

Quality Construction— Strong Communities:

The Effect of Prevailing Wage Regulation on the Construction Industry in Iowa

by Peter Philips, Ph.D.

Professor of Economics, University of Utah



Table of Contents

Executive Summary: (p. 3)

Biography of Author: (p. 10)

Chapter 1: (p. 11)

Prevailing Wage Regulations Increase Training,
Productivity and Wages

Chapter 2: (p. 20)

Prevailing Wages Do Not Raise Costs

Chapter 3: (p. 29)

Prevailing Wage Regulations Encourage Quality
Construction

Chapter 4: (p. 33)

Prevailing Wages Encourage a Safer Workplace

Chapter 5: (p. 38)

Prevailing Wage Regulations Promote Health
Insurance Coverage while discouraging Cheating on
Payroll Taxes

Chapter 6: (p. 45)

Prevailing Wage Regulations Come from a Family of
Laws Designed to Promote High-Skill/High Wage
Development

Appendix: (p. 54)

Race and Davis Bacon

Endnotes: (p. 57)

Executive Summary

Prevailing Wage Laws and Apprenticeship Training

As we will see in this report, prevailing wage laws help construction prepare for the future as it builds in the present. These regulations do so, in part, by encouraging collective bargaining which in turn encourages apprenticeship training. In Iowa, on average, jointly run, union-management apprenticeship programs account for almost 70% of all construction apprentices trained in the state. On average, these union apprentices receive about \$3700 in scholarships plus they earn while they learn. However, Iowa could do better.

In the 31 prevailing wage law states, there is a higher rate of apprenticeship training in construction, and those who enter apprenticeship training are more likely to complete their programs. Prevailing wage laws encourage apprenticeship training by requiring that contractors who bid on public works include in the cost of their bid funds for training. This helps nonunion contractors train because these contractors do not have the discipline created by a collectively bargained contract. Collective bargaining requires that union contractors pay a set amount into a training fund for every hour worked by any of their blue collar workers. Without prevailing wage requirements, nonunion contractors may cut their bids by jettisoning training costs. In the four years after Kansas repealed its state prevailing wage law in 1987, apprenticeship training fell by 38% while minority apprenticeship training fell by 54%. This “screw the future” for the sake of today—embedded in cutthroat bidding strategies—weakens the industry’s ability to build the quality, high tech infrastructure needed in today’s globally competitive economy while, at the same time, failure to train makes an inherently dangerous industry, deadly.

Training Leads to a More Productive and Safer Workforce

Construction workers in prevailing wage law states produce 13% to 15% more value added from their work compared to workers in states without prevailing wage laws. Furthermore, the fatality rate from construction work-site accidents is 25% lower in states with prevailing wage laws and 35% lower in states with the strongest and best-enforced prevailing wage laws. This really is not surprising. While construction is inherently dangerous, the vast majority

of fatalities in the industry come from poor training, inexperience and/or the inability of workers to insist that their contractors allow them to work safely. The vast majority of construction fatalities are associated with the violation of one or more OSHA standards. Prevailing wage laws encourage safety by encouraging training, and creating wages and benefits that allow workers to make a career out of construction which encourages experience. Prevailing wage laws also contribute to a sense of regulation and oversight that discourages cutting corners on safety and violating safety rules.

Training Also Leads to Higher Quality Construction and Lower Downstream Maintenance Costs

The quality of construction begins with the owner who lays out what he or she wants. Good architectural work and solid engineering are essential to quality construction. But the third leg of the stool is a skilled labor force with a craft understanding of what needs to be done and a work ethic to see that things are done right. This report provides a case study of the Iowa Old Capitol Dome fire where a contractor from a non-prevailing-wage-law state (South Dakota) was the lowest bidder on the contract to remove asbestos and paint from the original Iowa state capitol. Having bid lowest, the contractor decided that the fastest and cheapest way to remove the lead paint and asbestos was to use open flame torches and other heating devices, and put these in the hands of untrained workers. The owner (the University of Iowa) had expressly forbid the use of these heat-based techniques. Another contractor from Illinois (a prevailing wage law state) had expressly warned that the South Dakota contractor was using cheap and inappropriate techniques and might well burn down Old Cap. Inspectors had told the subcontractor's workers to stop using these dangerous techniques but within 30 minutes of these warnings, the cheap and dangerous heat-removal techniques were up and running again. The contractor declined to try other removal techniques suggested by the Illinois contractor and admitted to the Illinois contractor that he had no experience in this kind of asbestos removal. Subsequent to the fire, it was discovered that the contractor had a long history of OSHA violations. The \$105,876 contract ended up creating millions of dollars in measurable damages. Furthermore, the cost to the workers themselves (and others) created by exposure to lead fumes and dried, airborne asbestos is a real, but an unmeasured aspect of this tragic fiasco.

