

The Impact of Montana's Prevailing Wage Law

Effects on Costs, Training, and Economic Development

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Executive Summary

Montana's prevailing wage law establishes minimum wages for construction workers employed on public works projects. The main purpose of Montana's prevailing wage laws is to protect local construction standards in the competitive bidding process. The law creates a level playing field for all contractors by ensuring that public expenditures maintain local market standards for wages and benefits that attract the skilled workforce needed for quality craftsmanship. It also requires that at least 50 percent of the workers employed by contractors on public works projects be residents of Montana.

Montana's prevailing wage law keeps construction costs stable and supports local contractors.

- 90 percent of peer-reviewed studies find that prevailing wage laws have no effect on the cost of constructing traditional public works projects like schools, highways, and public buildings.
- Labor costs account for just 24 percent of total construction costs in Montana.
- Peer-reviewed studies conclude that prevailing wage laws have no effect on bid competition.
- Data from the *Economic Census of Construction* reveals that states with prevailing wage laws have 2 percent more of the total value of construction work completed by in-state contractors.

Montana's prevailing wage law ensures that the next generation of construction workers is trained for in-demand careers, which combats labor shortages and protects worksite safety.

- Construction is the economy's most volatile and dangerous major industry.
- Economic research finds that prevailing wage laws increase apprenticeship training by up to 8 percent, boost productivity by at least 14 percent, and reduce injury rates by around 13 percent.
- Montana has significantly more construction apprentices per capita and 285 percent more apprenticeship programs than Idaho, North Dakota, and South Dakota—three neighboring states that do not have prevailing wage laws.
- The completion rate of apprentices in Montana (53 percent) is 21 percentage points higher than their counterparts in the three neighboring states without prevailing wage laws (33 percent).
- Construction worksites in Montana are much safer, averaging 33 percent fewer health and safety violations (0.7 violations per inspection) than those in the three neighboring states without prevailing wage laws (1.1 violations per inspection).

Montana's prevailing wage law promotes labor market competitiveness and boosts the economy.

- Economic research finds that prevailing wage laws deliver middle-class careers that attract workers into the construction trades and ensure they can afford to live in the communities where they are building roads, bridges, schools, parks, and other public infrastructure.
- Montana's prevailing wage law increases construction worker incomes by 8 percent and expands employer-provided health insurance coverage for construction workers by 8 percent.
- Prevailing wage has no effect on hours worked or employment levels of construction workers.
- Prevailing wage has no effect on the racial composition of the construction workforce.
- By protecting work for in-state contractors, upholding local construction standards, and hiring local, Montana's prevailing wage law creates 1,800 jobs, improves the state economy by \$248 million, and generates \$19 million in state and local tax revenues every year.
- Weakening prevailing wage in Montana by repealing the law or raising the contract coverage threshold would hurt local contractors, shrink construction worker incomes, and lead to an increase in worker misclassification and payroll fraud—without saving taxpayers any money.

Montana's prevailing wage law has positive impacts on the economy. Prevailing wage levels the playing field, promotes job quality, boosts investment in apprenticeship training programs, improves worksite safety, and stabilizes construction costs. Prevailing wage delivers great value for taxpayers.

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Introduction

Prevailing wage laws establish minimum wages for different types of skilled construction workers on taxpayer-funded and taxpayer-subsidized projects, based on wages, benefits, and apprenticeship training investments that are paid for similar work in the local area where projects are to be completed. The Davis-Bacon Act of 1931 establishes prevailing wages on federally funded and federally assisted construction projects, and Montana is currently one of 28 states that have state prevailing wage laws on the books (WHD, 2022). Montana’s prevailing wage law ensures the payment of minimum wage and benefit rates for public works contracts involving construction (heavy, highway, and building) or services that are funded by the state, counties, municipalities, school districts, or other political subdivisions (DLI, 2022a). Montana’s policy applies to contracts with a total cost of \$25,000 or more.

The intent of Montana’s law is to protect local construction standards in the competitive bidding process by eliminating wage cutting as a method of competing for public contracts (DLI, 2022b). Public construction bidding is different from private-sector construction. Public bodies are usually required to select the lowest bidder. In the low-bid model, contractors aim to lower their bids however possible, including through cutthroat reductions in worker wages, benefits, and apprenticeship training. Long-term investments in worker training, health care, and retirement security are often jettisoned by contractors in order to win bids on short-term projects. Additionally, relatively large construction projects funded by the State of Montana and a process that rewards the lowest bidder may attract contractors from surrounding states with lower wages and lower skills, which could erode local labor standards. In the absence of minimum prevailing wage rates, competition between in- and out-of-state contractors may induce local contractors to reduce workers’ pay, benefits, and training programs. This could erode job quality and cause shortages of workers during a historically tight labor market at a time when billions of dollars are being invested on infrastructure projects across Montana. Instead, Montana’s prevailing wage law levels the playing field for contractors by taking labor costs out of the equation, incentivizing them to compete based on core competencies and efficiencies and ensuring an equal opportunity for Montana contractors to bid on—and be awarded—public works projects.

Montana’s prevailing wage law also uniquely prioritizes the local workforce. Not only does the law ensure the payment of wages and benefits at levels that attract highly skilled workers needed for quality craftsmanship, but it also requires that at least 50 percent of the workers employed by contractors be residents of Montana. This local hire component increases employment of Montana residents on public works projects funded by Montana taxpayers. Additionally, Montana’s law includes “zone pay” that is added to the base wage and is calculated based on miles from the nearest “dispatch city” to encourage skilled workers from Montana to travel to complete infrastructure projects in rural areas of the state (DLI, 2022a).

Recently, there have been attempts to change the state’s prevailing wage law. In 2021, there were proposals to repeal the law altogether (Thornton, 2021). One bill introduced in the Montana State Legislature, Senate Bill 346, would have increased the contract threshold from \$25,000 to \$80,000, weakening the law by reducing the number of public works projects covered. The bill was voted down in committee in 2022 (Girten, 2022). Additional changes may be proposed in 2023.

This report—conducted by researchers at Colorado State University-Pueblo, Alma College, and the Illinois Economic Policy Institute—examines the effects of Montana’s prevailing wage law on construction workers, on the state’s system of apprenticeship training, on the economy, and on taxpayers. The study includes a review of the research regarding the costs and benefits of prevailing wage laws. An extensive body of peer-reviewed research focuses on the impact of prevailing wage

standards on the costs of public construction. Related research examines the effect of the wage policy on the level of bid competition, an important determinant of overall construction costs. The study also reviews the benefits of prevailing wage laws, with data and research on the effect of the policy on local work for local contractors, formal training and safety in the construction industry, the employment and compensation of construction workers, and the effect of the policy on tax revenues. Additionally, the study discusses how altering prevailing wage coverage thresholds can affect local contractors. Ultimately, this study shows that Montana's prevailing wage law keeps construction costs stable, is an effective job skills advancement policy, provides upward economic mobility for blue-collar construction workers, and has positive effects on the state's economy.

Peer-Reviewed Research on the Effect of Prevailing Wage on Construction Costs

In academic journals, the process of peer review ensures quality, credibility, and high standards—with the research being scrutinized by a group of anonymous, independent experts who are more likely to detect errors and shortcomings that may not be obvious to casual readers. Peer-reviewed academic research on the impact of prevailing wage laws on construction costs typically compares bid costs of projects covered by the wage policy to the bid costs of projects that are not, taking into consideration other factors that affect construction costs such as project size and complexity. Contract bids are used as the measure of total construction costs due to the difficulty in obtaining information on change orders and follow-up maintenance (Bilginsoy, 1999; Philips et al., 1995). Most peer-reviewed studies typically use statistical analyses called regressions that assess the impact of prevailing wage laws on costs and detail whether estimates are “statistically significant,” which can imply causation.

The economic consensus is that prevailing wage laws have no impact on total construction costs (Duncan and Ormiston, 2018). There are three main reasons why prevailing wage laws do not have a discernible impact on total project costs. First, labor costs are a low share of total costs in the construction industry. The most reliable data on construction costs can be obtained from the U.S. Census Bureau's *Economic Census of Construction* (Census, 2022). These data are derived from a survey of all construction contractors that conducted every five years. Data from the most recent *Economic Census of Construction*, which occurred in 2017, indicates that labor costs for all types of construction are approximately 23 percent of total construction costs.¹ The corresponding figure for Montana is 24 percent (Figure 1). Numerous studies use data from the *Economic Census of Construction* for different years and segments of the construction industry and also find that labor costs are a low percent of overall construction costs (Philips, 2014; Duncan and Waddoups, 2014).

Second, when wages rise in construction, contractors respond by utilizing more capital equipment and by hiring skilled workers to replace their less-productive counterparts. While it is an established practice to consider the combined effects of labor costs and labor productivity when considering cost pressures for the U.S. economy, these relationships are almost always ignored in policy debates over the impact of prevailing wage laws. Balistreri, McDaniel, and Wong (2003) find that when wages increase, more capital equipment and machinery is used in construction—increasing labor productivity. Additionally, Blankenau and Cassou (2011) find that the use of skilled and unskilled construction labor is very sensitive to wage rates. When construction wage rates increase, more skilled

¹ The *Economic Census of Construction* for 2017 does not report labor costs as a percent of total costs. This ratio must be calculated by dividing total construction worker wages and proportionally allocated total fringe benefits by the net value of construction work. The net value of construction is based on the total value of work completed by a contractor minus the value of work subcontracted to other contractors (Census, 2022).

and productive construction workers are hired, replacing less skilled workers. As a result, construction workers are significantly more productive in states with prevailing wage laws (Philips, 2014).

FIGURE 1: LABOR COSTS AS A SHARE OF TOTAL CONSTRUCTION COSTS, U.S. AND MONTANA, 2017

2017 <i>Economic Census</i> Construction Metrics		Math	United States	Montana
A	Net Value of Construction Work*	--	\$1,574,236,474,000	\$5,669,176,000
B	Blue-Collar Construction Worker Wages	--	\$276,213,296,000	\$1,030,453,000
C	Wages for White-Collar Employees	--	\$122,602,241,000	\$367,450,000
D	Blue-Collar Worker Share of Wages	$B \div (B + C)$	69.3%	73.7%
E	Total Fringe Benefits	--	\$115,233,915,000	\$427,836,000
F	Blue-Collar Worker Fringe Benefits	$E \times D$	\$79,809,176,000	\$315,376,000
G	Labor Costs as Share of Total Costs	$(B + F) \div A$	22.6%	23.7%

Source(s): Authors' analysis of the 2017 *Economic Census* by the U.S. Census Bureau (Census, 2022). *The "Net Value of Construction Work" is the total value of construction work less the cost of construction work subcontracted out to others.

