longitudinal Employer-Household Dynamics (LEHD) survey at the U.S. Census Bureau. Based on payroll records in the Unemployment Insurance (UI) system, the information provided includes data on total employment, the ascensions rate, the separations rate, and the turnover rate. Total employment is defined as the point-in-time number of jobs on the first day of the reference quarter. The ascensions rate is defined as the estimated number of workers who started a new job in the quarter as a percentage of average employment, while the separations rate is the number of workers who quit or lost their job due to layoffs as a percent of average employment. Finally, the number of hires plus the number of separations divided by average employment equals the job turnover rate (Census, 2016).

Quarterly Workforce Indicators allow researchers to study sectors of the economy, including ten construction subsectors. This analysis investigates the impact of prevailing wage laws on “highway, street, and bridge construction,” which is the most likely industry group to be affected by such laws. In fact, data from the 2012 *Economic Census of Construction* demonstrates that between 60 percent and 80 percent of highway, street, and bridge construction work is performed on projects owned by state and local governments in five Midwestern states (Figure 1) (Census, 2015). Operating engineers are the most common blue-collar construction worker employed in this subsector. These workers run heavy equipment that helps to build roads and bridges, such as cranes, excavators, bulldozers, loaders, and backhoes.

FIGURE 1: STATE AND LOCAL GOVERNMENT SHARE OF ROAD CONSTRUCTION PROJECTS, FIVE MIDWESTERN STATES, 2012

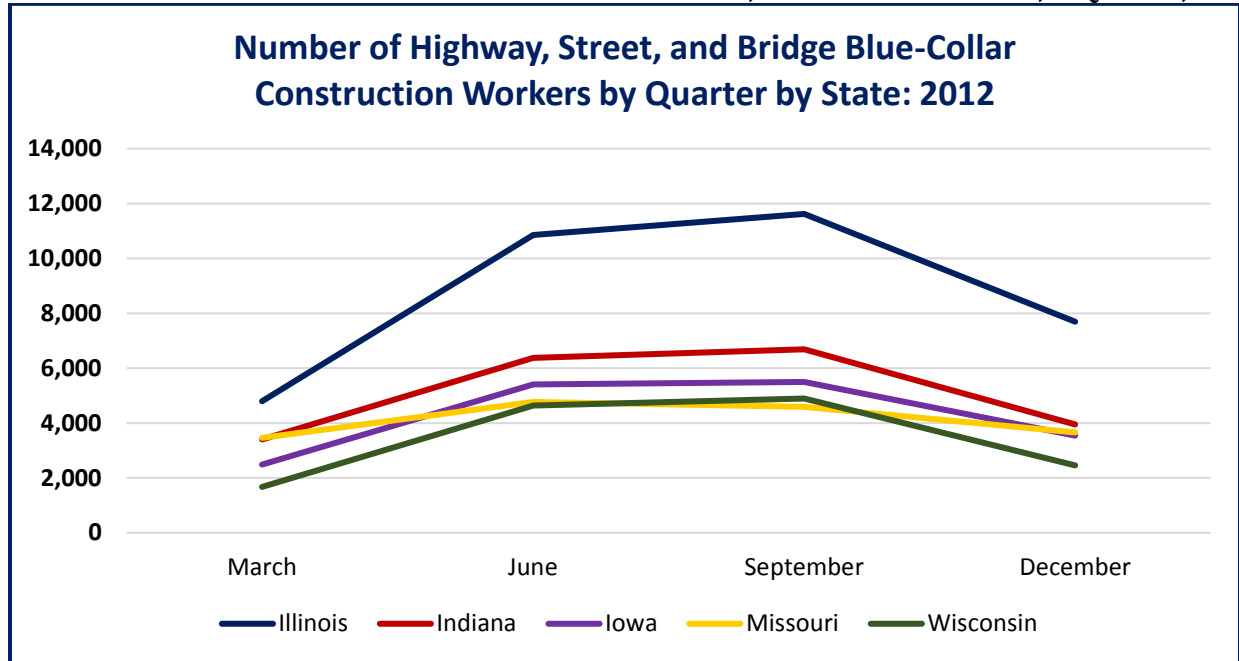


Sources(s): Author's analysis of Census (2015) – 2012 Economic Census of Construction.

In the Midwest, the total number of highway, street, and bridge blue-collar construction workers peaks during the second quarter (April through June) and third quarter (July through September) of the year. The total number of blue-collar employees in the subsector was less than 5,000 during the first quarter of 2012 in Illinois. The number of workers rose substantially to almost 11,000 employees by the second quarter and just under 12,000 employees in the third quarter of that year. Similar seasonal trends affect the Midwestern states that border Illinois (Figure 2).

This study assesses the impact of higher prevailing wage rates on male workers employed in the highway, street, and bridge construction subsector along Illinois' border. Cutting the data further– for example, by age group– results in considerable missing data due to small sample sizes at the county-level.

FIGURE 2: NUMBER OF BLUE-COLLAR WORKERS IN ROAD CONSTRUCTION, FIVE MIDWESTERN STATES, BY QUARTER, 2012



Sources(s): Author's analysis of Census (2015) – 2012 Economic Census of Construction.

County-level data on the hourly prevailing wage and benefits package for operating engineers were obtained from each state's Department of Labor or equivalent governmental body (IDOL, 2016; INDOL, 2016; MDLIR, 2016; DWD, 2016).¹ The posted prevailing wage rate during the first month of each quarter over the four years from 2011 through 2014 is used in the analysis. Historical prevailing wage rate data was unavailable, or difficult to attain, for Kentucky counties. Those counties and their bordering Illinois counterparts are thus omitted from the analysis. Additionally, prevailing wage rate information was not known for Benton County, Indiana and Warren County, Indiana, so those counties are also excluded. Finally, economic data from the Quarterly Workforce Indicators was not reported for three Illinois counties. In total, the full dataset includes 16 quarters of data on 32 Illinois counties and 33 bordering counties, or 1,040 quarterly observations at the county-level (Figure 3).

