

# Indiana's Common Construction Wage Law

An Economic Impact Analysis

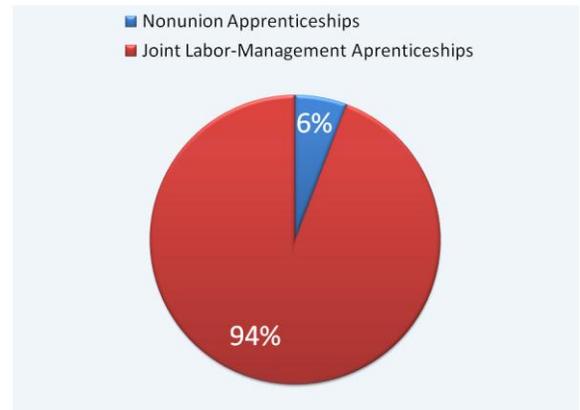
**PETER PHILIPS, Ph.D.**

January 2015  
Professor of Economics  
University of Utah

# Indiana's Common Construction Wage Law

## Executive Summary

While all agree that apprenticeship training is key to a productive construction labor force and the maintenance of middle-class careers in construction, in Indiana, only the joint labor-management programs invest serious money in the training of Indiana's youth. Only 6% of the annual investment in apprentice training comes from nonunion apprenticeship programs while under collective bargaining, Indiana's union contractors provide 94% of annual apprenticeship training expenditures. This difference plays out in higher productivity on the union side of Indiana construction, higher construction worker incomes, greater health insurance coverage and more secure retirements for Indiana construction workers.



NONUNION AND UNION SHOP SHARES OF INDIANA APPRENTICESHIP TRAINING

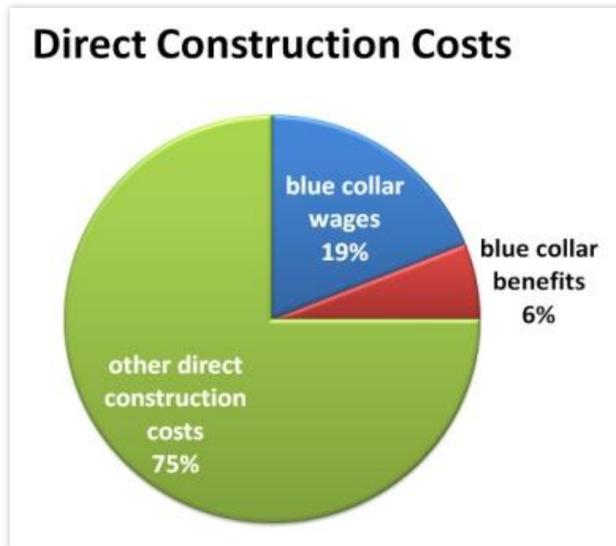
In states without common construction wage regulations, nonunion contractors fear a looming skill shortage as the economy emerges from the Great Recession. With stagnant and unfunded apprenticeship programs, in states like Georgia, spokespersons for nonunion contractors are calling for guest-worker programs and state financed vocational training to fill the gaping hole left when their local construction industry stopped training apprentices.

In states with common construction wage laws (also known as prevailing wage laws), workers are more productive both on public works and across the entire construction industry. In common wage law states, value-added per worker on public works is from 21% to 33% higher than in states without common wage laws. Because of more apprenticeship training and a greater retention of experienced workers, this increased productivity on public works spills over into the overall construction industry within these states where value-added per construction worker is 14% higher than in states without common wage regulations.

While critics of Indiana's common wage law claim that repeal would save the state 15% to 30% of total public construction costs, this claim is unfounded. It is unfounded in part because blue collar labor costs including benefits, payroll taxes and apprenticeship contributions as a percent of total construction costs in Indiana are only 25%. Essentially, for critics to claim that a repeal of the common wage on public works would lead to a savings of 15% to 30%, blue collar construction workers would have to work for free.

In addition, when critics claim that a repeal of the common wage requirement will drive down

wages on public works by \$20 per hour, they assume that these kinds of wage cuts will not affect either training, productivity or the skill set of the labor force who show up after a \$20 wage cut. In fact, major wage cuts like these lead to a less productive labor force.



BLUE COLLAR COSTS AS A PERCENT OF TOTAL CONSTRUCTION COSTS IN INDIANA

There is little evidence to support the assertion that repealing common construction wage regulations, in fact, saves any money at all. The classic case is a comparison of school construction costs in Kentucky and Ohio. In 1996 Kentucky applied its common (a.k.a. prevailing) wage law to public school construction. In 1997, Ohio exempted its public schools from common wage requirements. Despite these changes in policy, the median square foot cost of new school construction in these adjoining states tracked together both before, during and after these changes. A 2013 peer-reviewed study from Bowling Green University confirmed that no measurable savings in school construction costs came from exempting Ohio schools from common construction-wage requirements.

But there are costs associated with pushing Indiana's construction industry down a cheap labor path. The loss of skills will inevitably lead towards lower construction worker incomes across all of Indiana construction, the loss of middle class careers in construction and efforts to fill the void with guest worker programs. In states with common construction wage laws, construction worker incomes are 18% higher than in states without this requirement. Contributions to social security, unemployment insurance and other benefits are correspondingly greater. This income advantage is not just on public works but across these common-wage-law states' entire construction industries. This means that in these states with common wage laws, the industry is paying its own way in terms of covering unemployment costs, worker injury costs, the health care costs of construction workers' families, and the retirement costs of these blue-collar workers while paying for the cost of training the next generation of skilled workers.

Repealing Indiana's common wage law not only means pushing blue collar workers out of the middle class (and \$20 wage cuts will do exactly that), it also means inviting the construction industry to dodge its own costs of doing business. Repeal means less funding of worker comp claims while engaging a less-skilled labor-force which is more likely to get hurt. Repeal means less funding of unemployment insurance even though construction has twice the unemployment rate of the overall Indiana economy. Repeal means less funding of health insurance, less funding of retirement needs, less funding of apprenticeship training and more lobbying for guest worker programs to bridge the gap left by repeal. The common construction wage law of Indiana induces better trained, more experienced, safer, local workers to stay within Indiana construction throughout their work-lives. Indiana's common wage law is good for Indiana construction, good for Indiana's construction workers and good for the Indiana taxpayer.

## Table of Contents

EXECUTIVE SUMMARY .....	1
ABOUT THE AUTHOR .....	4
JOINT LABOR-MANAGEMENT APPRENTICESHIP PROGRAMS ACCOUNT FOR 94% OF ALL TRAINING INVESTMENT IN INDIANA'S CURRENT AND FUTURE CONSTRUCTION WORKERS .....	5
THE IMPORTANCE OF APPRENTICESHIP TRAINING IN CONSTRUCTION .....	5
INVESTMENTS IN TRAINING BY LABOR-MANAGEMENT AND NONUNION PROGRAMS .....	6
ABC CALLS FOR GUEST WORKER PROGRAMS TO MEET SKILLED LABOR SHORTAGE .....	7
CRITICS CLAIM OF 15% TO 30% SAVINGS FROM REPEAL UNFOUNDED .....	8
WILL REPEAL DROP CONSTRUCTION COSTS BY 15% TO 30%? .....	8
LABOR COSTS ARE ONLY 25% OF TOTAL COSTS ON INDIANA PUBLIC CONSTRUCTION .....	9
CRITICS BASICALLY CLAIM THAT PUBLIC CONSTRUCTION WORKERS WILL WORK FOR FREE .....	10
CONSTRUCTION WORKERS IN COMMON WAGE LAW STATES ARE MORE PRODUCTIVE .....	11
THE COMMON WAGE LAW PROMOTES A HEALTHIER CONSTRUCTION LABOR FORCE .....	12
HIGHER PRODUCTIVITY PROMOTES RETIREMENT SAVINGS, HEALTH INSURANCE COVERAGE AND HIGHER INCOME .....	13
NO EVIDENCE THAT REPEALS GENERATE SAVINGS .....	15
BOWLING GREEN UNIVERSITY STUDY FINDS NO COST SAVINGS FROM OHIO'S SCHOOL EXEMPTION ..	15
A NATURAL EXPERIMENT: SCHOOL CONSTRUCTION COSTS IN KENTUCKY, OHIO AND MICHIGAN ....	16
NO COST SAVINGS WHEN LAW WAS SUSPENDED OR REMOVED .....	17
EXPANDED RESEARCH CONFIRMED THE RESULTS OF THIS NATURAL EXPERIMENT .....	18
CONCLUSIONS .....	19
ENDNOTES .....	20
Figure 1: Annual Indiana apprenticeship training expenditures by nonunion and joint labor-management programs	7
Figure 2: Labor costs as a percent of total costs in Indiana construction 1972 to 2007 .....	10
Figure 3: Difference in the value added per construction worker in common construction-wage law-states compared to no law states by all construction and segments where common wage law regulations most often apply .....	12
Figure 4: Comparison of wages, pensions and benefits paid in states with and without common construction-wage laws. ....	14
Figure 5: Prevailing wage policy by state, Kentucky, Ohio, Michigan, 1991-2000 .....	16
Figure 6: Median square foot cost of new elementary schools before and after law changes in Kentucky and Ohio, 1992-2000 .....	17
Table 1: Differences in the average bid price per square foot for Ohio public schools by union and nonunion contractor, 2000 to 2007 .....	16
Table 2: Description of the new schools used in the study .....	17
Table 3: Real, inflation adjusted square-foot cost of new public school construction in Kentucky, Ohio and Michigan 1992-2000 .....	18