Third, contractors have been found to respond to higher wages by reducing expenditures on materials, fuels, and rental equipment and by accepting slightly lower retained earnings. Duncan and Lantsberg (2015) find that labor costs are higher but also that material costs, fuel costs, and contractor profits are lower in states with average or strong prevailing wage laws, compared to states with weak or no wage policies. The use of higher-paid and more-productive construction workers results in more efficient use of materials and fuels.

Since labor costs are a low percent of total construction costs, relatively minor changes in labor productivity, material and fuel costs, and retained earnings are needed to offset any effect of prevailing wages. The preponderance of peer-reviewed, academic research indicates that prevailing wage laws are not associated with increased construction costs, keeping inflation low.

Prevailing Wage Laws and School Construction Costs

Researchers have examined the effect of prevailing wage laws on the construction of schools, highways, affordable housing, and various of other building types (Duncan and Ormiston, 2018). School construction is often singled out as a primary focus because these projects are relatively similar, allowing researchers to measure the effect of the wage policy with greater accuracy.

In an examination of schools built between 2009 and 2018 in the Las Vegas area, Duncan and Waddoups (2020) find that Nevada's prevailing wage law has no statistically significant effect on school construction costs. This study also finds that weakening prevailing wage standards by increasing the coverage threshold value is not associated with reduced building costs. Prevailing wage requirements played no role in the relative cost of schools built above and below the initial \$100,000 threshold, and did not influence costs when the threshold was increased to \$250,000.

Onsarigo, Duncan, and Atalah (2020) examine public schools built in Ohio in 2013 and 2014. Some of the construction projects received federal funding and were covered by federal Davis-Bacon prevailing wage requirements. Results indicate that the cost of these schools were no different than the school construction that was not covered by the wage policy.

Atalah's (2013a; 2013b) examination of more than 8,000 bids on nearly 1,500 school projects in Ohio over the 2000 to 2007 period compares bids of construction companies that contractually pay prevailing wage to those submitted by contractors paying lower rates and finds no statistically

significant difference in bid costs per square foot (Atalah, 2013a). The average bid cost per square foot is also not higher for 15 of the 18 trades (83 percent) that paid prevailing wage rates (Atalah, 2013b).

Azari-Rad, Philips and Prus (2002) examine winning bids for more than 4,000 public and private schools built across the United States between 1991 and 1999. Results indicate that prevailing wage laws do not have a statistically significant impact on construction costs. In a follow-up study, Azari-Rad, Philips and Prus (2003) expand their analysis to compare schools built in states with prevailing wage laws of differing strength and find that all prevailing wage laws (strong, weak, or otherwise) are not related to school construction costs.

Several studies have taken advantage of the introduction of a prevailing wage policy in British Columbia, Canada to examine the effect on school construction productivity and costs. Bilginsoy and Philips (2000) assess the impact of British Columbia's Skill Development and Fair Wage Policy on the construction of schools built before and after the law and reveal an absence of cost differences. Bilginsoy's (1999) examination of schools built before and after the wage policy finds a similar result. Duncan, Philips, and Prus (2014) analyze the effect of British Columbia's prevailing wage standard with respect to a control group of private school projects and find that the cost differential did not change after the policy was introduced. In several studies, Duncan, Philips, and Prus, (2012; 2009; 2009) find that the efficiency and productivity of school construction changed in ways that stabilized building costs. Taken together, all seven of these studies provide a consistent and comprehensive review that fails to find an effect of prevailing wage standards on school construction costs.

Only one peer-reviewed study that is based on actual project bids, by Vincent and Monkkonen (2010), finds a statistically significant prevailing wage cost effect on school construction. However, the authors' approach has been questioned because they did not account for local economic conditions (Onsarigo, Duncan, and Atalah, 2020). Nevertheless, of the 13 peer-reviewed studies on school construction costs that are based project-level bid data, 12 (92 percent) provide evidence that prevailing wage laws are not associated with increased costs.

Prevailing Wage Laws and Highway Construction Costs

Five peer-reviewed studies examine the effect of federal and state-level prevailing wage laws on highway construction costs. Four (80 percent) conclude that prevailing wage laws have no impact on total construction costs. Two studies by Duncan (2015a; 2015b) compare the cost of highway resurfacing projects built in Colorado between 2000 and 2011 that were funded by the State of Colorado—which were not covered by prevailing wages at the time—with federally funded projects—which were covered by Davis-Bacon prevailing wages. Results indicate that there is no statistically significant difference in construction costs between state and federally funded projects and in construction costs for contractors who switch between federal and state projects. Furthermore, when prevailing wage determinations decreased from union-scale rates to “average rates,” the cost of highway resurfacing projects in Colorado did not change.

Duncan, Gigstad, and Manzo (2022) examine more than 2,000 highway pavement projects constructed between 2014 and 2020 to analyze the effect of Kentucky's prevailing wage repeal in 2017. Prior to 2017, all federal and state highway projects were subject to prevailing wage standards. After repeal, only federal projects were covered by Davis-Bacon prevailing wages. However, difference-in-differences and fixed effects analyses fail to find statistically significant differences in bid costs between federal and state projects before and after repeal.

Manzo (2022) uses more than 1,200 highway projects in Iowa to compare the cost of federal projects that are covered by Davis-Bacon prevailing wages to state projects that are not subject to prevailing wage standards. These prevailing wage projects are also compared to similar projects that have been stripped of federal regulations through a “federal-aid swap” policy. The state’s “federal-aid swap” program bypasses Davis-Bacon prevailing wage standards, Disadvantaged Business Enterprise goals, and Buy America provisions on certain highway projects. The policy allows local jurisdictions to reallocate, or “swap,” federal funds for state funds on some projects and then concentrate federal monies on specific, larger projects. The result is that fewer highway projects are built with federal prevailing wage standards, contractor diversity goals, and American-made iron and steel. The Iowa Department of Transportation approved the “federal-aid swap” program in 2018. The comparison of projects built between 2016 and 2020 reveals that swapped projects were no less expensive than federal projects built in Iowa that retained prevailing wage standards. Manzo also finds that Davis-Bacon prevailing wages have no effect on total construction costs, after accounting for project size and complexity, project type, and project location.

On the other hand, in a paper on the 50 state Departments of Transportation, Vitaliano (2002) claims that state-level prevailing wage laws add 8 percent to the cost of maintaining the nation’s highway system, but his analysis is simply a review of total highway expenditures. This includes administrative and engineering costs that are not directly related to the payment of prevailing wages to blue-collar construction workers. Vitaliano also does not account for the amount of new highway construction ordered, which is an important determinant of total expenditures.

Prevailing Wage Laws and Costs of Other Building Construction

Three peer-reviewed studies examine the effect of prevailing wages on other types of construction projects, and all three (100 percent) show no effect on costs. An examination of public works projects in five northern California cities—Palo Alto, Mountain View, San Carlos, San Jose, and Sunnyvale—built between 2006 and 2007 by Kim, Chang, and Philips (2012) does not find that prevailing wage standards prevent nonunion contractors from winning bids or increase construction costs. Another analysis of British Columbia’s prevailing wage law by Duncan and Prus (2005) has the advantage of including a control group of projects that were not affected by the wage policy and did not find that the law altered the construction cost differential between a wide array of public and private building. Finally, Kaboub and Kelsay (2014) investigate the construction of more than 3,100 projects in 12 Midwest states between 1993 and 2002. Results for 13 different project types—including hospitals, schools, manufacturing, and office buildings—show that, while public projects are more expensive than comparable private structures, prevailing wage laws do not alter this cost differential.

Prevailing Wage Laws and the Cost of Affordable Housing Construction

While the research addressing prevailing wages and the cost of constructing schools, highways, and buildings generally finds no statistically significant cost effect, the results regarding the construction of affordable housing units differ. There are four peer-reviewed studies that examine the effect of prevailing wage requirements on the cost of building housing units subsidized by state and federal Low-Income Housing Tax Credit policies in California over the 1997 to 2016 period. Three of these studies find that project costs are higher when prevailing wages apply and only one (25 percent) finds no effect. Cost impacts range between 5 percent and 37 percent (Dunn, Quigley, and Rosenthal, 2005; Palm and Niemeier, 2017; Littlehale, 2017). Littlehale’s model yields a lower 5 percent cost estimate because his analysis takes project size and complexity into consideration. Littlehale (2020) also shows that the *absence* of prevailing wage standards on affordable housing projects has led to substantial

construction workforce shortages and an undersupply of housing units, contributing to the affordability crisis in California. Hinkel and Belman (2022) employ the most sophisticated approach, a “two-stage least squares model,” and find no causal effect of prevailing wages on affordable housing construction costs. It is also worth noting that illegal cost-saving practices such as employee misclassification as independent contractors, wage theft, and the hiring of undocumented workers are especially prevalent in the residential segment of the construction industry (Juravich, Ablavsky, and Williams, 2015).

Summary of Research on the Impact of Prevailing Wage Laws on Construction Costs

In sum, there have been 25 peer-reviewed studies examining the cost implications of prevailing wage laws since 1999. Among the peer-reviewed studies that examine all building types (i.e., schools, highways, buildings, and affordable housing), 20 of 25 (80 percent) fail to find a statistically significant prevailing wage cost effect. Few states apply prevailing wage standards to affordable housing construction. Including only traditional public works projects, 19 of 21 (90 percent) studies indicate that prevailing wage laws are not associated with increased construction costs.