FIGURE 3: TOTAL NUMBER OF COUNTY-LEVEL OBSERVATIONS, FIVE MIDWESTERN STATES, 2011Q1-2014Q4

State	2011	2012	2013	2014	Total
Illinois	128	128	128	128	512
Indiana	28	28	28	28	112
Iowa	32	32	32	32	128
Missouri	56	56	56	56	224
Wisconsin	16	16	16	16	64
Total	260	260	260	260	1,040

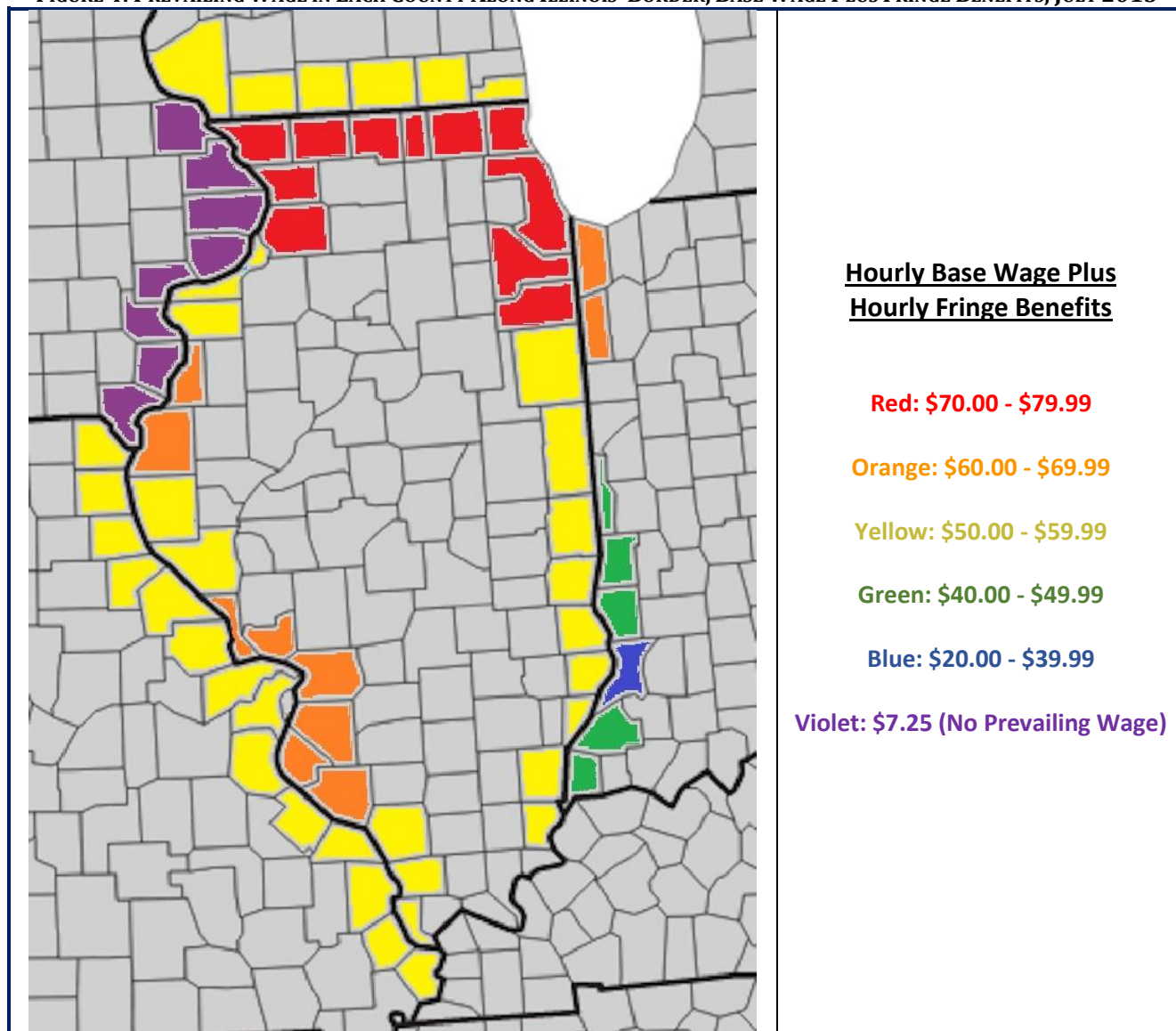
Sources(s): Author's analysis of Census (2016) – Quarterly Workforce Indicators QWI, 2011Q1-2014Q4.

Figure 4 utilizes prevailing wage and benefits rates for the July 2015 to illustrate differences across county lines. The "hotter" the color, the higher the hourly wage and benefits determined through the respective state's prevailing wage law. In comparing Illinois counties along the border to their counterparts across the state line,

¹ The classifications used are "Operating Engineer – HWY 1" for Illinois counties (IDOL, 2016), "Operating Engineer – Skilled" for Indiana counties (INDOL, 2016), "Operating Engineer – Group I" for Missouri counties (MDLIR, 2016), and "Heavy Equipment Operators: Airport Pavement or State Highway Construction – Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads, etc." for Wisconsin counties (DWD, 2016). In Indiana, the prevailing wage (called Common Construction Wage) was determined in five-member committees consisting of an industry representative, a labor representative, a contractor representative, and two taxpayer representatives. At times, rates fluctuated between union (AFL-CIO) and nonunion (ABC) scales. The approach taken in this study is to use data from the most-recent public body to issue a prevailing wage rate for "Operating Engineer – Skilled" classification, regardless of variance or consistency in the given county over time.

it is revealed that the prevailing wage is typically higher on the Illinois side. In the St. Louis market, for example, the prevailing hourly wage and fringe benefits package is between \$50 and \$59 for operating engineers in neighboring Missouri counties but between \$60 and \$69 for those in Illinois' border counties. During the period of analysis, the county-level prevailing wage was \$59.49 per hour on average in Illinois counties and \$40.75 per hour on average in the counties of neighboring states. Whether the Illinois rates are somehow "inflated," however, is a question that can be answered empirically through differences in employment and labor market outcomes– which is the intent of this analysis.