## About the Author

**Peter Philips** (Ph.D. Stanford University) is a professor of economics at the University of Utah and recognized expert on the U.S. construction labor market. He has published widely in academic journals on various aspects of construction including construction safety, teenage deaths in construction, absenteeism on construction worksites, labor turnover on construction sites, the role of health insurance in retaining experienced workers in construction, bidding in construction, and the role of local hire on public works. Philips has also written extensively on the effects of common-wage also known as prevailing-wage regulations. His most recent peer-reviewed academic articles on prevailing wage, fair wage and common wage regulations in the United States and Canada include:

- Kevin Duncan, Peter Philips and Mark Prus, "Prevailing Wage Regulations and School Construction Costs: Cumulative Evidence from British Columbia," *Industrial Relations*, Vol. 53, No. 4 (October 2014)
- JaeWhan Kim, Kuo-Liang Chang and Peter Philips, "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*, Vol. 51, Issue 4, pp. 874-891, October, 2012
- Kevin Duncan, Peter Philips and Mark Prus, "Using Stochastic Frontier Regression to Estimate the Construction Cost Inefficiency of Prevailing Wage Laws," *Engineering, Construction and Architectural Management*, Vol. 19 Iss: 3, 2012, pp.320 - 334.
- Kevin Duncan, Peter Philips and Mark Prus, "The Effects of Prevailing Wage Regulations on Construction Efficiency in British Columbia," *International Journal of Construction Education and Research*, 1550-3984, Volume 5, Issue 2, April 2009, Pages 63 – 78.
- Kevin Duncan, Peter Philips and Mark Prus, "Prevailing Wage Laws, Productivity and Construction Efficiency" *Construction Management and Economics Conference Proceedings*. Edited by Will Hughes. 2008, pp 1411-1418.
- Kevin Duncan, Peter Philips and Mark Prus, "Prevailing Wage Legislation and Public School Construction Efficiency: a Stochastic Frontier Approach," *Construction Management and Economics*, Vol. 24 (June 2006) pp. 625-634.

Philips is the coauthor of four books on the construction industry including: *Construction Research at NIOSH*, The National Academies Press, Washington, DC, 2008, *The Economics of Prevailing Wage Laws*, Ashgate Publishers, Burlington, VT, 2005, *Building Chaos*, Routledge Press, London, 2003 and *Portable Pensions for Casual Labor Markets*, Quorum Books, 1995. Philips was the only economist on the National Academies review panel evaluating the National Institute of Occupational Safety and Health's research on safety in the construction industry. Philips has served as an expert on the construction labor market for the U.S. Labor Department, the U.S. Justice Department and the U.S. Court of Federal Claims.

Philips has also taught at Earlham College and attended the Earlham School of Religion in Richmond, Indiana.



PETER PHILIPS

## Joint Labor-Management Apprenticeship Programs Account for 94% of All Training Investment in Indiana's Current and Future Construction Workers

### The Importance of Apprenticeship Training in Construction

One thing that both the union shop and many nonunion contractors agree upon is that apprenticeship training is good for the construction industry. However, as we shall see, in Indiana, the nonunion side of construction contributes substantially less towards financing apprenticeship training compared to the contractors and union members on the organized side of construction. Just 6% of the annual training investment spent on Indiana's youth entering the construction trades comes from the nonunion side of the industry. The remaining 94% comes from contributions required by collectively bargained contracts (Figure 1 below).

Apprenticeship training in the construction industry creates secure, middle-class jobs in a turbulent labor market while insuring that the American construction labor force has the world-class capabilities to build the cutting-edge economic infrastructure needed to make the rest of the local economy world-class competitive in a globalized market. Cooperative joint labor management apprenticeship programs lasting two, three, four and even five years are widespread in the construction industry for a very good reason: apprenticeship training makes construction workers more productive and safer.

For instance, Indiana's chapter of the National Electrical Contractors Association (NECA) and Merrville Indiana electrician Local 697 of the International Brotherhood of Electrical Workers (IBEW) in their joint labor-management apprenticeship program for Northwest Indiana describe their five-year apprenticeship as follows:

Apprenticeship is a unique, flexible training system which combines job related technical instruction with structured on-the-job learning experiences. Apprentices are employed throughout the program; advancement is achieved through demonstrated proficiencies in both academic and field performance.

Similar to a college internship or residency, success is realized through hard work and perseverance. Apprenticeship training is tuition free. Once the apprenticeship period is completed and the student passes all of the required coursework, he or she will have earned an Associates degree and the technical skills necessary to be recognized as a master craft professional.<sup>1</sup>

Without professional/craft training like this, the infrastructure, roads, bridges, dams, industrial, commercial, residential and public buildings that America relies upon as the physical basis for all the other activities that thrive within our economy would be at risk.

Construction needs professional craft training because each new building, each new industrial facility, each new road is in many ways a unique, one-of-a-kind, distinctive project. No two projects are exactly alike and most projects differ from each other in myriad ways. The custom character of construction activity requires complex teamwork and professional judgment. The blue-collar workers in construction are at the end of a long line of planning and execution beginning with engineers and architects, followed by project managers, passed to general contractors and subdivided among a host of subcontractors who finally marshal the army of blue collar workers who actually build the roads and erect the buildings that are the physical layout of the American economy. Just like there is many a slip betwixt cup and lip, many things can go wrong between the initial vision of an owner and the building that rises up from the ground. That is why the workers actually constructing the building (or road or factory) have to know what

they are doing and what others intend. This is why construction workers who have completed a certified apprenticeship program are professionals. They have to be able to form their own judgment at the last instance regarding whether the wall is going up right, the wires are being strung correctly, the fixtures are in the right place and whether the hundreds of other decisions and implementations make sense and truly reflect the owners original vision.

---

*Costs are minimized and safety is enhanced by having a professional blue-collar construction labor force. Apprenticeship training and middle-class wages are key to building and retaining a skilled and experienced local construction workforce.*

---

Of course, there is no guarantee in this complex process that the work will be accomplished on time. Indeed, delays in construction are some of the most serious costs of construction. The cost of a school is not only the dollars that go into it but whether the school opens in time for the next academic year.

The cost of a road is not only the money it takes but the time it takes before truckers and commuters can freely use it. The cost of a road is the work that is not done right the first time, work that has to be redone, work that is delayed for want of intelligence, training and experience, and work that is interrupted by accidents. All these costs are minimized by having a professional, carefully trained and experienced blue-collar labor force.