Research on the Effect of Prevailing Wage on Bid Competition and Local Contractors

Critics of prevailing wage laws often claim, without any empirical evidence, that the policy increases construction costs by reducing the level of bid competition (e.g., Leef, 2010). There have been six peer-reviewed studies that empirically examine the effect of prevailing wage laws on overall bid competition—an important determinant of construction costs. All of these studies are based on the statistical analysis of contractor bids, and all six (100 percent) find that prevailing wage standards do not reduce the number of bidders on public projects. In an examination of nearly 600 bids on public works projects in five northern California cities, Kim, Kuo-Liang, and Philips (2012) find no evidence that prevailing wage policies affect the number of bidders. A study of nearly 500 bids on highway construction in Colorado, Duncan (2015a) finds that the level of bid competition does not differ between federally funded projects that paid Davis-Bacon prevailing wages and state-funded projects that did not. Bilginsoy (1999) finds that introduction of prevailing wage standards in British Columbia was associated with an increase—not a decrease—in the number of bidders, but that the higher bid competition diminished over time. Onsarigo, Duncan, and Atalah’s (2020) study of nearly 700 bids on school construction projects in Ohio finds no statistical difference in the number of bidders on projects built with and without prevailing wages but that “the cost-reducing effect of increased bid competition is stronger on projects covered by the prevailing wage policy.” Duncan and Waddoups (2020) also find that Nevada’s prevailing wage law does not influence the level of bid competition for school construction in Clark County. However, bid competition decreased by 25 percent after Nevada weakened its prevailing wage law, driven by union contractors exiting the market for other opportunities. Finally, Duncan, Gigstad, and Manzo (2022) investigate nearly 3,500 bids on about 2,100 state and federal highway projects in Kentucky and find no statistically significant impact of the 2017 repeal of prevailing wage on bid competition.

Prevailing wage laws create a level playing field for construction contractors by ensuring that public expenditures reflect local market standards of compensation and craftsmanship. Competing on a level playing field, local contractors are awarded more taxpayer-funded projects in states with prevailing wage laws. Data from the *Economic Census of Construction* reveals that states with prevailing wage laws have 2 percent more of the total value of construction work completed by in-state contractors (Census, 2022). Impacts are even larger in certain areas. Manzo (2022) finds that in-state contractors

are 8 percent more likely to be awarded federal highway projects that pay Davis-Bacon prevailing wages compared to similar projects that do not pay prevailing wages in Iowa. Manzo and Duncan (2018a) examine school construction projects in the Minneapolis-St. Paul area and find that metro-based contractors are awarded 74 percent of total bid values on projects that include prevailing wage standards and 64 percent that do not. As a result, local contractors account for a 10 percent higher market share when prevailing wages are paid on public school projects. Another examination of library construction in Santa Clara County, California reveals that 39 percent of subcontractors employed on prevailing wage projects are county-resident businesses but the corresponding figure when prevailing wages do not apply is 23 percent, a 16 percent difference in the market share of local contractors (Duncan, 2011). By keeping tax dollars in the local economy, more labor income and consumer spending remain in communities with prevailing wage standards.

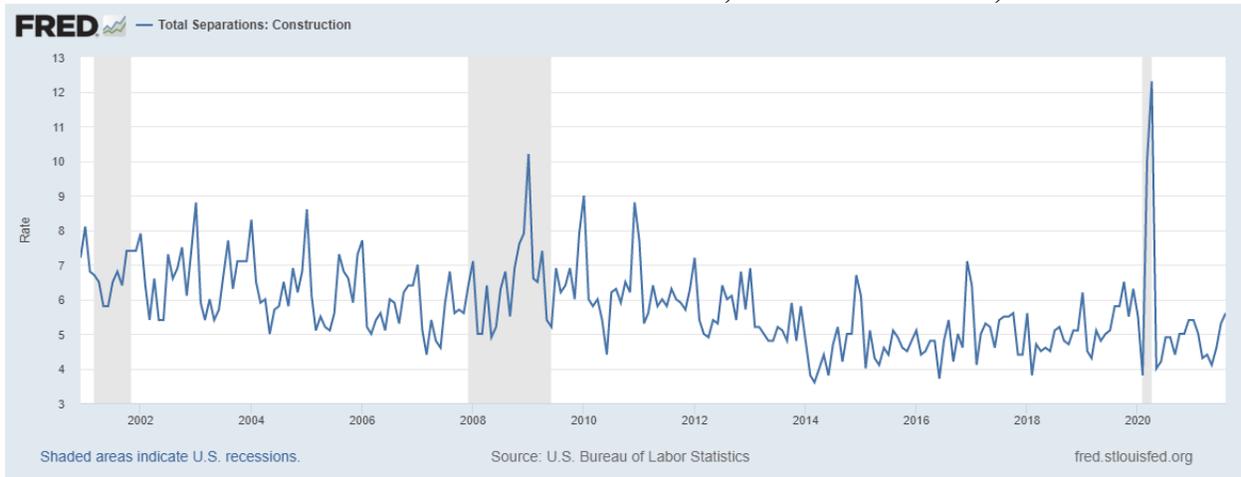
Research on the Effect of Prevailing Wage on Apprenticeship Training and Safety

Construction is distinct from other industries. It is the most volatile major industry in the United States. The construction industry is cyclical, with more activity during the upswing of the business cycle when market conditions are favorable. It is also seasonal, with construction most likely to occur outside of the winter months. Finally, when workers complete projects, there are often periods of unemployment while they look for new jobs. For context, Figures 2 and 3 compare monthly fluctuations in employment separation rates for the construction industry against the broader U.S. economy. In construction, separations rates range from a low of 3.6 percent in March 2014 to a high of 10.2 in January 2009 when the COVID-19 recession is excluded, and 12.3 percent in April 2020 during the pandemic. By contrast, there is a significantly reduced range in employment separation rates for the overall economy—from a low of 2.5 percent in February 2011 to a high of 5.3 percent in January 2001 prior to the COVID-19 recession, and 10.4 percent in March 2020 during the pandemic.

This inherent instability of construction activity creates strong disincentives for employers and employees to invest in a highly skilled, efficient, and safe workforce. When work is available, contractors take on additional workers, but typically shed employees when a project is completed, the season comes to an end, or the economy slows. There is no guarantee that the trained worker will be retained. Moreover, from the worker’s perspective, there is little incentive to incur the costs of training out-of-pocket due to the possibility of prolonged spells of unemployment and the potential need to change industries altogether. The result is a “market failure” in which long-term investments in worker training are not made at adequate levels.

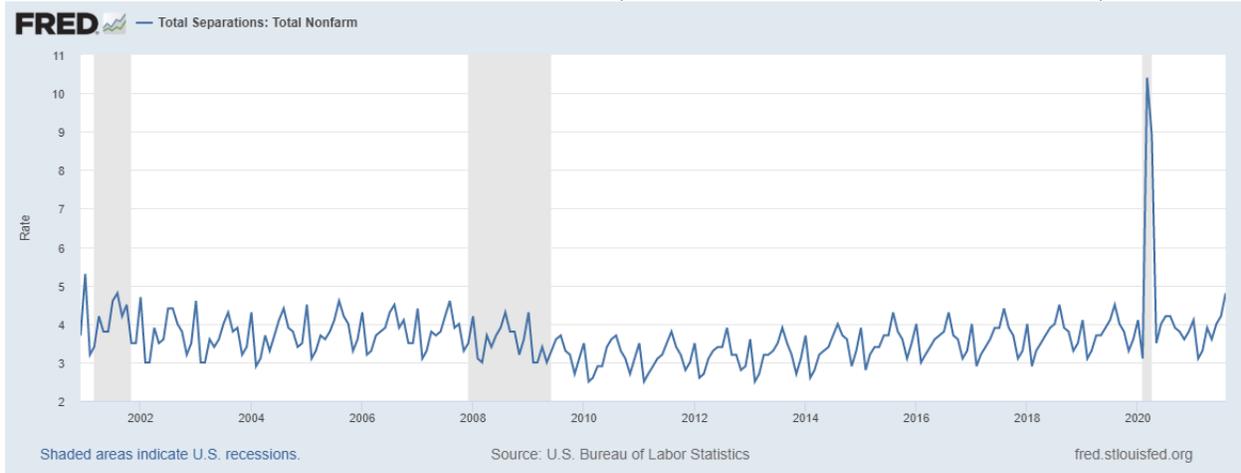
A state prevailing wage law helps to correct this market failure by reflecting local market-based standards for wages, benefits, and workforce training investments in the communities where projects are being built, ensuring that the next generation of workers is trained and the industry can access a stable supply of skilled workers. Contractors who have greater access to registered apprenticeship programs are less likely to report that their local pipeline for supplying trained craft workers is “poor,” less likely to lose workers to other industries, and less likely to experience delays in project completion times due to shortage of workers (Manzo, Petrucci, and Bruno, 2022). As a result, a state prevailing wage law institutionalizes competitive labor market practices in the construction industry and combats skilled labor shortages.

FIGURE 2: RATE OF EMPLOYMENT SEPARATIONS, U.S. CONSTRUCTION, 2000-2021



Source(s): Screenshot of construction separations data from the Federal Reserve Bank of St. Louis (FRED, 2022a).

FIGURE 3: RATE OF EMPLOYMENT SEPARATIONS, U.S. TOTAL NONFARM EMPLOYMENT, 2000-2021



Source(s): Screenshot of total nonfarm separations data from the Federal Reserve Bank of St. Louis (FRED, 2022b).

Apprenticeships typically involve a mix of on-the-job training and in-class instruction that covers basic and specialized skills of particular crafts (Bilginsoy, 2003). During the on-the-job component of training, the apprentice earns while they learn, but at a rate that is less than the fully trained journeyworker. Typically, apprentice wage rates are based on a fraction of the corresponding journeyworker rate, starting as low as 50 percent and increasing with program progress. With this arrangement, the cost of training workers is shared between the apprentice and the employers who are sponsoring the training. This wage savings creates an incentive for contractors to hire a combination of journeyworkers and apprentices. Upon completion of apprenticeship programs, trainees become certified journeyworkers.

Economic research shows that state prevailing wage laws increase apprenticeship training in the construction industry. Bilginsoy (2005) finds that apprenticeship enrollments are 6 percent to 8 percent higher in states with prevailing wage laws compared to states without these laws. Bilginsoy also finds that apprentices in states with prevailing wage laws complete their on-the-job and classroom training at a faster rate than apprentices in states without prevailing wage laws. This effect is most robust in

states with stronger prevailing wage laws.² Another study finds that the apprenticeship share of the construction workforce is 14 percent in states with prevailing wage laws compared to 8 percent in states without prevailing wage laws (Dickson Quesada et al., 2013). The result is that workers are more productive due to prevailing wage laws. Productivity per construction worker has been found to be between 14 percent and 33 percent higher in states with the wage policy (Philips, 2014).