FIGURE 4: PREVAILING WAGE IN EACH COUNTY ALONG ILLINOIS' BORDER, BASE WAGE PLUS FRINGE BENEFITS, JULY 2015



Sources(s): "Historical Prevailing Wage Rates" by IDOL (2016), "Adopted Common Construction Wage Scales" by INDOL (2016), "Annual Wage Order (AWO) Archive" MDLIR (2016), and "Prevailing Wage Survey Search" by DWD (2016) for July 2015 – which is used as an example.

The next three paragraphs outline the technical methodology. Two advanced statistical approaches called "multilevel mixed regressions" are taken in this study. Multilevel mixed regressions are used to analyze data over time when the observations are grouped in some way. The first model is a mixed regression with county fixed effects and robust standard errors. Dummy variables are included for each quarter to make the model a two-way analysis. The second model is a multilevel mixed-effects linear regression containing both fixed effects and random effects. The benefit of this model is that it accounts for characteristics unique to individual counties

over time but also for trends impacting the county. The analysis is conducted using observations nested within states first and within counties second.

Both statistical approaches are applied to estimate the impact of a higher prevailing wage on employment, the job turnover rate, the ascensions rate, and the separations rate for the “highway, street, and bridge construction” subsector. All of the variables of interest have been transformed into natural log form. The natural log essentially allows researchers to evaluate percentage changes. For example, what is the percentage change in employment associated with a 10 percent increase in the prevailing wage? In each case, the models control for the relative size of the local labor market through total male employment levels and relevant trends in labor market flows through the overall male turnover rate, the overall male ascensions rate, or the overall male separations rate.

There are limitations to this methodology. First, the Quarterly Workforce Indicators dataset reports neither hours worked nor how many days employees worked over the month or quarter. However, Dube, Lester, and Reich (2014) find that estimated effects using the dataset are similar to those using other information from the Census, indicating that this limitation is likely minimal. Second, this approach investigates all Illinois counties that “touch” a county in a border state. The counties are not paired together by “geographic centroid” as in Dube, Lester, and Reich (2014). While the border-county technique helps account for many economic factors because adjacent counties tend to be very similar, important information may still be omitted from the analysis. This is a limitation to any regression model, however. A final limitation of this study is that it focuses only on Illinois. The characteristics of both Illinois’ prevailing wage law and the Illinois economy may differ dramatically from states in other parts of the country. Thus, the conclusions of this study may not be applicable in other jurisdictions.

IV. Economic Analysis

Prevailing wage rate determinations were generally higher in the Illinois counties than in border counties from 2011 through 2014. In fact, the average county-level prevailing wage was \$59.49 in wages, benefits, and apprenticeship training contributions per hour for operating engineers in the Illinois counties during the period of analysis. By contrast, the comparable labor cost was \$40.75 per hour for operating engineers in neighboring Wisconsin, Missouri, and Indiana counties—states which had prevailing wage laws at the time. These differences may cause opponents of prevailing wage laws to argue that Illinois’ rates are “inflated.” Empirical analysis, however, discredits this criticism.

A higher prevailing wage for operating engineers is not associated with fewer workers employed in the “highway, street, and bridge construction” sector in the integrated regional economies along Illinois’ border, (Figure 5). In both statistical evaluations, a 10 percent increase in a county’s prevailing wage has no statistical impact on male road construction employment in a county. A larger male workforce in all sectors, however, is positively correlated with an increase in the number of male road construction employees. Intuitively, this finding makes sense – counties with more workers overall require more public works construction workers to construct and maintain highways, roads, and bridges. The results indicate that a 10 percent growth in total male employment in a county is associated with a 7.6 percent to 9.3 percent increase in male road construction employment. Note that these effects account for the seasonal nature of roadbuilding. Road construction employment is highest in the summer months, or the second quarter and the third quarter. Thus, free market demand and seasonal conditions are the primary determinants of male road construction employment, not prevailing wage.

FIGURE 5: IMPACT OF A PREVAILING WAGE INCREASE ON MALE EMPLOYMENT IN ROAD CONSTRUCTION, 2011–2014

Dependent variable	Fixed-Effects Approach (Standard Error)	Mixed-Effects Approach (Standard Error)	In Plain English
ln(prevaling wage)	0.8002 (0.8261)	-0.0515 (0.6444)	A 10% increase in the prevailing wage has no negative impact on road construction employment
ln(total county employment)	0.9327 ** (0.4236)	0.7545 *** (0.0716)	A 10% increase in total employment is associated with a 7.55-9.33% increase in road construction employment
Quarterly dummies	Y	Y	Road construction employment is highest during Q2 and Q3
County observations	775	775	

***P≤[0.01]; **P≤[0.05]; *P≤[0.10]. For a full .txt document with these regressions, contact the author at fmanzo@illinoisepi.org.

Sources(s): Author’s analysis of Census (2016) – Quarterly Workforce Indicators (QWI), 2011Q1-2014Q4 using “Historical Prevailing Wage Rates” by IDOL (2016), “Adopted Common Construction Wage Scales” by INDOL (2016), “Annual Wage Order (AWO) Archive” MDLIR (2016), and “Prevailing Wage Survey Search” by DWD (2016).