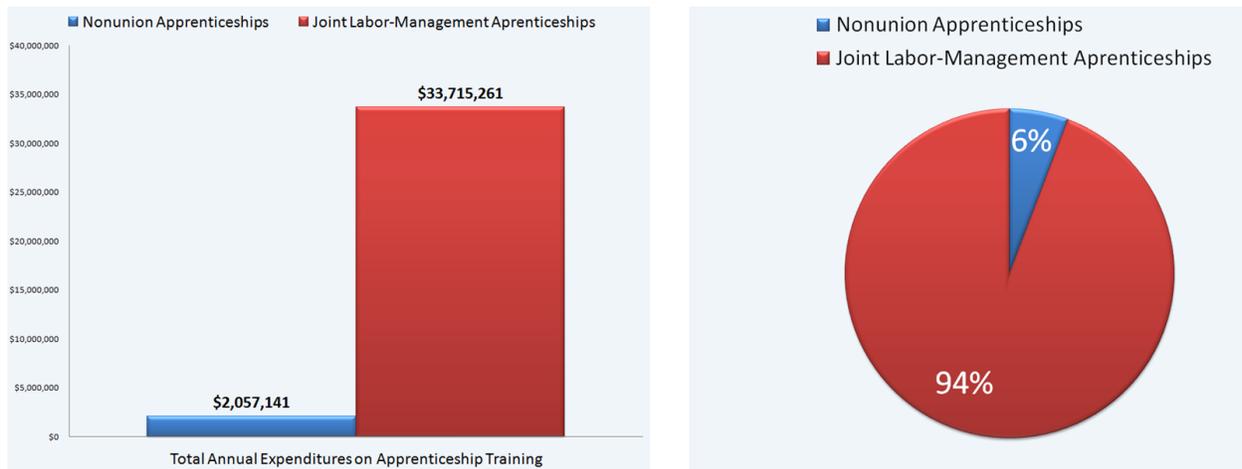
Construction is also the most dangerous major industry in the United States. More workers are killed annually in construction than in any other major segment of the economy--three times more than mining and one-and-one-half times more than manufacturing.<sup>ii</sup> Christopher Janicak, Professor of Safety Sciences at Indiana University of Pennsylvania in a 2013 study found that over the period 2005 to 2009, Hispanics accounted for a disproportionate 26% of all construction deaths due, in part, to lack of training and lack of proper protection.<sup>iii</sup> Deaths and injuries due to lack of training and lack of proper safety equipment is both a human tragedy and an industrial cost. Better trained and better equipped workers are safer and safer workers mean fewer job interruptions. Investment in construction worker apprenticeships makes sense from both a human and a cost perspective. When advocates of common construction wage repeal argue that \$20 cuts in wages will save taxpayers money, they never enter into their calculation the human and construction costs of increased injuries and deaths associated with going down the cheap, untrained, unskilled-labor path on public works.

### **Investments in Training by Labor-Management and Nonunion Programs**

Investing in apprenticeship training in construction is an act of faith and courage. Construction is one of the most volatile industries in the economy with booms and busts coming at irregular but inevitable intervals. Yet solid professional training takes time, in most cases four years, in some cases five. Apprenticeship training takes commitment. It is not uncommon for contractors to invest as much as \$10,000 per year in an apprentice's classroom and on-the-job education. Who has the money and the courage to invest in a young person when the demand for that person's skills may not be there four or five years down the road? The loss of skilled workers during the downturn and the demands of subsequent business upturns along with demographic trends can create both spot shortages and chronic shortages in safe, skilled, professional blue-collar construction workers in almost all of the construction crafts.

Yet for the most part, the nonunion side of Indiana construction does not invest in construction worker training. When all the Indiana nonunion apprenticeship programs are totaled together, their annual expenditures on

apprenticeship training amount to slightly over \$2 million. (Figure 1) This compares to annual apprenticeship training expenditures of almost \$34 million in the Indiana labor-management cooperative apprenticeship programs. (Figure 1) While nonunion contractors allege a large share of the Indiana construction labor market, nonunion contractors account for only 6% of the annual investment in Indiana's young workers learning a construction trade.



**FIGURE 1: ANNUAL INDIANA APPRENTICESHIP TRAINING EXPENDITURES BY NONUNION AND JOINT LABOR-MANAGEMENT PROGRAMS** (source: IRS Form 990 from the National Center for Charitable Statistics, Urban Institute <http://nccsweb.urban.org/nccs.php> )

Skill shortages do loom when the next generation of construction workers is not prepared and trained to enter the industry as the last generation leaves. The Great Recession hit at a time when the baby boomers were entering their 50s and 60s. In Indiana, the courage of the multiemployer/union side of construction has led to a continued investment in the next generation so that as the economy picks up a qualified and safe labor force will be there to build this century's new structures and infrastructures. But this is not necessarily the case in states that do not have common wage laws. The case of Georgia's construction industry is instructive.

### ABC Calls for Guest Worker Programs to Meet Skilled Labor Shortage

Ideally, the construction industry should pay for the training of the next generation of construction workers. That way the full cost of construction is internalized to the industry. The Common Construction Wage regulation helps internalize apprenticeship training costs to the industry itself. In states without common wage laws, apprenticeship training either does not exist or is largely paid for by taxes through public technical schools and community colleges or is replaced by the promotion of guest-worker programs and other forms of immigration.

---

*"[We] need to address immigration laws and make it easier for people to move to the United States from other countries and work in the construction industry..."*

*-Scott Shelar, the executive director of the Construction Education Foundation of Georgia (ABC)*

---

For example, in Georgia--a state that has never had a state common construction-wage law, the ABC established the Construction Education Foundation of Georgia "years ago to address the craft training needs of Georgia's construction industry." <sup>iv</sup> The Georgia ABC states: "The number-one issue facing the construction industry today is a

shortage of skilled craft workers." <sup>v</sup> It asserts that "240,000 new skilled craft workers are needed every year in the U.S. 6,000-8000 new skilled craft workers are needed every year in Georgia." <sup>vi</sup> Scott Shelar, the executive director of the Construction Education Foundation of Georgia, argues that the looming skills shortage in construction requires both more training and more immigration. He argues:

Construction executives, superintendents and HR managers realize they have a problem: Half of their workforce (according to the Bureau of Labor Statistics) are Baby Boomers--those born between 1946 and 1964. They've already started retiring at a rapid pace, which will continue for the next 15 years. This, combined with tighter immigration laws (especially here in Georgia) and implementation of programs like E-Verify on most large projects are making it difficult, even in this slow-recovering economy, for many construction companies to find skilled workers. So what to do? There seem to be two schools of thought. One says we need to address immigration laws and make it easier for people to move to the United States from other countries and work in the construction industry. The other says we need to invest in our schools and young adults here in the United States and convince them that there are good careers in construction, and specifically the skilled trades. The answer, most likely, is that we need to do both. <sup>vii</sup>

Rather than addressing the issue of a skilled labor shortage in construction through industry-sponsored apprenticeship programs for local workers, the national ABC advocates a guest worker program tied to the business cycle:

...any future immigration law must include a new market-driven program to provide a legal path for foreign workers to enter the United States when the economy needs them, with fewer entering when the economy contracts... --"ABC Outlines Features of a Successful Guestworker Program" March 20, 2013 <sup>viii</sup>

---

*Instead of industry-sponsored apprenticeships for local workers, the ABC representing nonunion contractors calls for a guest worker program to meet the looming skill shortage in construction.*

---

What the common wage does is internalize the cost of training the next generation of local construction workers to the construction industry itself. This generation of buildings pays for the next generation of safe, qualified local construction workers. Repealing the common wage pushes

the industry into advocating for guest worker programs hoping that these foreign workers will come with the needed skills, experience and safety awareness required to fill the gap caused by the destruction of industry-sponsored apprenticeship training. When construction goes down the unskilled, untrained, cheap-labor path good careers in construction disappear. The industry becomes more dangerous, less productive and more reliant upon guest worker programs. For advocates of common construction-wage law repeal, these risks are justified by the assertion that 15% to 30% of public construction costs can be saved by common-wage repeal.

## Critics Claim of 15% to 30% Savings from Repeal Unfounded

### Will Repeal Drop Construction Costs by 15% to 30%?

Even though restricting or eliminating common wage regulations discourages both training and construction worker quality, some argue that eliminating these regulations are justified by the savings such exemptions or repeals generate on public works.

The Associated Builders and Contractors (ABC) of Indiana has repeated often the claim that an elimination of the common wage would save from 15 percent to 30 percent on total public construction costs.<sup>ix</sup> However, in evaluating this claim, the Fort Wayne City Controller and City Attorney together pointed out that labor costs as a percent of total costs on city projects are not high enough to provide for those kinds of savings even if productivity is unchanged after wages are cut:

City controller Pat Roller and city attorney Carol Helton noted that wages account for about 24 percent of the cost of city projects, so any savings would be on that portion of the project only.<sup>x</sup>

If blue collar labor costs on Indiana public works are around 25%, then saving 15% to 30% on total public construction costs would mean that the blue-collar workers on those public construction jobs would have to work for somewhere between next to nothing and nothing at all.