In a perilous industry, better-trained workers are safer workers. Construction workers are exposed to many hazards, such as elevated worksites, excavated worksites, confined spaces, dangerous power tools and equipment, electricity, hazardous materials, and even dust and noise—which can cause breathing and hearing difficulties. The construction industry led all industries in the number of fatal injuries in 2021, representing only 5 percent of total U.S. employment but accounting for 19 percent of job-related deaths (BLS, 2022c). While prevailing wage laws do not include safety requirements, they affect construction industry injury rates indirectly through the linkage between prevailing wages and apprenticeship training, which is subsequently connected to safety. Azari-Rad (2005) examines injury data in the construction industry between 1976 and 1999 and finds that nonfatal injury rates are lower in states with prevailing wage laws by at least 7 percent and as much as 10 percent. These results are statistically significant and take into consideration other factors such as region, unemployment rate, and other trends that affect injuries. Philips (2014) finds that construction workers reported 12 percent more disabilities (such as hearing disabilities, vision disabilities, memory loss, and difficulty climbing stairs) in states without prevailing wage laws between 2009 and 2011. Additionally, Philips, Mangum, Waitzman, and Yeagle (1995) find that injuries per construction worker and serious injuries per construction worker were from 5 percent to 9 percent higher in states that do not have prevailing wage laws.

Economic studies conducted after the repeal of prevailing wage laws have also shown strong correlations with a decrease in worker training and an increase in injury rates. After Utah repealed its law, apprenticeship training declined to historical lows (Azari-Rad, Philips, and Prus, 2003). Philips (2014) shows that registered apprenticeships fell by 38 percent in Kansas following repeal. In an analysis of nine states that repealed their prevailing wage laws from 1979 to 1988, Philips, Mangum, Waitzman, and Yeagle (1995) find that repeal was associated with a 40 percent decrease in training and caused workplace injuries to rise by 14 percent, including a 15 percent increase in serious injury rates. Kelsay and Manzo (2019) find that the number of active apprentices fell by 28 percent after West Virginia repealed its prevailing wage law in May 2016, leading to a 26 percent increase in the on-the-job construction worker injury rate. Additionally, recent peer-reviewed research has found that the repeal of a state prevailing wage law leads to a 13 percent increase in construction injury rates (Li et al., 2019).

Apprenticeship Training and Safety in Montana Compared to Neighboring States

Apprenticeship programs are sponsored either jointly by labor unions and employers that are signatories to collective bargaining agreements (joint labor-management programs) or unilaterally by employers. Joint labor-management programs are cooperatively administered with standards, trainee

² Armand Thieblot developed a classification system for state prevailing wage laws into weak, average, and strong policies. These are based on the contract value threshold that prevailing wages apply, the level of coverage at the municipal, county, or state level, the types of work and trades excluded, the determination of prevailing wage rates, and other items (Thieblot, 1995). Distinctions by Thieblot (1995) have since been updated by Duncan and Lantsberg (2015), who conclude that there were 25 states with “strong” or “average” prevailing wage laws and 25 states with either a “weak” prevailing wage policy or no law at all in 2012.

wages, and apprentice-to-worker ratios established in collective bargaining agreements. Importantly, they include an institutional financing mechanism that is usually a cents-per-hour-worked contribution into programs. By contrast, employer-only (nonunion) programs are sponsored by a single employer, trade association, or group of employers who unilaterally determine program content, set entry requirements, and monitor trainee progress. These programs are dependent on voluntary contributions by programs sponsors and include no institutional financing mechanisms. All programs operate under the minimum standards established by the Office of Apprenticeships at the U.S. Department of Labor in conjunction with State Apprenticeship Agencies.

According to the *Economic Census of Construction*, the value of federal, state, and local construction represents 25 percent of the total value of building activity in Montana (Census, 2022). Much of this construction spending is covered by federal and state prevailing wage standards. The large percentage of building activity covered by prevailing wage standards in Montana substantially increases the investment in apprenticeship training. As a consequence, apprenticeships in construction are disproportionately high. For example, construction apprentices represented 79 percent of all apprentices in the state in 2019 (Holom, 2020). Of the Top 10 occupations by active apprenticeship employment for Montana in 2019, at least seven were construction occupations (Holom, 2020).

Figures 4 through 7 present descriptive analyses of apprenticeship training in Montana compared to three neighboring states—Idaho, North Dakota, and South Dakota—using data from the Registered Apprenticeship Partners Information Database System (RAPIDS) over eight years from 2014 through 2021. While Idaho, North Dakota, and South Dakota are covered by the Davis-Bacon Act for federal infrastructure projects, they do not have state prevailing wage laws for state-funded or locally-funded construction work. In contrast, Montana expands upon Davis-Bacon with its own prevailing wage law that applies similar requirements to state and local projects.³ With Davis-Bacon and the state prevailing wage law working in tandem, there is a greater investment in apprenticeship programs in Montana than in the three neighboring states.

FIGURE 4: CONSTRUCTION APPRENTICES ENROLLED IN MONTANA AND NEIGHBORS, 2014-2021

Construction Apprentices with Start Years 2014-2021	Montana	Idaho	North Dakota	South Dakota	Total
Number of Apprentices	3,452	2,165	2,704	1,621	9,942
Share of Apprentices	34.7%	21.8%	27.2%	16.3%	100%

Source(s): Authors’ analysis of 2014-2021 apprenticeship data from the Registered Apprenticeship Partners Information Management Data System (RAPIDS) (DOLETA, 2021).

Figure 4 presents the number of apprentices in construction over the 2014-2021 period in Montana, Idaho, North Dakota, and South Dakota. Montana had the most construction apprentices, accounting for nearly 35 percent of all apprentices across the four states. For context, according to the 2020 Census, Montana has a population of 1.1 million residents, ranking 44th in the United States. By contrast, Idaho has 1.9 million residents (ranking 38th), South Dakota has just over 900,000 residents (46th), and North Dakota has just over 800,000 residents (47th). It is notable that Montana has nearly 1,300 more construction apprentices than Idaho despite its significantly smaller population. Montana has 3.1 construction apprentices per 1,000 residents. Idaho has just 1.1 construction apprentices per 1,000 residents. Additionally, if the Dakotas were combined (population: 1.7 million), then they would have 4,325 apprentices, or about 2.5 construction apprentices per 1,000 residents. Montana thus has

³ Neighboring Wyoming is excluded because it also has a state prevailing wage law, although it is generally considered to be a “weak” law compared to others (WHD, 2022). Note that Idaho had a prevailing wage law from 1911 until 1985, when it was repealed by the state legislature (Philips et al., 1995).

175 percent more apprentices than Idaho and 23 percent more apprentices than the Dakotas. Overall, the data suggest construction apprenticeship enrollments are particularly strong in Montana.

Figure 5 compares the number of construction apprenticeship programs in the region. Out of 713 total construction apprenticeship programs across the four states, fully 79 percent (566 programs) are based in Montana. Put differently, Montana has 285 percent more apprenticeship programs than Idaho, North Dakota, and South Dakota combined. Taken together, Figures 4 and 5 show that there are significantly more construction apprenticeship programs and apprentices in Montana, which has a prevailing wage law, than in the neighboring states, which do not. By creating a high demand for apprentices on public works projects, Montana's prevailing wage law drives skill development throughout the industry.

FIGURE 5: NUMBER OF APPRENTICESHIP PROGRAMS IN MONTANA AND NEIGHBORS, 2014-2021

Apprenticeship Programs (2014-2021)	Montana	Idaho, North Dakota, and South Dakota	Total
Total Active Programs	566	147	713
Share of Programs	79.4%	20.6%	100%

Source(s): Authors' analysis of 2014-2021 apprenticeship data from the Registered Apprenticeship Partners Information Management Data System (RAPIDS) (DOLETA, 2021).

Figure 6 presents an analysis of completion rates for construction apprentices in Montana compared to the three neighboring states without prevailing wage laws. Registered apprenticeships typically take between three and five years to complete. As a result, Figure 6 only evaluates completion rates for apprentices who were enrolled from the beginning of 2014 through the end of 2016, accounting for five-year programs. Apprentices may not finish their programs for several reasons. For example, apprentices may voluntarily quit, leave to accept another employment opportunity, or may be terminated for unsatisfactory performance.

A majority of construction apprentices in Montana (53 percent) complete their registered apprenticeship programs (Figure 6). In neighboring states without prevailing wage laws, only one-in-three apprentices (33 percent) complete their programs—a difference of 21 percentage points. The results remain consistent when broken down by program type. Joint labor-management apprenticeship programs in construction have a graduation rate of 69 percent in Montana and just 39 percent in the three neighboring states without prevailing wage laws, a difference of 30 percentage points. Among employer-only (nonunion) apprenticeship programs in construction, just 44 percent of enrollees complete their training in Montana. While this is 25 percentage points below the comparable in-state union success rate, it is 19 percentage points above the completion rate for employer-only programs in Idaho, North Dakota, and South Dakota (25 percent). This corroborates two bodies of existing economic research, which have found that joint labor-management apprenticeship programs deliver higher completion rates and that states with prevailing wage laws have higher completion rates (e.g., Manzo and Thorson, 2021; Manzo and Bruno, 2020; Bilginsoy, 2005).

FIGURE 6: COMPLETION RATES IN CONSTRUCTION APPRENTICESHIP PROGRAMS, 2014-2016 CLASSES

Completion Rate for Construction Apprentices Enrolled 2014-2016	Montana	Idaho, North Dakota, and South Dakota	Montana Difference
All Programs	53.3%	32.7%	+20.6%
Joint-Labor Management (Union) Programs	69.2%	38.8%	+30.4%
Employer-Only (Nonunion) Programs	44.2%	25.3%	+18.9%
Joint-Labor Management (Union) Difference	+25.0%	+13.5%	+11.5%

Source(s): Authors' analysis of 2014-2021 apprenticeship data from the Registered Apprenticeship Partners Information Management Data System (RAPIDS) (DOLETA, 2021).