Prevailing wage regulations forestall penny-wise-pound-foolish mistakes. These regulations force contractors to compete based on who can assemble and best manage a skilled and experienced workforce, a workforce that knows the dangers of asbestos and lead fumes, and knows the dangers of using open-flamed torches on wooden-framed structures. Architects, engineers and inspectors are all key to quality, maintenance-free construction. But the rubber meets the road when the construction worker actually puts in place the dreams of the owner. Skilled, experienced, career craft construction workers are the best insurance that the job is done right the first time.

Cheap Labor Is Not Always the Cheapest Way to Go

Opponents of prevailing wage laws say that these laws significantly increase public construction costs—often by 25% or more. Conceptually, these are doubtful claims. Labor costs as a percent of total costs (including benefits and payroll taxes) are, on average, only about 25% of total construction costs. So if you are going to save 25% on total costs by eliminating prevailing wage laws, then everyone would have to work for free. But this conceptual mistake is rooted in a deeper analytical mistake. Opponents of prevailing wage laws assume that cheap labor and low skilled labor is just as productive as more expensive, skilled workers. This is just not true. In any case, the proof is in the pudding.

In the middle and late 1990s, there was a natural experiment. A court in Michigan suspended that state's prevailing wage law for almost 3 years (1995-1997). Kentucky passed a prevailing wage law for school construction in 1996, and Ohio repealed its prevailing wage law for public school construction in 1997. So in three adjacent states, one state added the law; one state removed the law; and one state suspended the law and then reapplied it. This is as close to a controlled experiment as you can have in the social sciences. A study of the construction of 391 schools in these three states, half built under prevailing wage laws and half not, found no meaningful or statistically significant difference in the cost of construction based on regulation. These, of course, were initial construction costs; no study of the downstream maintenance costs of these buildings has been conducted. But it stands to reason: if you can build a school with skilled labor at basically the same start-cost, then if downstream maintenance costs are a concern, why would you choose to build with unskilled labor instead?

Prevailing Wage Regulations Create an Environment Where Cheating Is Discouraged in All Aspects of Construction

Under the pressure of cutthroat competition, contractors are tempted to cheat owners and the government in lots of ways. Safety is often first to go. It is faster to dig a trench without shoring or sloping it to prevent cave-ins. It is cheaper to dig sewer lines with untrained workers who are unaware of the dangers of poisonous gas and who do not wear respirators or use ventilation systems. It is easier to roof schools without providing your workers with harnesses or requiring that they tie off. OSHA inspectors would stop all this nonsense, but OSHA inspections are too few to always stop these strategies.

Besides safety, contractors are also tempted to pay their workers under-the-table, dodging payroll taxes including worker comp premiums which can run as high as 20% of payroll costs in construction. Some contractors are further tempted to declare their workers independent subcontractors even though these workers do not bid on the job, have no profit at risk, work under the direct supervision of the real contractor and often wear hard hats with the real contractor's logo on it. These bogus subcontractors allow the real contractor to dodge paying workers comp and social security and unemployment insurance.

Prevailing wage laws discourage safety violations, under-the-table cash payments, and bogus subcontracting strategies. Because they know OSHA requirements, skilled workers become the first line of defense in OSHA enforcement. Prevailing wage certified payrolls create an atmosphere of regulation that discourages payroll scams and encourages the reporting of illegal behavior. There are more than 2500 bogus subcontractors working in Iowa costing the state substantially in lost workers compensation and unemployment insurance taxes. Nationally, states without prevailing wage laws systematically have more bogus subcontractors. Prevailing wage laws create an atmosphere of lawfulness on construction work sites. Black market behavior declines. Payroll taxes are paid. OSHA rules are followed more closely. And public bidding process stops rewarding cheaters.