---

*Fort Wayne City controller Pat Roller and city attorney Carol Helton noted that wages account for about 24 percent of the cost of city projects.*

---

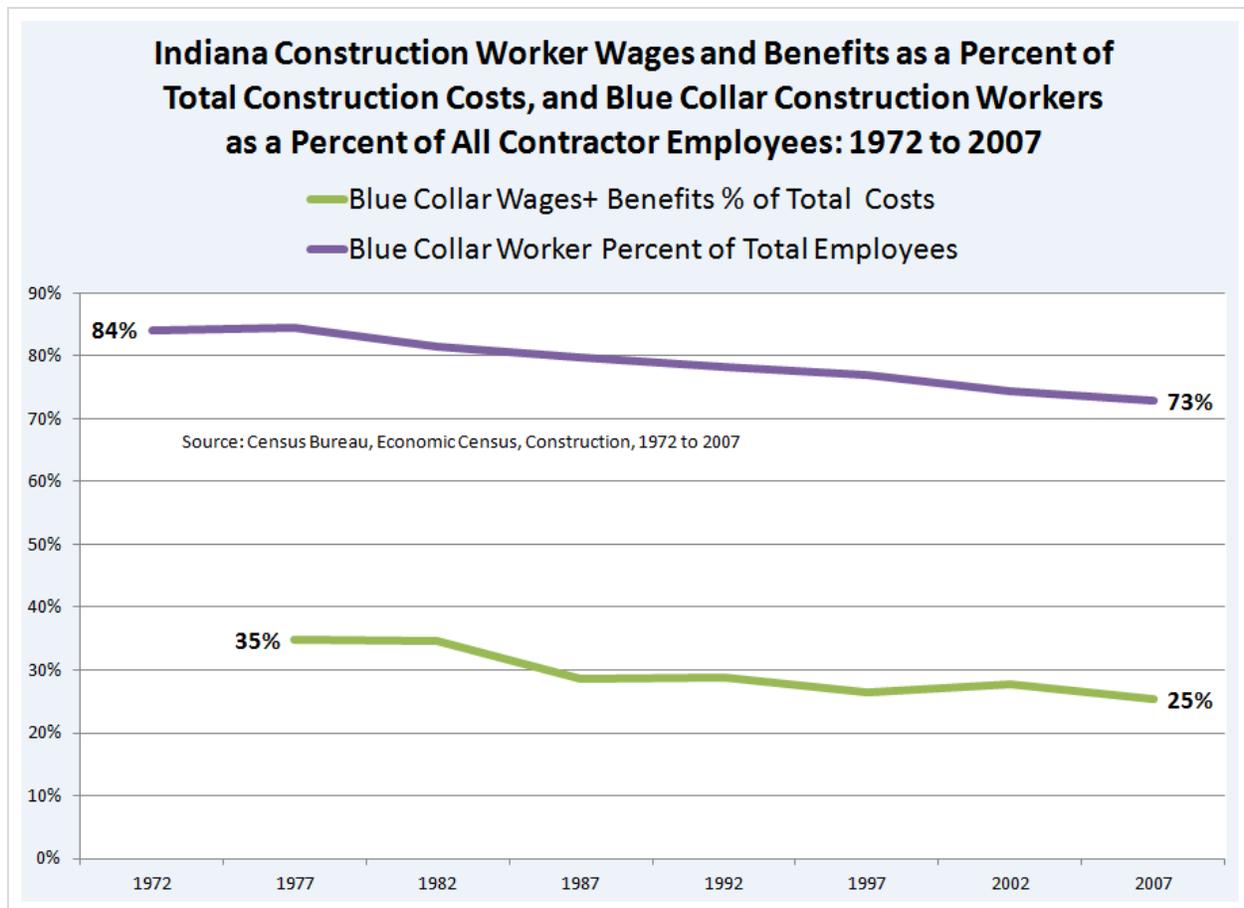
In fact, in Indiana, blue-collar labor costs as a percent of total construction costs (excluding land purchases, architectural and engineering services purchased separately by the owner) are not large enough to generate the savings claimed by the ABC.

Furthermore, due to improvements in labor productivity, these blue collar costs have been falling for over 40 years.

### **Labor Costs Are Only 25% of Total Costs on Indiana Public Construction**

The amount of savings that would be attained by a cut in wages depends (in part) on the share of labor costs in the total cost of construction. If labor costs, including wages and benefits, constitute a set portion of total construction cost excluding land, then the potential savings from repealing common wage regulations cannot exceed those blue-collar labor costs. In this section we will examine the share of labor costs in the cost of construction in Indiana. The data source for this exercise is the *U.S. Census of Construction* (also known as the *Economic Census-Construction*), which surveys construction contractors in every state every five years. We will use the results of the 2007 survey, since the results of the most recent 2012 survey have yet to be released. We will see that due to improvements in labor productivity, blue-collar labor costs have been falling steadily for over 40 years. In 2007, they amounted to 25% of total construction costs, and today may well be lower than that.

*Labor costs as a percent of total costs on Indiana public works, including benefits and payroll taxes, amount to 25% of total construction costs. To cut 15% of total costs from common wage repeal, workers would have to work for next to nothing. To cut 25% of total costs from common wage repeal, everyone would have to work for free.*



**Figure 2:** Labor costs as a percent of total costs in Indiana construction 1972 to 2007

For the period 1972 to 2007, **Figure 2** shows that Indiana blue-collar labor costs—wages and benefits including payroll taxes, pensions, and health insurance—as a percent of total construction costs (excluding land acquisition costs, construction development, design and oversight costs not provided by construction contractors). **Figure 2** also shows blue-collar workers as a percent of all construction contractor employees again from 1972 to 2007. Over this period, blue-collar workers have fallen from 84% of all construction contractor employees to 73%. Due to increased blue-collar construction worker productivity and the increased use of white-collar workers by construction contractors, blue-collar wages and benefits have fallen from 35% of the total costs contractors charged owners to 25%. Given this long-term trend, it may well be that labor costs are less than 25% today.

### Critics Basically Claim that Public Construction Workers Will Work for Free

In 2007 in Indiana average blue-collar labor costs including both wages and the total package of benefits, training and payroll taxes, as a percent of total costs were 25%. This holds as well for both private and public construction.<sup>1</sup> This means that, on average, whatever potential savings a repeal of the common wage requirements might bring, they cannot exceed 25% of total construction costs and under that scenario, all construction workers on public works would have to work for free.

<sup>1</sup> Blue-collar labor costs as a percent of total construction costs on public road, highway and other civil works tends to be a little lower due to the predominance of heavy construction equipment.

We pause here to consider the possibility that some contractors may assert that *their* labor costs are higher than 25% of total costs. There are several factors that may account for this. First, the contractor may be considering not only blue collar-labor but also that contractor's white-collar labor costs. Second, the contractor may be a subcontractor who was not responsible for the purchase of construction materials. Third, the contractor might have in mind a

---

*Whatever potential savings a repeal of the common wage requirements might bring, they cannot exceed 25% of total construction costs and under that scenario, all construction workers on public works would have to work for free.*

---

renovation project that did not involve significant material or white-collar labor costs. And finally, fourth, contractors when considering *their* labor costs do not typically put their own profit in the denominator as a part of total costs. Indeed, profits are not a cost to the contractor but rather are a return on investment. But to the

owner, the contractor's profit is a cost. So for these four reasons, the *U.S. Census of Construction* data are more reliable than the testimony of individual contractors regarding blue-collar labor costs as a percent of total costs. Indeed, the *Census of Construction* is based on an aggregation of all Indiana contractors' records on costs and markups.

The key point is this: blue-collar labor costs as a percent of total costs have continuously fallen for as long as we have data. **Figure 2** shows that over the 30 years from 1977 to 2007, blue-collar labor costs as a percent of total costs in Indiana have fallen by almost one-third. This is partly due to technological change along with rising blue-collar human-capital and corresponding increased labor productivity. This increased productivity is concentrated in the multiemployer-union sector of construction where apprenticeship training is concentrated. The falling blue-collar labor costs as a percent of total costs is also due to the rise of white-collar employment as some general contractors and other construction contractors assume some of the architectural, engineering and project management activities traditionally performed by others. By 2014, one can fairly assume that blue-collar labor costs have fallen further as a percent of total construction costs in Indiana. The significance of this fact is as follows: repealing common wage regulation based on the assertion that such a repeal will substantially reduce public construction costs is claiming that substantial savings can be squeezed from an ever shrinking piece of the overall construction-cost pie.