Upon completion, hourly wages for construction workers are higher in Montana than in neighboring states without prevailing wage laws. Figure 7 compares median exit wages for all journeyworkers, union journeyworkers, and nonunion journeyworkers in Montana compared to the three comparison states. Overall, the median construction worker graduating from an apprenticeship program earns over \$28 per hour in Montana, 4 percent more than the \$27 per hour earned by his or her peers in Idaho, North Dakota, and South Dakota. Union construction workers who complete joint-labor management programs earn 6 percent more in Montana (\$30 per hour) than their counterparts in nearby states without prevailing wages (\$28 per hour). Additionally, although they are less likely to complete their programs, the nonunion construction workers who do graduate earn a median wage of more than \$25 per hour in Montana, which is 18 percent more than the \$22 per hour equivalent for the comparison group. In a high-inflation economy, nonunion construction workers in Montana earn significantly higher wages than their counterparts in Idaho, North Dakota, and South Dakota in part due to the state prevailing wage law, which promotes labor market competitiveness by establishing a wage floor for *all* construction workers regardless of whether they are union members or nonunion workers.

FIGURE 7: JOURNEYWORKER WAGES OF APPRENTICESHIP COMPLETERS, 2014-2016 CLASSES

Exit Wages for Construction Completers Enrolled 2014-2016	Montana	Idaho, North Dakota, and South Dakota	Montana Difference, \$*	Montana Difference, %*
All Completers	\$28.35	\$27.27	+\$1.08	+4.0%
Union Journeyworkers	\$30.09	\$28.47	+\$1.62	+5.7%
Nonunion Completers	\$25.35	\$21.50	+\$3.85	+17.9%

Source(s): Authors' analysis of 2014-2021 apprenticeship data from the Registered Apprenticeship Partners Information Management Data System (RAPIDS) (DOLETA, 2021). *NOTE: The median difference of 4.0% exceeds the union difference (5.7%) and the nonunion difference (17.9%). This is not an error, but rather an example of "Simpson's Paradox" when data are aggregated compared to when they are separated into subgroups (Koehrsen, 2018).

Finally, Figure 8 details all 696 inspections conducted in 2019 by the Occupational Safety and Health Administration (OSHA) at construction worksites in Montana, Idaho, North Dakota, and South Dakota. In total, 173 health and safety inspections were conducted in Montana (25 percent) while the remaining 523 OSHA inspections (75 percent) occurred in Idaho, North Dakota, and South Dakota. Construction worksites averaged 0.7 health and safety violations in Montana and 1.1 health and safety violations in the three neighboring states, a difference of 0.4 violations per inspections. Montana's construction worksites thus have 33 percent fewer health and safety violations than those in the three neighboring states without prevailing wage laws. This data, which is statistically significant, offers direct evidence that Montana's worksites are safer and healthier for construction workers.

FIGURE 8: OCCUPATIONAL SAFETY AND HEALTH INSPECTIONS AT CONSTRUCTION WORKSITES, 2019

OSHA Inspections at Construction Worksites in 2019	Total Inspections	Average Violations
Montana	173	0.74
Idaho, North Dakota, and South Dakota	523	1.10
Montana Difference, #	--	-0.36
Montana Difference, %	--	-32.9%

Source(s): Authors' analysis of Occupational Safety and Health Administration inspection data at establishments with construction industry NAICS codes (230000 to 239999) in 2019 (OSHA, 2021).

Research on the Effect of Prevailing Wage on Economic and Fiscal Outcomes

In addition to ensuring that the next generation of construction workers is trained, state prevailing wage laws foster good, middle-class careers for skilled construction workers. Philips (2014) finds a significant disparity in the wages paid to blue-collar construction workers between states with prevailing wage laws and states without prevailing wage laws. Manzo, Lantsberg, and Duncan (2016) find that prevailing wage laws can statistically increase blue-collar construction worker earnings by as much as 16 percent per year. With family-sustaining incomes, prevailing wage laws reduce the number of construction workers living below poverty by 30 percent and reduce income inequality in the construction industry by as much as 45 percent (Manzo, Lantsberg, and Duncan, 2016; Manzo and Bruno, 2014). Manzo, Gigstad, and Bruno (2020) also conclude that prevailing wage laws ensure that construction workers can afford to live in the communities where they build roads, schools, and other public infrastructure, increasing their homeownership rate by 2 percent and improving their housing wealth by 13 percent.

Economic research demonstrates that prevailing wage laws protect workers against exploitation—regardless of racial or ethnic background. Duncan and Ormiston (2018) conduct a meta-analysis of peer-reviewed studies and find no relationship between prevailing wage laws and the racial composition of the construction workforce. After accounting for individual factors such as age, gender, residence in a metropolitan area, marital status, educational attainment, and union coverage, Belman and Philips (2005) can find no evidence that prevailing wage laws deter people of color from participating in the construction industry. Furthermore, according to Bilginsoy (2005), there is no evidence that prevailing wage laws exclude people of color from training in registered apprenticeship programs. In fact, Philips, Mangum, Waitzman, and Yeagle (1995) show that, in the nine states that repealed prevailing wage laws from 1979 to 1988, people of color accounted for 19 percent of all registered apprentices pre-repeal but just 13 percent post-repeal, a 6 percentage-point drop. However, Manzo, Gigstad, and Bruno (2020) find that prevailing wage laws boost the homeownership rate of Black construction workers by 8 percent, compared with a 3 percent increase for white construction workers. Another study by Manzo, Bruno, and Manzo (2018) estimates that state prevailing wage laws reduce racial income inequality in construction by between 7 percent and 53 percent.

One demographic group that is disproportionately impacted by prevailing wage laws is military veterans, who populate the construction trades at higher rates than non-veterans. Manzo, Bruno, and Duncan (2016) use U.S. Census Bureau data for 2014 and show that veterans represent about 6 percent of the overall U.S. workforce but 7 percent of the construction workforce. This percentage is 2 percentage points higher in states with strong or average prevailing wage laws. Construction workers in those states with strong or average prevailing wage laws earn 9 percent more in wage and salary income compared to veteran construction workers in states with weak or no prevailing wage laws. Strong and average prevailing wage laws increase the number of veteran construction workers who receive employer-provided health insurance by 14 percent decrease the number of veteran construction workers with income below the official poverty level by 25 percent.

States with prevailing wage laws can also learn lessons from those that have repealed their policies within the last decade. There have been five reports released since 2016 on the effects of repealing prevailing wage laws (Figure 9). In Indiana, Manzo and Duncan (2018b) show that construction worker wages fell by 8 percent and there was no change in the average cost to build public schools post-repeal. After West Virginia's repeal in 2016, wages fell by between 1 percent and 8 percent for construction trades workers, the number of apprentices fell by 28 percent, and an analysis of over 100 winning prime contract bids found that repeal had no impact on inflation-adjusted school construction

costs—according to Kelsay and Manzo (2019). In Wisconsin, Manzo, Duncan, Gigstad, and Goodell (2020) find that repeal decreased construction worker earnings by 6 percent, increased the share of state highway construction projects being awarded to out-of-state contractors from 9 percent to 14 percent (driven by contractors from Iowa, Michigan, and Florida), and had no impact on the average cost per mile to resurface or maintain roads. As previously discussed, the 2017 repeal of prevailing wage in Kentucky had no statistical effect on bid costs and bid competition on state highway projects (Duncan, Gigstad, and Manzo, 2022). Finally, Kansas passed a state preemption law in 2013, prohibiting cities and counties from enacting local prevailing wage statutes and invalidating local ordinances. Following this state-mandated repeal of two prevailing wage ordinances in two Kansas counties, Kelsay (2016) demonstrates that repeal did not result in any cost savings and that school construction projects actually became \$67 *more* expensive per square foot post-repeal.

Elected officials in Indiana and West Virginia—the first two states to rescind their prevailing wage laws in the wave of repeals from 2015 to 2018—have recently acknowledged that repeal failed to deliver as promised. In 2017, Indiana State Representative Ed Soliday commented that “we got rid of prevailing wage and, so far, it hasn’t saved us a penny” while serving as the Assistant Republican Leader in the Indiana House of Representatives (Quinnell, 2017). Representative Soliday’s observation was later confirmed in a study by the Indiana Department of Labor (2021), which found that “project costs for similar types of work have continued to increase since the repeal” and that “any effect the repeal may have had on the cost of projects was likely negligible,” leading to the conclusion that repeal had “no significant impact” on project costs.⁴ Furthermore, in 2021, West Virginia Governor Jim Justice, a Republican, stated that “we got rid of prevailing wage... and we’ve run to the windows—and they haven’t come,” referring to a lack of business, job, and population growth since repeal (McElhinny, 2021).

FIGURE 9: STATE ANALYSES ON THE IMPACT OF REPEAL OF PREVAILING WAGE LAWS SINCE 2016

Study	Authors	Year	Geography	Construction Worker Wages	Construction Costs	Project Focus
1	Duncan, Gigstad, Manzo	2022	Kentucky	--	<i>No Effect</i>	Highways
2	Manzo, Duncan, Gigstad, & Goodell	2020	Wisconsin	-6.4%	<i>No Effect</i>	Highways
3	Kelsay & Manzo	2019	West Virginia	-1.2% to -8.1%	<i>No Effect</i>	Schools
4	Manzo & Duncan	2018	Indiana	-8.5%	<i>No Effect</i>	Schools
5	Kelsay	2016	2 Kansas Counties*	--	<i>+\$67.01 per square foot</i>	Schools

*A state preemption law repealed prevailing wage statutes in Sedgwick County, Kansas and Wyandotte County, Kansas.

Source(s): Individual studies listed in table.

These outcomes could have been avoided by understanding the effects of earlier prevailing wage repeals between 1979 and 1995. Fenn, Li, Pleites, Zorigtbaatar, and Philips (2018) find that skilled construction worker incomes decreased by between 2 percent and 4 percent and fringe benefits declined by as much as 16 percent in the states that repealed their laws during this period. Li, Zorigtbaatar, Pleites, Fenn and Philips (2019) also conclude that repeal states experienced a 13 percent increase in construction injury rates. This was driven by a 40 percent decrease in apprenticeship

⁴ The Indiana Department of Labor report also said that repeal had no significant impact on wages paid and the employment of workers in Indiana’s construction industry, but the Department’s analysis suffered from methodological problems. Whereas other research narrowly focuses on the wages and employment outcomes of blue-collar construction workers who are directly impacted by repeal of prevailing wage laws, the Department lumped both blue-collar and white-collar workers together and did not compare Indiana’s outcomes with neighboring states that maintained their prevailing wage laws (Manzo, 2021).

training (Philips et al., 1995). Repeal of a prevailing wage law has negative consequences for a state's economy, with construction worker incomes decreasing and apprenticeship training plummeting—all without providing any cost savings for taxpayers.