In contrast with the small but growing number of minimum wage studies which show that a higher minimum wage reduces employee turnover in America, a higher prevailing wage is not associated with fewer men employed in highway, street, and bridge construction in Illinois (Figure 6). A 10 percent increase in a county’s prevailing wage has no statistical effect on male road construction job turnover in a county. The mixed-effects approach is only significant at the 10-percent confidence level.

While a higher prevailing wage has no discernible impact on job turnover, other county characteristics do affect the flow of employment (Figure 6). After factoring out seasonal trends, counties with a higher overall turnover rate for all male workers tend to also have a high rate of male turnover in road construction. Up to 75.3 percent of the road construction turnover rate for men in a county is explained by the overall male turnover rate in the county. This indicates that highway, street, and bridge construction employment is influenced primarily by business cycle trends in the free market. A larger number of men employed in all sectors of a county economy also reduces the road construction turnover rate for men in the mixed-effects model.

FIGURE 6: IMPACT OF A PREVAILING WAGE INCREASE ON THE MALE TURNOVER RATE IN ROAD CONSTRUCTION, 2011–2014

Dependent variable	Fixed-Effects Approach (Standard Error)	Mixed-Effects Approach (Standard Error)	In Plain English
ln(prevaling wage)	2.4217 (2.2497)	0.9004 * (0.4828)	A 10% increase in the prevailing wage has no statistical impact on road construction job turnover
ln(total county turnover rate)	0.6588 (0.6725)	0.7530 *** (0.2169)	Up to 75.3% of the road construction turnover rate can be explained by the overall county turnover rate
ln(total county employment)	1.0140 (0.9204)	-0.1163 *** (0.0361)	A 10% increase in total employment may reduce the road construction turnover rate by 1.16%
Quarterly dummies	Y	Y	The turnover rate in road construction is highest during Q3
County observations	422	422	

*** $P \leq 0.01$; ** $P \leq 0.05$; * $P \leq 0.10$. For a full .txt document with these regressions, contact the author at fmanzo@illinoisepi.org.

Sources(s): Author's analysis of Census (2016) – Quarterly Workforce Indicators (QWI), 2011Q1–2014Q4 using “Historical Prevailing Wage Rates” by IDOL (2016), “Adopted Common Construction Wage Scales” by INDOL (2016), “Annual Wage Order (AWO) Archive” MDLIR (2016), and “Prevailing Wage Survey Search” by DWD (2016).

The turnover rate is determined by the ascensions rate and the separations rate. The ascensions rate– or the rate of new hires– is generally highest during the second quarter of the calendar year when highway, street, and bridge contractors have won bids and are adding workers to build the infrastructure during the spring, summer, and fall months. A higher prevailing wage for operating engineers has no statistical impact on the rate of new male hires in the road construction subsector along the border of Illinois. The overall male ascensions rate in all sectors and total male employment in a county also have no apparent effect on new hires (Figure 7).

FIGURE 7: IMPACT OF A PREVAILING WAGE INCREASE ON THE MALE ASCENSIONS RATE IN ROAD CONSTRUCTION, 2011–2014

Dependent variable	Fixed-Effects Approach (Standard Error)	Mixed-Effects Approach (Standard Error)	In Plain English
ln(prevaling wage)	-3.1865 (2.5425)	0.3147 (0.4465)	A 10% increase in the prevailing wage has no negative impact on the rate of new hires in road construction
ln(total county ascensions rate)	0.1603 (0.2623)	0.2619 (0.1801)	The rate of new hires in road construction is not influenced by the overall rate of new hires in a county
ln(total county employment)	-0.3240 (0.9200)	-0.0468 (0.0324)	An increase in total employment has no apparent effect on the rate of new hires in construction
Quarterly dummies	Y	Y	The rate of new hires in road construction is highest during Q2
County observations	686	686	

*** $P \leq 0.01$; ** $P \leq 0.05$; * $P \leq 0.10$. For a full .txt document with these regressions, contact the author at fmanzo@illinoisepi.org.

Sources(s): Author's analysis of Census (2016) – Quarterly Workforce Indicators (QWI), 2011Q1–2014Q4 using “Historical Prevailing Wage Rates” by IDOL (2016), “Adopted Common Construction Wage Scales” by INDOL (2016), “Annual Wage Order (AWO) Archive” MDLIR (2016), and “Prevailing Wage Survey Search” by DWD (2016).

Trends in, and demand from, the broader labor market do impact the separations rate for men working in road construction, however (Figure 8). The separations rate– or the rate of worker quits and employer layoffs– is consistently highest in the fourth quarter of the year from October through December. In addition, up to 37.1 percent of the job separations rate for male workers in the highway, street, and bridge construction sector is attributable to the equivalent separations rate in all sectors of the county economy. A 10 percent increase in total male employment in a county is also associated with a 0.8 percent decrease in the road construction job separations rate for men in the mixed-effects model. This is likely because, as public demand increases due to employment growth, roadbuilding contractors are awarded more projects and it becomes more costly for them to lay off employees. An increase in prevailing wage has no impact on the job separations rate of male highway, street, and bridge construction workers. Local market conditions matter more.