## Construction Workers in Common Wage Law States Are More Productive

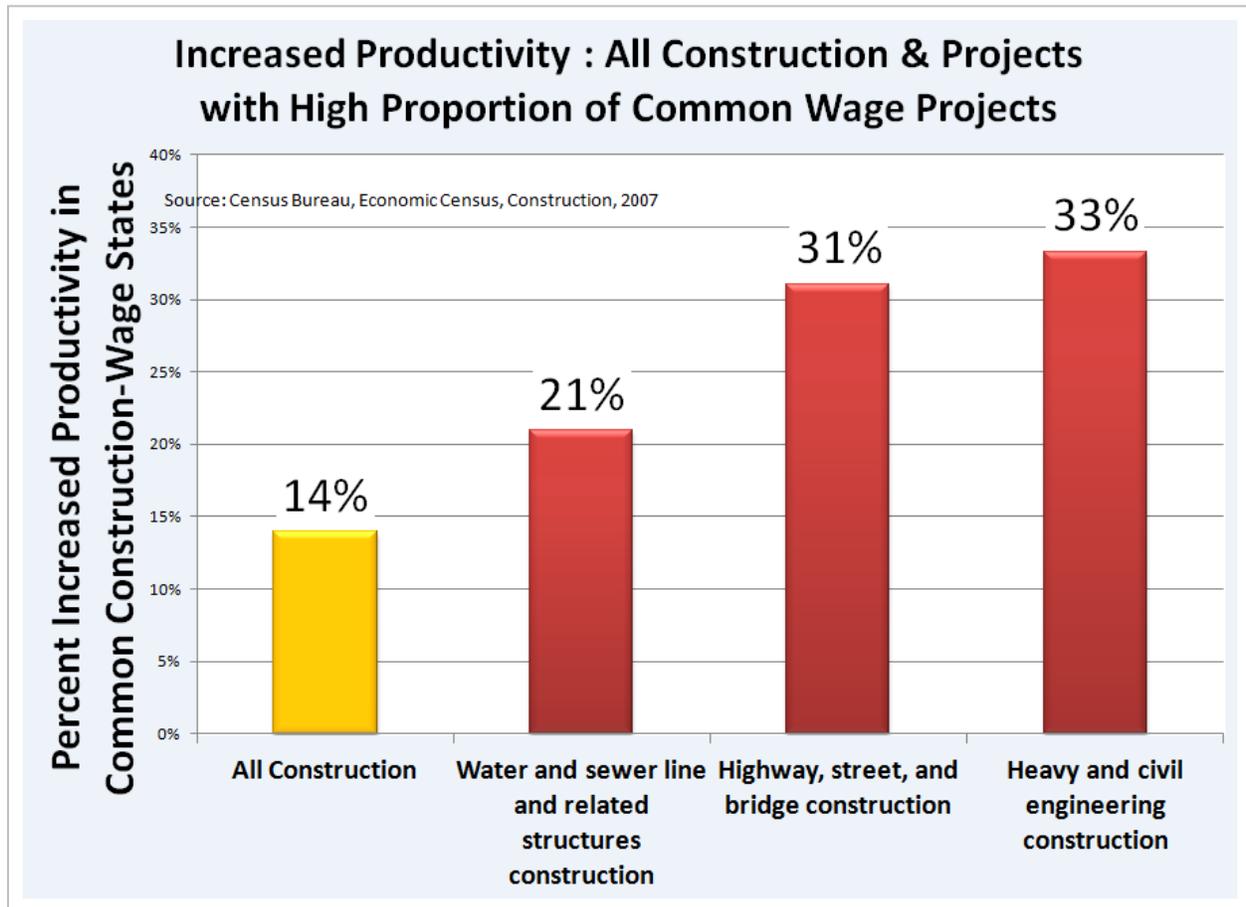
The productivity effects of better wages and benefits associated with common construction-wage laws can be seen quite clearly in the difference in value added per worker in states with common wage laws compared to states without prevailing wage laws. **Figure 3** shows that in states with common construction-wage laws, value added per worker is, on average, 14% higher than in construction for states without common wage laws. Furthermore, if we focus on public works, the value added per worker is even higher where common wage regulations are required. In water, sewer and related construction, value added per worker is 21% higher in states with common wage laws; value added per workers is 31% higher in highway, street and bridge construction where state common wage laws exists; and in other heavy and civil engineering work, value added per worker is 33% higher in states with common wage laws. These higher value-

---

*Productivity gains move through two channels--higher workplace labor productivity and fewer workplace accidents.*

---

added per worker figures reflect both more physical capital invested per worker in common wage law states and more training investment per worker in these common wage law states. Furthermore, better wages and particularly better health insurance and retirement coverage in common wage law states leads to the greater retention of trained and experienced workers. Better trained, better equipped, more experienced construction workers are not only more productive but also safer. So the productivity gains move through two channels--higher workplace labor productivity and fewer workplace accidents.



**Figure 3:** Difference in the value added per construction worker in common construction-wage law-states compared to no law states by all construction and segments where common wage law regulations most often apply

### The Common Wage Law Promotes a Healthier Construction Labor Force

When critics claim that eliminating the common wage will substantially cut public construction costs, they have in mind a simple notion--cutting wages will not affect worker productivity at all. This overlooks the fact that decent compensation including apprenticeship contributions attracts, trains and retains workers willing and able to work harder and smarter. As a result, better paid workers are more productive, safer and healthier.

One example of this comes in the case of health insurance benefits. Research has shown that construction workers with decent health insurance benefits are 40% more likely to stay in construction than workers without health insurance. Research has also shown that construction workers with higher wage rates are more likely to stay within the industry through seasonal and cyclical turbulence and high unemployment.<sup>xi</sup>

Union workers, workers with health insurance and pension benefits, and workers with higher wages are more likely to remain in the construction industry longer both because their better wages, health insurance and pension benefits serve as incentives to remain and their safer work environment and better health treatments will allow them to remain. Middle-class blue-collar construction workers tend to have more experience than poorly-paid, casual workers. And the apprenticeship programs provide a formal method for older workers to transmit their know-how to younger workers. Common wage regulations mean that the bidding the government uses on public works reinforces rather than undercuts this symbiosis between higher wages, higher productivity, safer workplace, healthier lives, retention of experience, transmission of skills and middle class blue collar construction careers.

Thus, because training and experience lead to a more productive and safer construction labor force, common wage regulations that maintain existing local area wages, training contributions, and pension and health insurance contributions provide a set of incentives that make the construction labor force more productive and safer.

### Higher Productivity Promotes Retirement Savings, Health Insurance Coverage and Higher Income

Figure 4 shows that in states with common construction-wage laws compared to states without common construction-wage laws, construction workers are paid 18% more in wages. In states without common-wage laws, where construction workers are paid 18% less, the nonunion sector finds difficulty convincing young American adults that construction provides good careers. Where career opportunities are lacking, young people are less likely to consider construction as a profession and less likely to stay in construction over the long haul.

This means that in states like Indiana with common wage laws and better pay, it is easier to train construction workers and to know that this investment in apprenticeship training will not be lost to the industry and know that trained workers will continue to accumulate additional experience without leaving the industry and know that contractors and owners will benefit in terms of a more productive workforce and higher quality construction projects. Better wages pay for themselves by attracting, training and retaining better workers. Squeezing wages and benefits has the effect of pushing many of the best workers out of construction and attracting less skilled workers many of whom will be less likely to stay in construction long enough to accumulate sufficient experience to do the job safely and correctly.