Even though prevailing wage laws are not associated with higher construction costs, they still impact public budgets. That is because they improve apprenticeship training and safety and promote a strong middle class. When skilled construction workers earn higher incomes, as they do in states with prevailing wage laws, they contribute more in tax revenues. Philips and Blatter (2017) show that skilled construction workers contribute about 17 percent more in income taxes and property taxes in states with prevailing wage laws. In addition, skilled construction workers are statistically less likely to rely on government assistance programs, such as Supplemental Nutrition Assistance Program (SNAP) food stamps and the Earned Income Tax Credit (EITC) assistance (Manzo, Lantsberg, and Duncan, 2016).

Finally, state prevailing wage laws have a meaningful impact on payroll tax revenue, especially reducing payroll tax fraud associated with worker misclassification. Fenn, Li, Pleites, Zorigtbaatar, and Philips' (2018) study showed that legally required benefits—including Social Security, workers' compensation insurance, and unemployment insurance contributions—decreased by between 4 percent and 10 percent in the states that repealed their laws between 1979 and 1995, greater than the 2 percent to 4 percent decrease in blue-collar construction worker incomes associated with repeal. The disproportionately larger decrease in legally required benefits is consistent with a rise in underground labor practices in the states that repealed prevailing wage laws, including employee misclassification as independent contractors, under-the-table cash payments, and wage theft (Philips and Blatter, 2017). These types of payroll fraud reduce collections of state and federal payroll taxes, including workers' compensation premiums and unemployment insurance contributions. As one example, Waddoups, Duncan, and Ormiston (2021) estimate that 11 percent of Nevada's construction labor force was either misclassified as independent contractors or working "off-the-books" in 2018, costing the state about \$31 million in contributions for Nevada's workers' compensation fund and nearly \$12 million to the unemployment insurance program annually.

Prevailing wage laws are effective at discouraging underground labor practices. Similar to other jurisdictions, Montana's prevailing wage law requires that contractors submit weekly certified payroll records that include each worker's name, job assignment, hours worked, total hourly compensation, and other information (SOS, 2022). This requirement discourages contractors who engage in underground labor practices from participating in projects that are covered by the state's wage standard. The additional requirement that at least 50 percent of the employees of each contractor working on the jobs be Montana residents further discourages the practice of importing vulnerable and exploited workers from other states (DLI, 2022a).

Hinkel (2022) finds that from 2010 through 2019, worker misclassification and off-the-books employment was 2 percent lower for construction workers in states with prevailing wage laws than in states without prevailing wage laws. Lower prevailing wage contract coverage thresholds were also linked with significant decreases in misclassification and off-the-books employment because more state and local projects are covered, leaving fewer workers vulnerable to exploitative practices and governments less vulnerable to payroll tax fraud. By improving transparency, accountability, and enforcement on public works projects, prevailing wage laws protect workers from illegal labor practices, promote strong public budgets that are better able to provide vital services to citizens, and deliver great value to taxpayers.

Effects of Prevailing Wage on Incomes, Health Coverage, and the Economy in Montana

This section compares labor market outcomes for construction workers in Montana to those in Idaho, North Dakota, and South Dakota. The data included in this report are from the *American Community Survey*, a random poll of approximately 1 percent of households every year conducted by the U.S. Census Bureau. This report uses 2015 through 2019 data from the *American Community Survey* (ACS) to assess the impacts of prevailing wage on the annual incomes, health insurance coverage, and hours and employment of blue-collar construction workers. Blue-collar construction workers are defined as all workers employed in “construction occupations,” such as construction laborers, operating engineers, electricians, carpenters, plumbers, pipefitters, and painters, but excluding their first-line supervisors and those engaged in extraction and mining occupations.

Personal economic outcomes are better for blue-collar construction workers in Montana than for those in Idaho, North Dakota, and South Dakota (Figure 10). After adjusting for inflation to 2020 dollars, average annual incomes for blue-collar construction workers were \$41,600 in Montana compared to just under \$41,000 in the three neighboring states without prevailing wage laws. Construction workers in Montana also earn (\$41,600) about as much as the average income of all private nonfarm workers in the state (\$42,000), while their counterparts in Idaho, North Dakota, and South Dakota earn noticeably less (\$41,000) than their statewide average (\$42,600). A difference-in-differences calculation shows that private construction workers in Montana earn 3 percent more than their counterparts in the three states without prevailing wage law, relative to the rest of their local labor markets. Similarly, blue-collar construction workers in Montana are, relatively, 6 percent more likely to have private health insurance coverage and 9 percent more likely to have employer-provided health insurance coverage. The only metric that fares worse for blue-collar construction workers in Montana is hours worked per week, which are lower. However, this means that Montana’s construction workers earn higher incomes but work less to achieve those higher earnings—so they have more disposable income and more leisure time with which to spend that money.

FIGURE 10: ECONOMIC DATA ON CONSTRUCTION WORKERS IN MONTANA VS. NEIGHBORS, 2015-2019

2014-2019 ACS Economic Outcomes	Blue-Collar Construction Workers			All Private Nonfarm Workers			Difference-in-Differences
	Montana	Neighbors	Difference	Montana	Neighbors	Difference	
Inflation-Adjusted Annual Incomes	\$41,600	\$40,996	+1.5%	\$41,986	\$42,621	-1.5%	+3.0%
Private Health Insurance Coverage	71.8%	70.8%	+1.0%	77.4%	82.1%	-4.8%	+5.7%
Employer-Provided Health Insurance	63.1%	59.9%	+3.2%	65.0%	70.7%	-5.7%	+8.9%
Usual Hours Worked Per Week	41.3	42.9	-3.7%	38.0	39.1	-2.8%	-1.0%
Construction Occupation Share	100.0%	100.0%	±0.0%	5.8%	5.6%	+0.2%	+0.2%

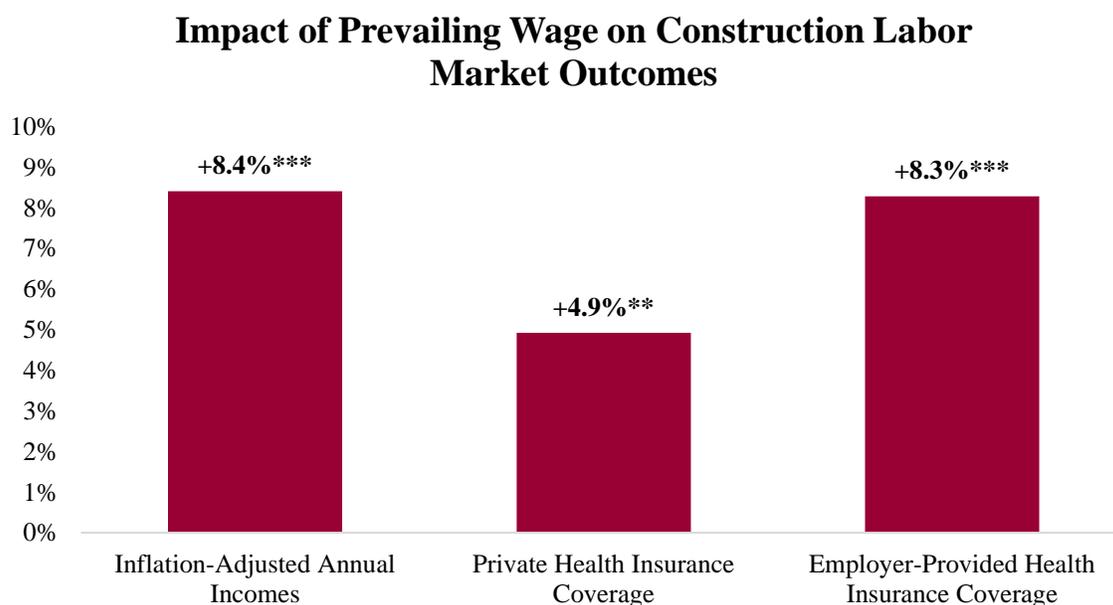
Source(s): Authors’ analysis of *American Community Survey* data (one-year estimates) by the U.S. Census Bureau from 2015 through 2019 (Ruggles et al., 2022).

While the summary statistics of Figure 10 report “what is,” statistical techniques can help explain “how much” Montana’s prevailing wage law may or may not be responsible for these outcomes. “Regression” analyses allow researchers to account for other factors that may influence labor market outcomes by separating out the unique and independent effect of a prevailing wage law. The analyses all account for age, gender identification, racial or ethnic background, immigration status, veteran status, marital status, educational attainment, year, and (where appropriate) usual hours worked per

week, weeks worked per year, and whether the individual is employed in the construction industry. In regression analyses, a statistically significant result is an indication that the relationship may be causal.

Montana’s prevailing wage law produces positive impacts on construction worker incomes and health insurance coverage (Figure 11). After accounting for other important factors, including age, gender, race, education, and the rest of the labor market, the prevailing wage law increases blue-collar construction worker annual incomes by 8 percent on average. This result is statistically significant at the 99-percent level of confidence. Montana’s prevailing wage law also increases the probability that a blue-collar construction worker is covered by a private health insurance plan by 5 percentage points. This is driven entirely by an increase in employer-provided health insurance coverage: the prevailing wage law boosts their likelihood of being covered by an employer-provided plan by 8 percentage points. The former is statistically significant at the 95-percent level of confidence and the latter at the 99-percent level of confidence.

FIGURE 11: REGRESSION RESULTS ON THE IMPACT OF PREVAILING WAGE ON CONSTRUCTION WORKER EARNINGS AND HEALTH INSURANCE COVERAGE, 2015-2019



Source(s): Authors’ analysis of *American Community Survey* data (one-year estimates) by the U.S. Census Bureau from 2015 through 2019 (Ruggles et al., 2022). Regression outputs for inflation-adjusted annual incomes are based on the natural logarithm and are converted to percent changes using correct adjustments to interpret natural logarithms, which is $e(\text{coefficient}) - 1$ or $e-0.008074 - 1 = 8.41\%$ (Kennedy, 1981). For full regression results, see the Appendix. Three asterisks (***) indicate significance at the 99-percent confidence level. Two asterisks (**) indicate significance at the 95-percent confidence level.