FIGURE 8: IMPACT OF A PREVAILING WAGE INCREASE ON THE MALE SEPARATIONS RATE IN ROAD CONSTRUCTION, 2011–2014

Dependent variable	Fixed-Effects Approach (Standard Error)	Mixed-Effects Approach (Standard Error)	In Plain English
ln(prevaling wage)	-0.9387 (2.2820)	0.7972 (0.4912)	A 10% increase in the prevailing wage has no statistical impact on road construction job separations
ln(total county separations rate)	0.5358 (0.3776)	0.3705 ** (0.1841)	Up to 37.1% of the road construction separations rate can be explained by the overall county separations rate
ln(total county employment)	-0.9858 (0.7666)	-0.0796 ** (0.0366)	A 10% increase in total employment may reduce the road construction separations by 0.80%
Quarterly dummies	Y	Y	The rate of road construction layoffs and quits is highest during Q4
County observations	706	706	

*** $P \leq 0.01$; ** $P \leq 0.05$; * $P \leq 0.10$. For a full .txt document with these regressions, contact the author at fmanzo@illinoisepi.org.

Sources(s): Author's analysis of Census (2016) – Quarterly Workforce Indicators (QWI), 2011Q1-2014Q4 using "Historical Prevailing Wage Rates" by IDOL (2016), "Adopted Common Construction Wage Scales" by INDOL (2016), "Annual Wage Order (AWO) Archive" MDLIR (2016), and "Prevailing Wage Survey Search" by DWD (2016).

Finally, due to the lack of a prevailing wage effect on male employment levels and flows, the two models are also applied to the average monthly earnings of men working in highway, street, and bridge construction (Figure 9). Interestingly, while both models suggest that a 10 percent increase in the prevailing wage rate per hour may increase average monthly earnings by about 1.4 percent, neither result is statistically significant. An increase in hourly compensation without a comparable increase in monthly earnings or decrease in employment implies that the construction workers are getting the jobs done in fewer hours. This is indirect evidence that a higher prevailing wage causes gains in worker productivity. On the other hand, between 64.6 percent and 74.1 percent of the monthly earnings of male road construction employees can be explained by the average earnings for all men in the local economy. This suggests that Illinois' prevailing wage law is predominantly reflective of the local private-market rate.

FIGURE 9: IMPACT OF A PREVAILING WAGE INCREASE ON THE MONTHLY EARNINGS OF MEN IN ROAD CONSTRUCTION, 2011–2014

Dependent variable	Fixed-Effects Approach (Standard Error)	Mixed-Effects Approach (Standard Error)	In Plain English
ln(prevaling wage)	0.1437 (0.2929)	0.1490 (0.1953)	A 10% increase in the prevailing wage appears to have no effect on average monthly earnings along the border
ln(average county earnings)	0.6459 ** (0.2908)	0.7408 *** (0.1559)	64.6-74.1% of road construction worker earnings can be explained by the average earnings in the county
Quarterly dummies	N	N	
County observations	900	900	

*** $P \leq 0.01$; ** $P \leq 0.05$; * $P \leq 0.10$. For a full .txt document with these regressions, contact the author at fmanzo@illinoisepi.org.

Sources(s): Author's analysis of Census (2016) – Quarterly Workforce Indicators (QWI), 2011Q1-2014Q4 using "Historical Prevailing Wage Rates" by IDOL (2016), "Adopted Common Construction Wage Scales" by INDOL (2016), "Annual Wage Order (AWO) Archive" MDLIR (2016), and "Prevailing Wage Survey Search" by DWD (2016).

V. Implications for Illinois and General Conclusions

The evidence clearly reveals that prevailing wage is the local market rate in Illinois. By preventing government from using its massive purchasing power to undercut local standards, prevailing wage laws ensure that workers employed on taxpayer-funded projects are paid a competitive rate determined by private actors. After adjusting for seasonality, a higher prevailing wage for operating engineers has no statistical impact on the employment of men working in the highway, street, and bridge construction sector along the border of Illinois. A higher prevailing wage also has no discernible impact on job turnover, new hires, or layoffs and quits for men in the road construction industry in Illinois.

Local market conditions are far more important than the prevailing wage rate determination. A 10 percent increase in the number of men employed in a county is statistically associated with a 7.5 percent to 9.3 percent increase in male employment in the highway, street, and bridge construction sector of that county. Up to 75.3 percent of the turnover rate and 74.1 percent of the average monthly earnings of men working in highway, street, and bridge construction can be directly attributed to local trends for all male workers in the county.

Prevailing wage has no discernible impact on employment, turnover, earnings or construction costs for the highway, street, and bridge construction sector in Illinois. These findings might lead some critics to argue that the state does not need its prevailing wage law. This, however, is the exact wrong conclusion.

The correct understanding of the results is that Illinois' prevailing wage law is effective at determining the local market rate. As prevailing wage rates rise, there is no corresponding increase in construction costs or monthly earnings, and no corresponding decrease in employment. This means that the workers are completing projects at a faster pace, implying productivity gains associated with a higher prevailing wage.

If prevailing wage was repealed in Illinois, governmental bodies could interfere in the construction market and undercut local standards, resulting in wages that are below levels in the private market. Below-market compensation would put local contractors at a competitive disadvantage and encourage out-of-state contractors to enter Illinois' public construction industry. The net effect would be fewer local businesses winning bids on public projects, resulting in fewer Illinois workers employed in the industry and lower tax revenues. Without Illinois' prevailing wage law, private apprenticeship investment would dramatically decrease. Worker productivity, worker quality, and on-the-job safety would also suffer without prevailing wage guaranteeing that workers are paid a competitive local rate that ensures they can afford to live in the community where they are constructing a project. Repealing the state's prevailing wage law would *undermine* the free market.

These conclusions may not be applicable to other states. Prevailing wages accurately reflect local compensation standards in Illinois' regional markets, but this may not be the case in states with weaker prevailing wage laws. A comparable analysis in another jurisdiction may produce findings that are similar to those in the minimum wage literature, where a higher prevailing wage significantly increases worker earnings and reduces job turnover because employees are paid an "efficiency wage." Indeed, this may be the case in states with lesser-skilled workers and weaker labor institutions. Due in part to the state's prevailing wage law, road construction workers in Illinois already treat their craft as a career because they are highly skilled and earn a good, middle-class wage.