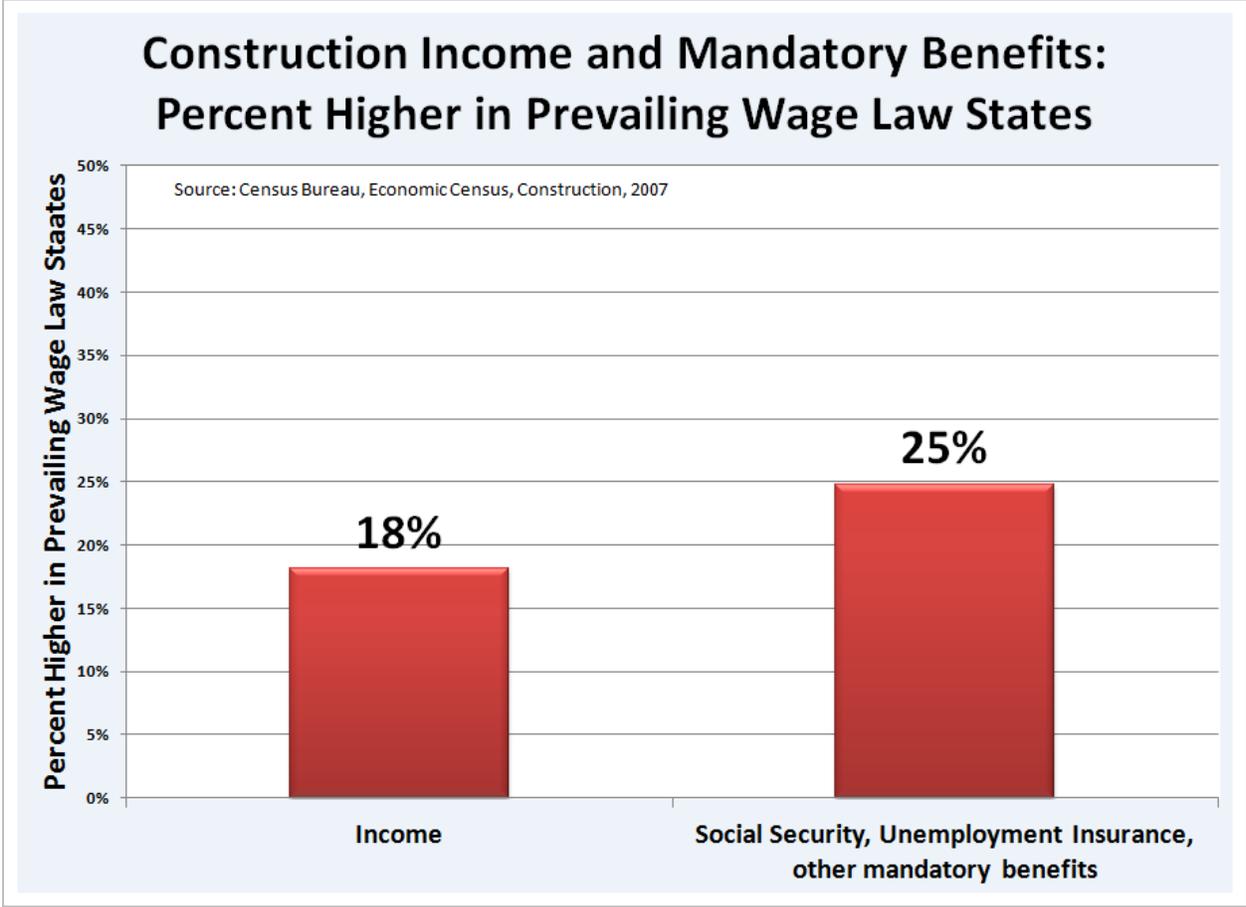
---

*In common wage law states, on and off public works, construction workers are paid 18% more in wages. Contractors contribute 25% more in social security and worker comp premiums and 56% more to training, pension and health insurance. These benefits and insurance premiums will be the first to go after a common wage repeal.*

---

It is not surprising that in states such as Georgia, the construction industry faces a chronic shortage of skilled workers. It is also sad that in states such as Georgia, the political response has been to look to immigration through guest-worker programs rather than to policies such as the common wage. Instead of promoting local human capital formation and experienced local worker

retention through better-paying blue collar construction jobs, critics of the common wage advocate cutting wages on public works by roughly \$20 per hour and thus putting downward pressure on all construction wages in Indiana. The long-run result of eliminating common wage requirements, if Georgia is any indication, is that in the future critics of Indiana's common wage will come back to ask for guest worker programs and public financing to solve the inevitable skills shortages that will follow the elimination of Indiana's common wage law.



**Figure 4:** Comparison of wages, pensions and benefits paid in states with and without common construction-wage laws.

These issues of skills, experience and safety are not considered by those claiming an elimination of the common wage would save 15 to 30 percent on total public construction costs, nor do they consider the size of blue-collar labor costs relative to total construction costs. As a consequence, it is not surprising that when one goes to find a 30-percent savings, or even a 15-percent savings from common wage law repeal, it is not there to behold.

## No Evidence that Repeals Generate Savings

Ohio exempted its public schools from common wage regulations in 1997, yet a 2013 Bowling Green University study found no evidence supporting the claim that this exemption saved taxpayers money. Kentucky applied common wage regulations to its schools in 1996, yet comparing its school construction costs to those of Ohio show no increase of costs in Kentucky relative to Ohio after Kentucky applied common wages to school construction and Ohio exempted its school construction from common wage requirements.

### Bowling Green University Study Finds No Cost Savings from Ohio's School Exemption

Professor Alan Atalah, Dean for Graduate Affairs and graduate coordinator for the Construction Management Department at Bowling Green University<sup>2</sup> has found that in Ohio subsequent to exempting public schools from common wage requirements, union contractors continued to win public school jobs while still paying union wages. Indeed, he found that on average, union bids on public schools in Ohio were slightly lower than nonunion bids, although the difference was close enough to make the results not statistically significant. This is consistent with the findings shown below that Ohio school construction costs did not decline after the state exempted school construction from common wages. The lesson from Ohio is that higher wage rates do not necessarily mean higher construction costs. And claiming that wage rates will fall after repealing common wage laws does not really mean that public construction costs will decline.

---

*“Union contractors-who paid their workers union wages-and non-union contractors-who did not pay prevailing wages bid these [Ohio school] projects....The research indicated that there was no significant difference between the bids/SF for union contractors and the bids/SF for non-union contractors”. -- Alan Atalah, Dean for Graduate Affairs and graduate coordinator for the Construction Management Department at Bowling Green University*

---

In 1997, Ohio exempted public school construction from common wage requirements. In 2013, Professor Alan Atalah published his study the impact of Ohio's common wage exemption on Ohio's public school construction costs. Dr. Atalah has a doctorate in Engineering with a specialization in Civil and Construction Engineering and teaches courses in Estimating and Bidding Strategies. This background led him to frame his study around the bids of union contractors paying what

would have been Ohio's common wage had the exemption not occurred compared to the bids or nonunion contractors on public schools who were free from common wage requirements after the exemption took effect. Professor Atalah summarized the results of his study as follows:

In 1997, the Ohio senate passed Senate Bill 102, which established the Ohio School Facilities Commission as a separate agency to oversee the rebuilding projects of the public schools in Ohio. To lower the construction cost, the bill exempted construction contractors from paying prevailing wages on these projects based on the hypothesis that this exemption would save the Ohio tax payer 10.7%. Many other studies concluded that these savings would range from 1.5 to 26%. The purpose of this research was to investigate this hypothesis through the statistical analysis of 8093 bids received for the schools' construction from the years 2000 through 2007. Union contractors-who paid their workers union wages-and non-union contractors-who did

<sup>2</sup> This author has no relationship to and does not know Professor Atalah other than through his published research.

not pay prevailing wages bid these projects. By comparing the bids/SF [bid price per square foot] from both groups (union and nonunion), the hypothesis was tested. The research indicated that there was no significant difference between the bids/SF for union contractors and the bids/SF for non-union contractors.<sup>xii</sup>

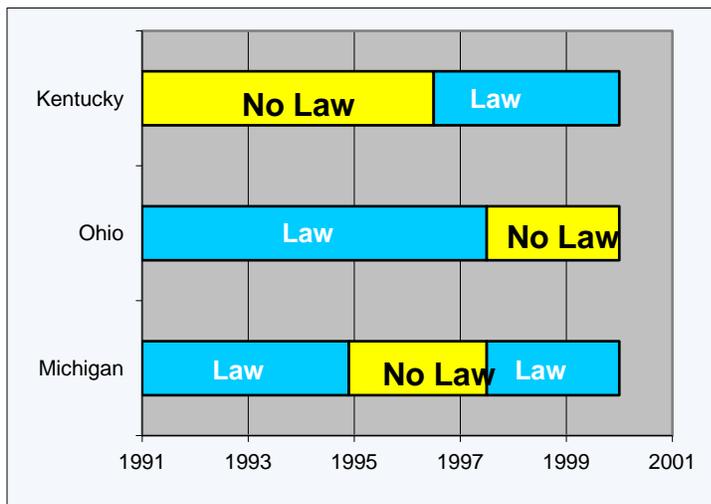
Atalah divided his sample of 8093 bids into two sets—1) all bids except the lowest bid and 2) the lowest bids only. The hypothesis is as follows: if common wage regulations increase bid costs, then eliminating common wages will free nonunion contractors to pay lower wages while union contractors constrained by their collective bargaining agreements will continue to pay wages at or higher than what common wage regulations would have required them to pay. So the question is—did nonunion contractor bids come in lower than union contractor bids on Ohio public schools after common wage requirements were eliminated? **Table 1** shows that on average, both for the lowest bids on projects and for the bids which were not the lowest, nonunion contractors bid higher. However, from a statistical standpoint, the difference between union and nonunion contractor bids on Ohio public schools was insignificant. Thus, Dr. Atalah rejected the hypothesis that the elimination of common wage requirements on Ohio public schools led to lower bids.