The data also show that prevailing wage laws have no impact on labor force outcomes or the racial composition of the construction workforce (Figure 12). After accounting for other important factors such as age, gender, and education, Montana’s prevailing wage law has no statistical effect on both the chances that any given person in the nonfarm labor force will be a construction worker and the usual hours worked per week of employed construction workers. Furthermore, there is no evidence that Montana’s prevailing wage law excludes people of color from participating in the construction trades. After accounting for other important factors, people of color initially have offsetting employment outcomes associated with prevailing wage: they are 1 percent less likely to be in construction but tend to work 2 hours more per week. However, neither finding is statistically significant at the conventional 95-percent level of confidence.

FIGURE 12: REGRESSION RESULTS ON THE IMPACT OF PREVAILING WAGE ON CONSTRUCTION WORKER EMPLOYMENT AND HOURS, 2015-2019

Regression Results	Prevailing Wage Effect	Z-Score	Significant?
Probability of Being in Construction: Total Labor Force	+0.0%	+0.02	No
Probability of Being in Construction: People of Color	-1.3%	-1.69	No
Weekly Hours Worked: All Construction Workers	-0.24	-0.52	No
Weekly Hours Worked: Construction Workers of Color	+1.60	+1.04	No

Source(s): Authors' analysis of *American Community Survey* data (one-year estimates) by the U.S. Census Bureau from 2015 through 2019 (Ruggles et al., 2022). For full regression results, see the Appendix. Three asterisks (***) indicate significance at the 99-percent confidence level. Two asterisks (**) indicate significance at the 95-percent confidence level.

The data reveal that Montana's prevailing wage law boosts construction worker incomes and expands employer-provided health insurance coverage for construction workers. If Montana were to repeal its law, the average incomes of construction workers would fall by 8 percent, or about \$3,200 annually per worker (Figure 13). Repeal would have no statistical effect, however, on construction employment or hours worked. Consequently, with about 25,500 blue-collar construction workers in Montana as of May 2021, total construction worker labor income would decrease by \$82 million annually (BLS, 2022b). In addition, an estimated 2,100 construction workers would lose their employer-provided health insurance coverage, an 8 percentage-point drop in coverage. Repeal of prevailing wage would result in a pay cut for construction workers and greater reliance on Medicaid and taxpayer-subsidized Affordable Care Act coverage.

FIGURE 13: IMPACT OF MONTANA'S PREVAILING WAGE LAW VS. REPEAL ALTERNATIVE, 2021

What If Montana Repealed Its Prevailing Wage Law?	Inflation-Adjusted Annual Incomes	Employer-Provided Health Coverage
Blue-Collar Construction Workers (May 2021)	25,530	25,530
Current Value Per Construction Worker (ACS 2014-2019)	\$41,600	63.1%
Current Estimate for All Construction Workers	\$1,062,060,000	16,100
Impact of Prevailing Wage on Workers	+8.4%	+8.3%
Estimate Per Construction Worker without Prevailing Wage	\$38,374	54.8%
No-Law Estimate for All Construction Workers	\$979,681,600	14,000
Impact of Repeal on All Construction Workers	-\$82,379,000	-2,100

Source(s): Authors' analysis of *American Community Survey* data (one-year estimates) by the U.S. Census Bureau from 2015 through 2019 and May 2021 employment estimates from the *Occupational Employment and Wage Statistics* from the Bureau of Labor Statistics (Ruggles et al., 2022; BLS, 2022b).

Boosting blue-collar construction worker incomes by a total of \$82 million is one way that Montana's prevailing wage law affects the state economy. The law also performs an important economic development function by protecting construction spending in the state. This additional spending circulates throughout the economy, adding value to other industries that are not related to the construction industry. Economic data from the 2017 *Economic Census of Construction* indicates that states with prevailing wage laws have nearly 91 percent of the total value of construction completed by in-state contractors (Figure 14). By contrast, states without prevailing wage laws have just 88 percent of their construction projects built by contractors based in their states. This 2 percent difference is a gain in the market share of in-state contractors for all public and private construction, and it is consistent with previous iterations of the *Economic Census of Construction* (e.g., Duncan and Manzo, 2018a). For Montana specifically, 89 percent of all construction work is completed by in-state contractors—also higher than the states without prevailing wage laws (Figure 14).

FIGURE 14: MARKET SHARE OF IN-STATE CONTRACTORS, BY PREVAILING WAGE STATUS, 2017

<i>Economic Census of Construction Data for 2017</i>	Total Value of Construction Work	Construction Work Completed by In-State Contractors	Market Share of In-State Contractors
States with Prevailing Wage Laws	\$1,283,548,123,000	\$1,164,130,474,000	90.7%
States without Prevailing Wage Laws	\$692,330,697,000	\$611,466,523,000	88.3%
Prevailing Wage Difference	+\$591,217,426,000	+\$552,663,951,000	+2.4%
Montana	\$6,961,346,000	\$6,195,972,000	89.0%

Source(s): Authors’ analysis of the 2017 *Economic Census* by the U.S. Census Bureau (Census, 2022). Values are in “nominal” terms and not adjusted for inflation.

Montana’s prevailing wage law supports millions of dollars of work for local contractors (Figure 15). In 2017, the total value of construction work was \$7.0 billion in Montana. The prevailing wage effect of protecting more than 2 percent of this value for in-state contractors is equal to \$165 million. Put differently, in the absence of a prevailing wage law, this \$165 million in construction work would be completed by out-of-state or foreign contractors. However, when measuring the economic impact of the \$802 million in protected construction work, it is important to net out spending that would remain in the state regardless of whether in-state or out-of-state contractors perform the work. After removing the cost of materials, supplies, power, fuel, and land, (\$57 million, or 35 percent of total construction costs in Montana), the net effect of \$165 million in retained construction is \$108 million.

FIGURE 15: INPUT INTO ECONOMIC IMPACT ANALYSIS OF MONTANA’S PREVAILING WAGE LAW

Montana Construction Metrics		Math	Direct Effect
A	Total Value of Construction Work		\$6,961,346,000
B	Supplies, Materials, Power, Fuel, and Land Percent of Total		34.6%
C	Value of Construction Work Less Supplies, Materials, Power, and Fuel	$A \times (1 - B)$	\$4,550,404,000
D	Impact of Prevailing Wage on In-State Contractor Share		+2.4%
E	Construction Work Retained In-State Due to Prevailing Wage	$C \times D$	\$108,130,000
F	Impact of Prevailing Wage on Construction Worker Incomes	Fig. 13	\$82,379,000
G	Total Impact of Prevailing Wage	E + F	\$190,509,000

Source(s): Authors’ analysis of the 2017 *Economic Census* by the U.S. Census Bureau, *American Community Survey* data (one-year estimates) by the U.S. Census Bureau from 2015 through 2019, and May 2021 employment estimates from the *Occupational Employment and Wage Statistics* from the Bureau of Labor Statistics (Census, 2022; Ruggles et al., 2022; BLS, 2022b).

The economic impact of this additional in-state work is measured with the IMPLAN economic impact software (IMPLAN, 2022). IMPLAN accounts for the inter-industry relationships within an economy, measuring market transactions between businesses and households. This economic impact analysis is based on the multiplier, or ripple effect, associated with the retention of \$108 million in construction spending for in-state contractors and an associated \$82 million in labor income for Montana-based construction workers, or a total input of more than \$190 million (Figure 16). The economic impact of over \$190 million in protected construction business and construction worker spending results in an overall increase in economic activity in Montana of approximately \$248 million. The corresponding employment increase is about 1,800 jobs. Specifically, the law saves or creates about 700 direct construction jobs and supports more than 1,100 additional jobs through in-state construction worker spending in sectors such as retail, service, and restaurants. The increase in economic activity is also associated with an approximate \$19 million gain in tax revenues for state and local governments, particularly from income taxes. These are statewide impacts that are experienced each year.

FIGURE 16: ECONOMIC IMPACT OF MONTANA'S PREVAILING WAGE LAW, 2021 VALUES

Category	Direct Effect	Total Impact
Economic Activity	+\$79.0 million	+\$248.2 million
Jobs	+700 jobs	+1,800 jobs
State and Local Tax Revenues	+\$8.3 million	+\$19.1 million

Source(s): Authors' IMPLAN analysis using data from the 2017 *Economic Census* by the U.S. Census Bureau, *American Community Survey* data (one-year estimates) by the U.S. Census Bureau from 2015 through 2019, and May 2021 employment estimates from the *Occupational Employment and Wage Statistics* from the Bureau of Labor Statistics (IMPLAN, 2022; Census, 2022; Ruggles et al., 2022; BLS, 2022b).

The positive effects of Montana's prevailing wage law may be understated. The demand-side impacts of prevailing wage laws have been well-documented in economic research (e.g., Manzo and Duncan, 2018a; Duncan and Lantsberg, 2016; Philips, 2014). Prevailing wage laws boost earnings for blue-collar construction workers and have ripple effects across the economy and those workers spend their additional discretionary income at local businesses. However, Montana's prevailing wage law is unique in that it includes a local hire provision, requiring at least 50 percent of all workers employed on public works projects be residents of Montana. Consequently, Montana's prevailing wage law may deliver even larger economic impacts on a per-worker basis than estimated in Figure 16.

Impact of Coverage Thresholds on the Market Share of In-State Contractors

Many prevailing wage standards have minimum project value thresholds that determine when workers are paid prevailing wage rates. Publicly-funded projects with values less than the threshold are exempt from the law. Projects with values greater than the threshold are covered by the wage policy. These contract coverage thresholds vary by state (WHD, 2022). Illinois, Massachusetts, Nebraska, New York, Texas, and Washington do not have minimum thresholds, with all state projects covered by prevailing wage standards. On the other hand, Maryland and Delaware have \$500,000 thresholds. The contract coverage threshold value for Montana is \$25,000.

Manzo and Bruno (2016) examine the effect of changes in minimum project value thresholds and find that increases in prevailing wage thresholds are associated with reductions in the value of all construction work completed by in-state contractors. Over the five-year period from 2007 to 2012, three states raised their prevailing wage coverage thresholds. Indiana increased the threshold by \$100,000 and the in-state contractor share fell 2.7 percent. Oregon's threshold increased by \$25,000 with the market share of in-state contractors decreasing by 1.6 percent. Ohio had a \$10,405 threshold increase and the in-state contractor share fell 0.5 percent.