Prevailing wages are based on privately-established rates negotiated in local labor markets in Illinois. The state's prevailing wage law prevents government from undercutting local standards, supports in-state contractors, provides a competitive level of compensation to workers, promotes apprenticeship training, and ensures that taxpayer-funded infrastructure projects are done right, on time, the first time. Illinois should continue this high-road public policy.

References

- Allegretto, Sylvia; Arindrajit Dube; T. Michael Reich; and Ben Zipperer. (2013). *Credible Research Designs for Minimum Wage Studies*. University of California, Berkeley.
- Atalah, Alan. (2012). "Comparison of Union and Non-Union Bids on Ohio School Facilities Commission Construction Projects," *International Journal of Economics and Management Engineering*, 3(1): 29-35.
- Azari-Rad, Hamid; Peter Philips; and Mark Prus. (2003). "State Prevailing Wage Laws and School Construction Costs," *Industrial Relations*, 42(3): 445-457.
- Bilginsoy, Cihan and Peter Philips. (2000). "Prevailing Wage Regulations and School Construction Costs: Evidence from British Columbia," *Journal of Education Finance*, 24: 415-432.
- Blankenau, William and Steven Cassou, (2011). "Industry Differences in the Elasticity of Substitution and Rate of Biased Technological Change between Skilled and Unskilled Labor," *Applied Economics*, 43: 3129-3142.
- Borjas, George. (2010). *Labor Economics* (Fifth Edition). New York, NY: McGraw-Hill/Irwin, 349-352.
- Census. (2016). "Longitudinal Employer-Household Dynamics." *Quarterly Workforce Indicators* (QWI). U.S. Census Bureau.
- Census. (2015). "American FactFinder." 2012 *Economic Census of Construction*. U.S. Census Bureau.
- Dube, Arindrajit; T. William Lester; and Michael Reich. (2014). *Minimum Wage Shocks, Employment Flows and Labor Market Frictions*. University of California, Berkeley.
- Duncan, Kevin. (2015). (a). "The Effect of Federal Davis-Bacon and Disadvantaged Business Enterprise Regulations on Highway Maintenance Costs," *Industrial and Labor Relations Review*, 68(1): 212-237.
- Duncan, Kevin. (2015) (b). *Do Construction Costs Decrease When Davis-Bacon Prevailing Wages Change from Union to Average Rates?* Colorado State University– Pueblo.
- Duncan, Kevin. (2011). *Economic, Fiscal and Social Impacts of Prevailing Wage in San Jose, California*. Colorado State University– Pueblo; Working Partnerships USA.
- Duncan, Kevin; Peter Philips; and Mark Prus. (2014). "Prevailing Wage Regulations and School Construction Costs: Cumulative Evidence from British Columbia," *Industrial Relations*, 53(4): 593-616.
- Duncan, Kevin; Peter Philips; and Mark Prus. (2009). "The Effects of Prevailing Wage Regulations on Construction Efficiency in British Columbia," *International Journal of Construction Education and Research*, 5(2): 63-78.
- DWD. (2016). "Prevailing Wage Survey Search." Wisconsin Department of Workforce Development.
- IDOL. (2016). "Historical Prevailing Wage Rates." Conciliation and Mediation Division, Illinois Department of Labor.
- INDOL. (2016). "Adopted Common Construction Wage Scales." Indiana Department of Labor.
- Jordan, Lisa; Robert Bruno; Phil Schrader; and Tony Sindone. (2006). *An Evaluation of Prevailing Wage in Minnesota: Implementation, Comparability and Outcomes*. Brevard College; University of Illinois at Urbana-Champaign; University of Minnesota; Indiana University– South Bend.

- Kim, Jaewhan; Chang Kuo-Liang; and Peter Philips. (2012). "The Effect of Prevailing Wage Regulations on Contractor Bid Participation and Behavior: A Comparison of Palo Alto, California with Four Nearby Prevailing Wage Municipalities," *Industrial Relations*, 51(4): 874-891.
- Liu, Shanshan; Thomas Hyclak; and Krishna Regmi. (2016). "Impact of the Minimum Wage on Youth Labor Markets," *LABOUR*, 30(1): 18-37.
- Mahalia, Nooshin. (2008). *Prevailing Wages and Government Contracting Costs: A Review of the Research*. Economic Policy Institute.
- Manzo IV, Frank and Robert Bruno. (2016). *An Analysis of the Impact of Prevailing Wage Thresholds On Public Construction*. Illinois Economic Policy Institute; University of Illinois at Urbana-Champaign.
- Manzo IV, Frank; Robert Bruno; and Kevin Duncan. (2016) (a). *The Impact of Prevailing Wage Laws on Military Veterans: An Economic and Labor Market Analysis*. Illinois Economic Policy Institute; University of Illinois at Urbana-Champaign; Colorado State University– Pueblo.
- Manzo IV, Frank; Alex Lantsberg; and Kevin Duncan. (2016) (b). *The Economic, Fiscal, and Social Impacts of State Prevailing Wage Laws: Choosing Between the High Road and the Low Road in the Construction Industry*. Illinois Economic Policy Institute; Smart Cities Prevail; Colorado State University– Pueblo.
- Manzo IV, Frank; Robert Bruno; and Scott Littlehale. (2014). *Common Sense Construction: The Economic Impacts of Indiana's Common Construction Wage*. Midwest Economic Policy Institute; University of Illinois at Urbana-Champaign; Smart Cities Prevail.
- MDLIR. (2016). "Annual Wage Order (AWO) Archive." Missouri Department of Labor and Industrial Relations.
- O'Leary, Sean. (2015). *West Virginia's Prevailing Wage: Good for Business, Good for Workers*. West Virginia Center on Budget & Policy.
- Philips, Peter. (2014). *Kentucky's Prevailing Wage Law: An Economic Impact Analysis*. University of Utah.
- Philips, Peter. (2001). *A Comparison of Public School Construction Costs: In Three Midwestern States that Have Changed Their Prevailing Wage Laws in the 1990s*. University of Utah.
- Philips, Peter. (1998). *Delaware's Prevailing Wage Law: Its History, Purpose and Effect*. University of Utah.
- Philips, Peter; Garth Mangum; Norm Waitzman; and Anne Yeagle. (1995). *Losing Ground: Lessons from the Repeal of Nine 'Little Davis-Bacon' Acts*. University of Utah.
- Prus, Mark. (1999). *Prevailing Wage Laws and School Construction Costs: An Analysis of Public School Construction in Maryland and the Mid Atlantic States*. State University of New York– Cortland.
- Schmitt, John. (2013). *Why Does the Minimum Wage Have No Discernible Effect on Employment?* Center for Economic and Policy Research.
- Waddoups, C. Jeffrey and David May. (2014). "Do Responsible Contractor Policies Increase Construction Bid Costs?" *Industrial Relations*, 53(2): 273-294.