**TABLE 1: DIFFERENCES IN THE AVERAGE BID PRICE PER SQUARE FOOT FOR OHIO PUBLIC SCHOOLS BY UNION AND NONUNION CONTRACTOR, 2000 TO 2007<sup>xiii</sup>**

	Union / Non-Union Contractor	Number of Bids on Public School Projects	Average Bid Cost per Square Foot	Standard Deviation	Probability You Would Be Wrong if You Thought the Averages Were Different	Accept / Reject Hypothesis that Average Squarefoot Bid Costs Are Different
All Bids Except Lowest	Union	2,307	\$19.22	\$25.31	0.1936	Reject
	Non-union	4,286	\$20.49	\$43.03		
Lowest Bids	Union	547	\$16.99	\$23.54	0.4199	Reject
	Non-union	949	\$18.49	\$39.57		

### A Natural Experiment: School Construction Costs in Kentucky, Ohio and Michigan

In the 1990s, a natural experiment occurred that can shed further light on the question: how do common wage regulations in general, and the common wage in particular affect public construction costs? In 1996, Kentucky went



**FIGURE 5: PREVAILING WAGE POLICY BY STATE, KENTUCKY, OHIO, MICHIGAN, 1991-2000**

from not having a common wage law on public schools to implementing common wages on all public school construction. In 1997, Ohio went from having common wage regulations apply to public schools to removing the law. Due to a court decision, Michigan suspended its common wage regulations on schools in late 1994 only to re-implement the regulation in the middle of 1997. So we have a natural experiment that employs both a before-and-after comparison in three adjoining states, and a here-and-there comparison of new school construction costs in each state. Furthermore, the type of construction, schools, is a relatively homogeneous set of construction projects and the time period is close together. So this

natural experiment provides a close apples-to-apples comparison of public school construction with and without common wage regulations. Figure 5 shows the timing in the 1990s when each state had and did not have common wage regulations in force.

### No Cost Savings when Law Was Suspended or Removed

Using FW Dodge data covering 391 new schools constructed in Kentucky, Ohio and Michigan over the period 1992 to 2000, analysis done by this author in 2001 showed that there was no measurable, statistically significant difference in the total cost of construction associated with the removal of common wage regulations.<sup>xiv</sup>

TABLE 2: DESCRIPTION OF THE NEW SCHOOLS USED IN THE STUDY

Characteristic of Schools in Study	
Number of New Schools in Study	391
Average Square Foot Size of the School	86,415
Average Total Cost of the Project (Year 2000 dollars)	\$8,483,937
Percent of All Schools	
Michigan	38%
Ohio	36%
Kentucky	26%
Percent of School with a Gym-Pool Facility	7%
Percent of Urban Schools	32%
Percent of Schools Built Under Prevailing Wages	49%

Table 2 shows that of the 391 new schools with an average size of 86,415 feet, almost half (49%) were built under common wages and half (51%) were not. Michigan, which had common wages, dropped them and then took them up again, accounted for 38% of the schools in the sample. Ohio accounted for 36% and Kentucky accounted for 26% of the schools.

Thirty-two percent of the schools were in urban areas while the rest were rural. All the monetary figures in the study were normalized in the year 2000 dollars and the average project cost was almost \$8.5 million. Before looking at all three states, we will start by looking at the adjacent states of Kentucky and Ohio.

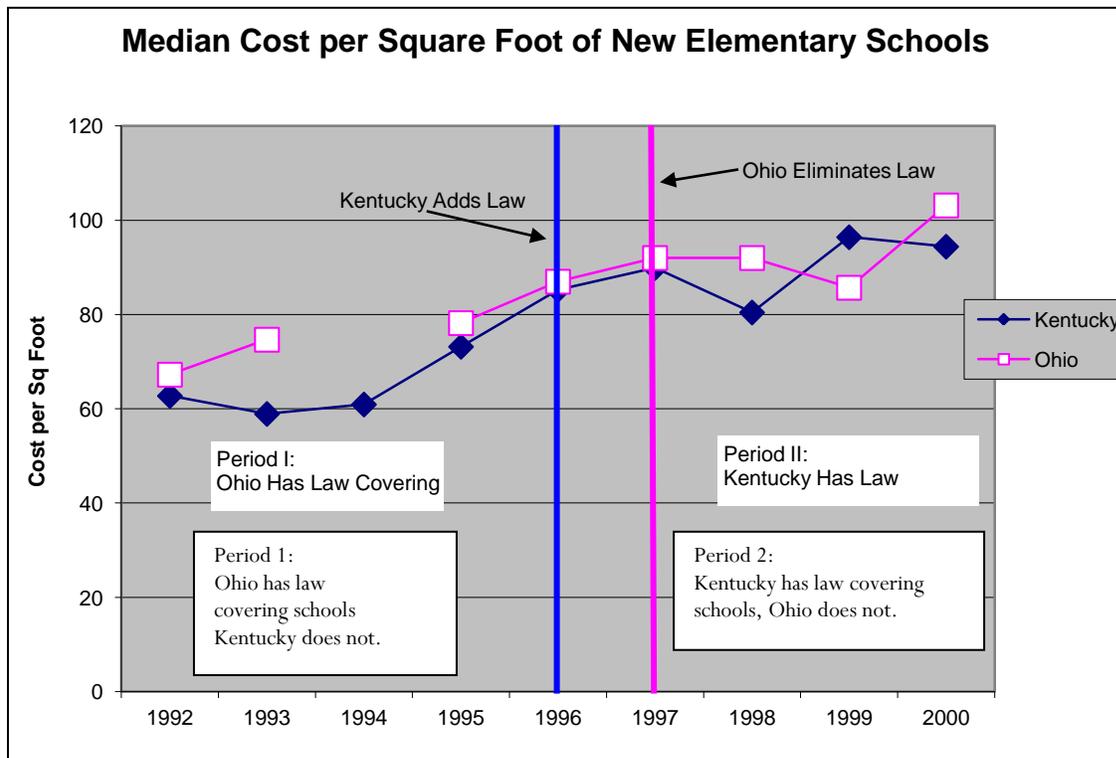


FIGURE 6: MEDIAN SQUARE FOOT COST OF NEW ELEMENTARY SCHOOLS BEFORE AND AFTER LAW CHANGES IN KENTUCKY AND OHIO, 1992-2000

A simple comparison in **Figure 6** of the median square foot cost of new school construction based on “start costs” (or accepted bid price) in Kentucky and Ohio over the 1992 to 2000 time period shows no discernable cost effect either of Kentucky implementing common wages in 1996 nor Ohio removing common wages for schools in 1997.<sup>xv</sup> **Table 3** shows the mean square foot cost of rural schools in periods in which there was no law (\$96) compared to when there was a law (\$98). **Table 3** also shows for urban schools the mean square foot cost when there was no law (\$114) and when there was a law (\$114). **In both cases there is no statistically significant difference in these average square foot costs.**

**TABLE 3: REAL, INFLATION ADJUSTED SQUARE-FOOT COST OF NEW PUBLIC SCHOOL CONSTRUCTION IN KENTUCKY, OHIO AND MICHIGAN 1992-2000**

New Public Schools							
Real (Inflation Adjusted) Square Foot Cost							
	a	b	c	d	e	f	g
1	Rural Schools			Urban Schools			
2	Mean	Standard Deviation	Number	Mean	Standard Deviation	Number	
3	No Law	\$96	\$26	161	\$114	\$36	40
4	Law	\$98	\$24	104	\$114	\$34	86
5	t-test	-0.76			0.05		
6	Statistically Significant Difference?	No			No		

This 2001 *Kentucky-Ohio-Michigan Study* goes on to apply a more sophisticated econometric model to these 391 new schools finding that there were statistically significant effects on total costs if ground were broken on a project at the onset of winter, and that rural schools were statistically less expensive compared to urban schools, and that Kentucky schools were less expensive compared to Ohio and Michigan, and if a school had a pool it was more expensive than if it did not. However, *there were no measurably or statistically significant effects of common wages on total start costs.*

### Expanded Research Confirmed the Results of this Natural Experiment

In subsequent peer-reviewed<sup>3</sup> research on more than 4000 new schools built nationwide published in the *Journal of Education Finance*,<sup>xvi</sup> the results of the *Kentucky-Ohio-Michigan Study* were confirmed. *There was no measurably or statistically significant effect on start costs associated with the presence of common wage regulations.* Additionally, it was found that substantial savings on school construction could be found if schools were built counter-cyclically. By avoiding building into what *Engineering News Record* calls “cost storms” when construction is booming, there is a measurably large and statistically significant savings that can accrue to the public. Such counter-cyclical spending can also benefit the construction industry and the local community by dampening the chronic boom-bust cycle of construction. Those who wish to save public construction costs would also be well advised to avoid breaking ground as winter hits. Repealing common wages will result in lower wages, lower benefits, less training and lower productivity, but repeal does not assure substantial savings on total construction costs.

<sup>3</sup> Peer-review refers to the academic process whereby research proposed for publication is sent to a set of independent experts in the field for review. The research is only published after it passes the evaluation of these reviewers and the journal editor.