By weakening prevailing wage laws, higher contract coverage thresholds also lead to higher risk of payroll fraud in the construction industry. As previously mentioned, Hinkel (2022) finds that higher thresholds are linked with significant increases in worker misclassification and off-the-books employment because fewer state and local projects are covered, leaving more workers vulnerable to exploitative practices because contractors no longer submit certified payroll records. In Montana, a higher threshold would also mean that fewer projects would require that at least 50 percent of the workers be from Montana. A higher coverage threshold would likely increase the use of out-of-state contractors, exacerbate underground labor practices, and make public bodies in Montana more vulnerable to payroll tax fraud.

Conclusion

Montana's prevailing wage law keeps construction costs stable. The preponderance of peer-reviewed studies finds that prevailing wage laws have no effect on the cost of traditional public works projects (90 percent) and on their number of bidders (100 percent). Additionally, the law levels the playing field for local contractors and ensures that Montana residents are building the state's roads, bridges, schools, parks, and other vital public infrastructure.

Montana's prevailing wage law promotes a skilled, safe construction workforce. The law increases contributions into registered apprenticeship programs in Montana and incentivizes contractors to use registered apprentices. This explains why Montana has significantly more construction apprentices than Idaho, North Dakota, and South Dakota. Construction apprentices in Montana also have a 21 percentage-point higher completion rate than their counterparts in these three neighboring states. As a result, construction worksites are much safer in Montana, suffering 33 percent fewer health and safety violations than those in the three neighboring states without prevailing wage laws.

Montana's prevailing wage law produces positive impacts on the state's economy. By upholding local construction standards, prevailing wage supports work for local contractors, increases construction worker incomes by 8 percent, and expands employer-provided health insurance coverage by 8 percent. In total, prevailing wage increases employment in Montana by 1,800 jobs and boosts the economy by \$248 million while generating \$19 million in state and local tax revenues every year.

Voters and elected officials in Montana may want to ensure that the state's prevailing wage laws is not repealed or weakened. If the law is repealed, blue-collar construction worker earnings would be expected to decrease by \$82 million and approximately 2,100 construction workers would be expected to lose their employer-provided health insurance coverage. Additionally, weakening the law by increasing the contract coverage threshold would have similar impacts, reducing the market share of in-state contractors and exacerbating the problem of payroll fraud through worker misclassification and under-the-table employment arrangements.

Ultimately, prevailing wage is a great value for Montana taxpayers. By leveling the playing field for local contractors and reflecting local market standards of compensation and craftsmanship, prevailing wage strengthens the economy. By boosting investment in apprenticeship programs, prevailing wage improves productivity and worksite safety. Finally, by stabilizing construction costs and using skilled construction workers, prevailing wage delivers public construction projects that are built right, on time, and on budget.

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Appendix

TABLE A: IMPACT OF PREVAILING WAGE LAW ON INFLATION-ADJUSTED ANNUAL INCOMES AND HEALTH INSURANCE COVERAGE FOR BLUE-COLLAR CONSTRUCTION WORKERS, 2014-2019

OLS and Probit Regressions of All Private Sector (Nonfarm) Workers	Natural Log: Real Annual Income		Probit: Private Health Insurance Coverage		Probit: Employer-Provided Coverage	
	Effect†	Error‡	Effect†	Error‡	Effect†	Error‡
Prevailing Wage x Construction Occs	+0.081**	(0.027)	+0.049**	(0.021)	+0.083***	(0.041)
Prevailing Wage (Montana)	+0.006	(0.007)	-0.048***	(0.005)	-0.053***	(0.006)
Construction Occupations (Blue-Collar)	-0.072***	(0.017)	-0.073***	(0.013)	-0.071***	(0.016)
Industry: Construction	+0.126***	(0.013)	-0.011	(0.011)	-0.041***	(0.012)
Work: Usual Hours Worked Per Week	+0.036**	(0.000)	+0.003***	(0.000)	+0.005***	(0.000)
Demographics: Age	+0.062***	(0.001)	-0.007***	(0.001)	+0.004***	(0.001)
Demographics: Age ²	-0.001***	(0.000)	+0.001***	(0.000)	-0.000***	(0.000)
Racial or Ethnic Background: White	+0.113***	(0.008)	+0.122***	(0.007)	+0.114***	(0.009)
Gender Identification: Female	-0.212***	(0.006)	+0.005	(0.005)	+0.008	(0.006)
Demographics: Foreign-Born	-0.029**	(0.012)	-0.009	(0.011)	-0.014	(0.013)
Demographics: Military Veteran	-0.004	(0.012)	-0.024**	(0.009)	-0.066***	(0.010)
Education: High School Degree or Less	-0.421***	(0.007)	-0.138***	(0.006)	-0.100***	(0.007)
Education: Associate's Degree	-0.267***	(0.010)	-0.072***	(0.009)	-0.047***	(0.010)
Demographics: Married	+0.174***	(0.006)	+0.117***	(0.005)	+0.128***	(0.006)
Year: 2016	+0.025***	(0.009)	Yes	Yes	Yes	Yes
Year: 2017	+0.040***	(0.008)	Yes	Yes	Yes	Yes
Year: 2018	+0.036***	(0.008)	Yes	Yes	Yes	Yes
Year: 2019	+0.069***	(0.008)	Yes	Yes	Yes	Yes
Dummies: Weeks Worked Per Year	Yes	Yes	Yes	Yes	Yes	Yes
Constant Term	5.824***	(0.027)	0.811***	(0.002)	0.695**	(0.002)
Total Observations	55,916		55,916		55,916	
Weighted to Match Population	Yes		Yes		Yes	
R ²	0.671		0.106		0.087	

Source(s): Authors' analysis of *American Community Survey* data (one-year estimates) by the U.S. Census Bureau from 2015 through 2019 (Ruggles et al., 2022). Three asterisks (***) indicate significance at the 99-percent confidence level. Two asterisks (**) indicate significance at the 95-percent confidence level. One asterisk (*) indicates significance at the 90-percent confidence level. †“Effect” indicates the coefficient, which is average marginal effects for probit regressions. ‡“Error” is the standard error.

TABLE B: IMPACT OF PREVAILING WAGE LAW ON USUAL HOURS WORKED PER WEEK, 2014-2019

Probit Regressions of Private Sector (Nonfarm) Workers	Usual Hours Worked for All Workers (#)		Usual Hours Worked for People of Color (#)	
	Effect†	Error‡	Effect†	Error‡
Prevailing Wage x Construction Occs	-0.241	(0.464)	+1.600	(1.538)
Prevailing Wage (Montana)	-0.840***	(0.112)	-1.298***	(0.384)
Construction Occupations (Blue-Collar)	-0.364	(0.286)	-0.725	(0.836)
Industry: Construction	+2.601***	(0.224)	+3.309***	(0.749)
Demographics: Age	+1.262***	(0.019)	+1.166***	(0.640)
Demographics: Age ²	-0.014***	(0.000)	-0.013***	(0.001)
Racial or Ethnic Background: White	-0.031	(0.144)		
Gender Identification: Female	-5.724***	(0.095)	-5.354***	(0.285)
Demographics: Foreign-Born	+0.767***	(0.207)	+1.360***	(0.311)
Demographics: Military Veteran	+0.321	(0.198)	+0.256	(0.715)
Education: High School Degree or Less	-0.689***	(0.114)	-0.802**	(0.404)
Education: Associate's Degree	-0.153	(0.163)	-0.486	(0.627)
Demographics: Married	+0.573***	(0.101)	+0.273	(0.309)
Year: 2016	-0.163	(0.145)	-0.684	(0.449)
Year: 2017	-0.346**	(0.145)	-0.779	(0.436)
Year: 2018	-0.123	(0.144)	-0.509	(0.429)
Year: 2019	-0.193	(0.144)	-0.573	(0.435)
Dummies: Weeks Worked Per Year	Yes	Yes	Yes	Yes
Constant Term	8.745***	(0.458)	11.726***	(1.350)
Total Observations	55,916		6,179	
Weighted to Match Population	Yes		Yes	
R ²	0.247		0.223	

Source(s): Authors' analysis of *American Community Survey* data (one-year estimates) by the U.S. Census Bureau from 2015 through 2019 (Ruggles et al., 2022). Three asterisks (***) indicate significance at the 99-percent confidence level. Two asterisks (**) indicate significance at the 95-percent confidence level. One asterisk (*) indicates significance at the 90-percent confidence level. †“Effect” indicates the coefficient. ‡“Error” is the standard error.

TABLE C: IMPACT OF PREVAILING WAGE LAW ON WORKING IN PRIVATE CONSTRUCTION JOBS, 2014-2019

Probit Regressions of All (Nonfarm) Workers	Probit: Private Construction Occupations for All Workers		Probit: Private Construction Occupations for People of Color	
	Effect†	Error‡	Effect†	Error‡
Prevailing Wage (Montana)	-0.000	(0.002)	-0.013*	(0.008)
Demographics: Age	+0.002***	(0.000)	+0.004***	(0.001)
Demographics: Age ²	-0.000***	(0.000)	-0.000***	(0.000)
Racial or Ethnic Background: White	-0.001	(0.003)		
Gender Identification: Female	-0.093***	(0.004)	-0.117***	(0.012)
Demographics: Foreign-Born	+0.007*	(0.004)	+0.009	(0.007)
Demographics: Military Veteran	-0.010***	(0.003)	-0.017	(0.013)
Education: High School Degree or Less	+0.050***	(0.003)	+0.064***	(0.011)
Education: Associate’s Degree	+0.043***	(0.004)	+0.042***	(0.015)
Demographics: Married	-0.009***	(0.002)	-0.010	(0.007)
Year: 2016	Yes	Yes	Yes	Yes
Year: 2017	Yes	Yes	Yes	Yes
Year: 2018	Yes	Yes	Yes	Yes
Year: 2019	Yes	Yes	Yes	Yes
Constant Term	0.036***	(0.001)	0.047***	(0.003)
Total Observations	93,873		10,452	
Weighted to Match Population	Yes		Yes	
R ²	0.173		0.169	

Source(s): Authors’ analysis of *American Community Survey* data (one-year estimates) by the U.S. Census Bureau from 2015 through 2019 (Ruggles et al., 2022). Three asterisks (***) indicate significance at the 99-percent confidence level. Two asterisks (**) indicate significance at the 95-percent confidence level. One asterisk (*) indicates significance at the 90-percent confidence level. †“Effect” indicates the coefficient, which is average marginal effects for probit regressions. ‡“Error” is the standard error.