Appendix

FIGURE A: EXAMPLES OF PREVAILING WAGE RATES (BASE WAGE PLUS FRINGE BENEFITS) USED BY QUARTER, 2011-2014

Counties	State	Jan-11	Apr-11	Jul-11	Oct-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Jan-14	Apr-14	Jul-14	Oct-14
Vermilion	IL	\$47.30	\$47.30	\$49.65	\$49.65	\$49.65	\$49.65	\$52.15	\$52.15	\$52.15	\$53.70	\$53.70	\$53.70	\$53.70	\$53.70	\$55.30	\$55.30
Wabash	IL	\$47.30	\$47.30	\$49.65	\$49.65	\$49.65	\$49.65	\$52.15	\$52.15	\$52.15	\$53.70	\$53.70	\$53.70	\$53.70	\$53.70	\$55.30	\$55.30
White	IL	\$45.95	\$45.95	\$48.25	\$48.25	\$48.25	\$50.70	\$50.70	\$50.70	\$50.70	\$50.70	\$52.50	\$54.20	\$52.50	\$52.50	\$54.20	\$54.20
Whiteside	IL	\$65.70	\$65.70	\$65.70	\$65.70	\$65.70	\$67.70	\$67.70	\$69.95	\$69.95	\$69.95	\$72.25	\$72.25	\$72.25	\$72.25	\$72.10	\$74.45
Will	IL	\$66.10	\$66.10	\$70.40	\$70.40	\$70.40	\$70.40	\$70.40	\$72.70	\$72.70	\$72.70	\$75.10	\$75.10	\$75.10	\$75.10	\$77.35	\$77.35
Winnebago	IL	\$65.70	\$65.70	\$65.70	\$65.70	\$65.70	\$67.70	\$67.70	\$69.95	\$69.95	\$69.95	\$72.25	\$72.25	\$72.25	\$72.25	\$72.10	\$74.45
Grant	WI	\$51.17	\$51.17	\$53.12	\$53.12	\$53.17	\$53.17	\$55.12	\$55.12	\$55.12	\$55.12	\$57.12	\$57.12	\$57.12	\$57.12	\$58.87	\$58.87
Green	WI	\$51.17	\$51.17	\$53.12	\$53.12	\$53.17	\$53.17	\$55.12	\$55.12	\$55.12	\$55.12	\$57.12	\$57.12	\$57.12	\$57.12	\$58.87	\$58.87
Kenosha	WI	\$51.17	\$51.17	\$53.12	\$53.12	\$53.17	\$53.17	\$55.12	\$55.12	\$55.12	\$55.12	\$57.12	\$57.12	\$57.12	\$57.12	\$58.87	\$58.87
Lafayette	WI	\$51.17	\$51.17	\$53.12	\$53.12	\$53.17	\$53.17	\$55.12	\$55.12	\$55.12	\$55.12	\$57.12	\$57.12	\$57.12	\$57.12	\$58.87	\$58.87
Rock	WI	\$51.17	\$51.17	\$53.12	\$53.12	\$53.17	\$53.17	\$55.12	\$55.12	\$55.12	\$55.12	\$57.12	\$57.12	\$57.12	\$57.12	\$58.87	\$58.87
Walworth	WI	\$51.17	\$51.17	\$53.12	\$53.12	\$53.17	\$53.17	\$55.12	\$55.12	\$55.12	\$55.12	\$57.12	\$57.12	\$57.12	\$57.12	\$58.87	\$58.87
Benton	IN																
Gibson	IN				\$40.08	\$40.08	\$40.08	\$40.08	\$40.08	\$40.08	\$43.95	\$43.95	\$45.05	\$45.05	\$45.05	\$46.15	\$46.15
Knox	IN			\$43.45	\$42.85	\$42.95	\$42.95	\$38.49	\$29.20	\$38.49	\$38.49	\$29.20	\$45.05	\$45.05	\$46.15	\$46.15	\$29.20
Lake	IN			\$61.05	\$62.68	\$62.65	\$62.65	\$62.65	\$64.93	\$64.93	\$64.93	\$67.18	\$67.18	\$67.18	\$67.18	\$67.18	\$67.18
Newton	IN			\$61.38	\$62.65	\$62.65	\$62.65	\$62.65	\$64.93	\$64.93	\$64.93	\$29.25	\$67.18	\$67.18	\$67.18	\$67.18	\$67.18
Posey	IN		\$40.08	\$40.08	\$42.85	\$40.08	\$40.08	\$40.08	\$43.95	\$43.95	\$43.95	\$43.95	\$43.95	\$45.05	\$45.05	\$45.05	\$46.15
Sullivan	IN				\$42.95	\$42.95	\$44.05	\$44.05	\$44.05	\$44.05	\$44.05	\$44.05	\$44.05	\$44.05	\$28.65	\$28.65	\$47.10
Vermillion	IN				\$43.80	\$43.80	\$43.80	\$43.80	\$45.25	\$44.90	\$44.90	\$44.90	\$44.90	\$46.50	\$46.50	\$46.50	\$46.50
Vigo	IN			\$42.95	\$43.80	\$43.80	\$43.80	\$44.90	\$45.25	\$44.90	\$44.90	\$46.00	\$46.00	\$46.00	\$46.50	\$47.10	\$47.10
Warren	IN																
Cape Girardeau	MO	\$45.71	\$45.71	\$47.24	\$47.24	\$47.24	\$47.24	\$47.24	\$48.76	\$48.76	\$48.76	\$50.44	\$50.44	\$50.44	\$50.44	\$51.56	\$51.56
Clark	MO	\$45.71	\$45.71	\$47.24	\$47.24	\$47.24	\$47.24	\$47.24	\$48.76	\$48.76	\$48.76	\$50.44	\$50.44	\$50.44	\$50.44	\$51.56	\$51.56
Jefferson	MO	\$48.80	\$48.80	\$50.47	\$50.47	\$50.47	\$50.47	\$50.47	\$52.14	\$52.14	\$52.14	\$53.86	\$53.86	\$53.86	\$53.86	\$55.16	\$55.16
Lewis	MO	\$45.71	\$45.71	\$47.24	\$47.24	\$47.24	\$47.24	\$47.24	\$48.76	\$48.76	\$48.76	\$50.44	\$50.44	\$50.44	\$50.44	\$51.56	\$51.56
Lincoln	MO	\$48.80	\$48.80	\$50.47	\$50.47	\$50.47	\$50.47	\$50.47	\$52.14	\$52.14	\$52.14	\$53.86	\$53.86	\$53.86	\$53.86	\$55.16	\$55.16
Marion	MO	\$45.71	\$45.71	\$47.24	\$47.24	\$47.24	\$47.24	\$47.24	\$48.76	\$48.76	\$48.76	\$50.44	\$50.44	\$50.44	\$50.44	\$51.56	\$51.56
Mississippi	MO	\$45.71	\$45.71	\$47.24	\$47.24	\$47.24	\$47.24	\$47.24	\$48.76	\$48.76	\$48.76	\$50.44	\$50.44	\$50.44	\$50.44	\$51.56	\$51.56