## Conclusions

Government is a major player in the construction industry. On average, in Indiana about 20% of all construction in any year is federal, state or local construction. Through common wage policies, government can support apprenticeship training in construction, promote the creation and retention of local skilled and experienced blue collar workers, and help foster middle class construction careers in Indiana for the next generation of construction workers from Indiana. Those who say that by driving down construction wages by \$20 per hour on public works, the taxpayer can save 15% to 30% on total construction costs are just plain wrong. They are wrong because blue-collar labor costs counting benefits and payroll taxes are just 25% of total construction costs. If they were right, then everyone on Indiana public construction would have to work for free. In the closest we have to a natural experiment in the mid-1990s when Ohio exempted its public schools from common wage requirements, Kentucky applied common wages to its public schools and due to a court case, Michigan removed and then reapplied common wage requirements to its public schools, no taxpayer savings from the suspension or exemption of common wages could be found. Furthermore, in the recent Bowling Green University study looking at a sample of over 8000 bids on Ohio public schools, no savings could be found when looking at public school construction in Ohio over the first decade of this century due to common wage exemption in 1997. Indiana's common wage law serves a purpose. It helps promote training and skill formation and supports middle class blue-collar families. Eliminating common wage protections will lead Indiana in the opposite direction towards the decline of apprenticeship training, the rise of low-wage, no-benefit jobs, the emergence of chronic skill shortages and the call for guest worker programs to provide a fix for problems that under common wage regulations do not exist.

## Endnotes

<sup>i</sup> <http://www.certifiedelectrician.com/apprenticeship/>

<sup>ii</sup> <http://www.cpwr.com/sites/default/files/publications/CB%20page%2038.pdf>

<sup>iii</sup> Christopher A. Janicak, "Occupational Fatalities Involving Hispanic Workers in the Construction Industry," *Open Journal of Safety Science and Technology*, 2013, 3, 1-7.

<sup>iv</sup> [http://www.abcga.org/Education/Future\\_Workorce.aspx](http://www.abcga.org/Education/Future_Workorce.aspx)

<sup>v</sup> [http://www.abcga.org/Education/Future\\_Workorce.aspx](http://www.abcga.org/Education/Future_Workorce.aspx)

<sup>vi</sup> [http://www.abcga.org/Education/Future\\_Workorce.aspx](http://www.abcga.org/Education/Future_Workorce.aspx)

<sup>vii</sup> [http://www.cefga.org/documents/CEFGAarticleforTGC\\_04182013.pdf](http://www.cefga.org/documents/CEFGAarticleforTGC_04182013.pdf)

<sup>viii</sup> <http://www.abc.org/NewsMedia/Newsline/tabid/143/entryid/870/abc-outlines-features-of-a-successful-guestworker-program.aspx>

<sup>ix</sup> For instance, in 2007: J.R. Gaylor, president/CEO of Associated Builders & Contractors of Indiana, talks about the wages for builders on public projects. "(Fort Wayne Community Schools) could save 10 to 15 percent on the project, maybe even up to 30 percent," said J.R. Gaylor, president/CEO of Associated Builders & Contractors (ABC) of Indiana, which represents about 500 nonunion contractors statewide. Again in 2007: The ABC president [J.R. Gaylor, the organization's president and CEO] said public project costs could be cut by 30 percent with non-union rates. In 2010: "...the ABC's Ken Neumeister [claims] that using lower "merit-shop" wages can save 30 percent on a labor-intensive project like this one." Again in 2010: "the ABC...claims merit shop wages can reduce the cost of labor-intensive projects by up to 30 percent." In 2012: "By a 3-2 vote, members of the FWCS "common wage" committee adopted union-backed minimum wages on the \$4.67 million in construction contracts the district expects to award in the next three months – wages non-union firms insist could inflate the cost to taxpayers by 15 to 30 percent compared to the pay scale proposed by the Associated Builders & Contractors." In 2013: "...the Association of Builders and Contractors, which represents non-union merit shops" ... can cut costs by between 15 and 30 percent, according to spokesman Ken Neumeister ." Again in 2013: "...the Associated Builders and Contractors (ABC)...claims its non-union scale can reduce costs by between 15 and 30 percent."

### Sources:

Karen Francisco, "Paycheck politics: How government committees determine worker wages on public projects," *Journal Gazette*, August 5, 2007

<http://www.journalgazette.net/apps/pbcs.dll/article?AID=/20070805/EDIT10/708050320&SearchID=73289538425142>

Kevin Leininger, "'Common-wage' law is a license for local governments to waste money: Misguided state statute is costing city taxpayers dearly," *Fort Wayne News Sentinel*, August 12, 2010 <http://news-sentinel.com/apps/pbcs.dll/article?AID=/20100812/NEWS/8120314>

Kevin Leininger, "Wage law is soaking indifferent taxpayers, Let market decide bids for public projects." *Fort Wayne News Sentinel*, September 16, 2010 <http://www.news-sentinel.com/apps/pbcs.dll/article?AID=/20100916/COL01/309169994>

"Editorial Argues Fort Wayne Community Schools' Common Wage Vote is Poor Stewardship of Taxpayer Dollars" *Fort Wayne News and Sentinel*" *Indiana Tax Reporter*, Monday, November 19, 2012 <http://indianapropertytaxreporter.blogspot.com/2012/11/editorial-argues-fort-wayne-community.html>

"News-Sentinel Editorial Argues if Fort Wayne Wants More Income Tax Dollars, It Should Use Them Wisely," *Fort Wayne News Sentinel* <http://indianapropertytaxreporter.blogspot.com/2013/03/news-sentinel-editorial-argues-if-fort.html>

Kevin Leininger, "Council wants a say in how much city pays for construction contracts Ordinance would give body one of two 'common wage' appointments now made by mayor," *Fort Wayne News Sentinel*, June 7, 2013 <http://www.newssentinel.com/apps/pbcs.dll/article?AID=/20130607/NEWS/130609708/1005/SPORTS>

---

EDITORIAL, "FWCS isn't taking very good care of taxpayers' money," Fort Wayne News Sentinel, Friday, February 15, 2013 <http://www.news-sentinel.com/article/2013130219720>

Cindy Larson, " Council examines common wage issue," Fort Wayne News Sentinel, May. 01, 2013 <http://www.fortwayne.com/apps/pbcs.dll/article?AID=/20130501/NEWS/320128355>

<sup>x</sup> Cindy Larson, " Council examines common wage issue," *Fort Wayne News Sentinel*, . May. 01, 2013 <http://www.fortwayne.com/apps/pbcs.dll/article?AID=/20130501/NEWS/320128355> (accessed August 6, 2014)

<sup>xi</sup> JaeWhan Kim and Peter Philips, "Health Insurance and Worker Retention in the Construction Industry," *Journal of Labor Research*, 2010

<sup>xii</sup> Atalah, Alan, "Comparison of Union and Non-Union Bids on Ohio School Facilities Commission Construction Projects," *International Journal of Economics and Management Engineering*, Mar. 2013, Vol. 3 Iss. 1, pp. 29-35.

<sup>xiii</sup> Atalah, Alan, "Comparison of Union and Non-Union Bids on Ohio School Facilities Commission Construction Projects," *International Journal of Economics and Management Engineering*, Mar. 2013, Vol. 3 Iss. 1, Tables III and IV, p. 33.

<sup>xiv</sup> Peter Philips, "A Comparison of Public School Construction Costs In Three Midwestern States that Have Changed Their Prevailing Wage Laws in the 1990s," University of Utah, 2001. (Hereinafter the *Kentucky-Ohio-Michigan Study*).

<sup>xv</sup> "Start costs" refer to the accepted bid price and do not include change orders, cost overruns, downstream maintenance costs, scheduling problems or other auxiliary aspects of construction costs.

<sup>xvi</sup> Hamid Azari-Rad, Peter Philips, and Mark Prus, "Making Hay When It Rains: The Effect Prevailing Wage Regulations, Scale Economies, Seasonal, Cyclical And Local Business Patterns Have On School Construction Costs," *Journal of Education Finance*, 27 (SPRING 2002). 997-1012. Similar results were found by the same authors in "State Prevailing Wage Laws and School Construction Costs," *Industrial Relations*, Vol. 42, No. 3 (July 2003). Using Canadian data for British Columbia Cihan Bilginsoy and Peter Philips again found no measurably or statistically significant effect of the implementation of British Columbia's Fair Wage law: "Prevailing Wage Regulations and School Construction Costs: Evidence From British Columbia," *Journal of Education Finance* v25 no3 pp. 415-31 Winter 2000. The *Journal of Education Finance* is published from the University of Arkansas and is "The leading journal in the field of education finance" *Industrial Relation* is published by the University of California and is one of the oldest labor economics journals in the US. Both journals accept articles for publication only after a rigorous blind reviewing process by experts in the field.