The yellow observations in this screenshot are omitted from the analysis. For a full .xlsx document with all (total) prevailing wage rates, contact the author at fmanzo@illinoisepi.org.

Sources(s): "Historical Prevailing Wage Rates" by IDOL (2016), "Adopted Common Construction Wage Scales" by INDOL (2016), "Annual Wage Order (AWO) Archive" MDLIR (2016), and "Prevailing Wage Survey Search" by DWD (2016) for July 2015 – which is used as an example.

FIGURE B: EXAMPLE OF FULL “MULTILEVEL MIXED REGRESSION” MODEL RESULTS – MALE EMPLOYMENT (SEE FIGURE 5)

Dependent variable	Fixed-Effects Approach (Standard Error)	Mixed-Effects Approach (Standard Error)
ln(prevaling wage)	0.8002 (0.8261)	-0.0515 (0.6444)
ln(total county employment)	0.9327 ** (0.4236)	0.7545 *** (0.0716)
2011Q2	0.0689 (0.0504)	0.0754 (0.0523)
2011Q3	0.3193 *** (0.0661)	0.3584 *** (0.0557)
2011Q4	0.3230 *** (0.0648)	0.3682 *** (0.0576)
2012Q1	-0.0690 (0.0595)	-0.0326 (0.0578)
2012Q2	0.0208 (0.0675)	0.0691 (0.0596)
2012Q3	0.1950 ** (0.0789)	0.2598 *** (0.0645)
2012Q4	0.1893 ** (0.0850)	0.2681 *** (0.0717)
2013Q1	-0.1914 ** (0.0869)	-0.1222 * (0.0721)
2013Q2	-0.1240 (0.0921)	-0.0434 (0.0745)
2013Q3	0.1133 (0.1124)	0.2219 ** (0.0873)
2013Q4	0.0611 (0.1171)	0.1721 * (0.0889)
2014Q1	-0.2129 ** (0.1058)	-0.1104 (0.0898)
2014Q2	-0.1835 (0.1285)	-0.0730 (0.0892)
2014Q3	0.0265 (0.1373)	0.1580 (0.0989)
2014Q4	0.0733 (0.1397)	0.2096 ** (0.1023)
Constant	-7.4747 (4.7577)	-2.4904 (2.4206)
Observations	775	775
R ² or Wald chi ²	0.6416	465.63

***P≤|0.01|; **P≤|0.05|; *P≤|0.10|. For a full .txt document with the other regressions, contact the author at fmanzo@illinoisepi.org.

Sources(s): Author's analysis of Census (2016) – Quarterly Workforce Indicators (QWI), 2011Q1-2014Q4 using “Historical Prevailing Wage Rates” by IDOL (2016), “Adopted Common Construction Wage Scales” by INDOL (2016), “Annual Wage Order (AWO) Archive” MDLIR (2016), and “Prevailing Wage Survey Search” by DWD (2016).