Prevailing Wage Laws Increase Construction Workers Wages and Benefits

On average, construction workers in prevailing wage law states earn 15% more in wages. Contractors in prevailing wage law states pay 25% more in social security, workers comp and unemployment insurance premiums. And—this is important—construction workers in prevailing wage law states receive 63% more in health insurance and pension contributions.

Cutthroat competition rewards the contractor who can cut his or her costs to the bone. In contrast, healthy competition stimulates contractors to better manage their crews, better schedule the job, better marshal equipment and better handle materials. Cutthroat competition encourages contractors to throw the baby out with the bathwater. Wages get cut, but taxes get cut more and benefits get cut the most. In short, the long term maintenance costs of the industry get tossed in order to win this job today.

The long term needs of the construction industry entail training the next generation of workers, keeping this generation healthy and providing for the old age of the last generation of workers. Prevailing wage regulations force bidders on public works to include all these costs in their bids. Cutthroat competition, by rewarding the job to the lowest bidder (with no regard for training, taxes or benefits), encourages contractors to forsake the future and forget the past in order to shave their bid in the present. Prevailing wage regulations, by considering the future and remembering the past, allows for the creation of construction careers and the retention of experienced workers in an inherently unstable and casual industry.

This means that the construction worker that lives next to you can afford health insurance for his or her kids. That construction worker can afford to buy rather than rent. That construction worker can afford to pay his or her taxes. In short, prevailing wage regulations encourages the creation of a skilled work force that can afford to be members of the middle class with all that means for social cohesion and economic growth. This benefits construction and it benefits the communities in which construction workers live.

Prevailing Wage Laws Come from a Long Line of Regulations Designed to Promote High-Skilled and High-Wage Development

Prevailing wage laws began at the state level in Kansas in 1891 with eventually 41 states adopting these regulations. (Only Iowa, North and South Dakota, Mississippi, Georgia, North and South Carolina, Virginia and Vermont have never had a state prevailing wage law). State prevailing wage laws originally came in a package of Progressive Era labor laws that included child labor laws, free-and-compulsory public schooling, and workers compensation insurance. The Davis-Bacon Act (passed by a Republican Congress and signed by Herbert Hoover in 1931) began a legislative initiative which was extended during the New Deal that resulted in a federal minimum wage law, fair labor standards and social security. All of these laws had as their purpose goading the labor market into operating for the present with a mind to the future. This meant putting children in school where they could learn and become more productive citizens rather than sending them off to work at dead-end jobs. This meant providing workers with insurance against injury and unemployment. It meant providing for workers in their old age and setting basic labor standards with respect to wages and hours of work. Prevailing wage laws ask government to think about the future of its citizens when it builds for the future. These laws ask government to help construction become and remain a high-skilled enterprise. These laws ask government to be a good employer and not participate in cutthroat corner-cutting that drives down labor standards and puts worker safety at risk. These laws ask government to pay prevailing wages (and benefits) when the public builds a school or a road so that local labor standards are maintained and not undercut. In short, prevailing wage laws are neither new nor radical. They are a time-tested means to help local economies develop a future that we would all want to live in.

Critics Raise a Red Herring

Critics of prevailing wage laws claim that these laws discriminate against low-wage, low-skilled, minority workers. They also claim that the Davis-Bacon Act is a remnant of Jim Crow laws. The element of truth in these criticisms is the fact that prevailing wage laws do encourage the hiring of skilled local workers. But prevailing wage laws also encourage making young people into

skilled construction workers who can qualify for these jobs. These criticisms assume that minorities cannot become skilled. This is just plain false. Not only do apprenticeship programs actively recruit and train minorities, but construction apprenticeship programs are a key channel through which high school graduates can acquire the skills needed to earn a decent living with family-friendly benefits. The recently instituted Helmets to Hard Hats program has institutionalized a road for service men and women, many of whom are minorities, to access union apprenticeship programs upon their return from the military. By encouraging apprenticeship training, prevailing wage regulations create a journey from school and the military to work in construction that leads not just to a job, but to a good job and career.

As for the claim that the Davis Bacon Act was a Jim Crow law—advocates of this position had their day in court and they lost. In *Brazier Construction v. Elaine Chao*, Secretary of the Department of Labor (2002), U.S. District Court for the District of Columbia, Judge William B. Bryant (who himself is an African American), said in his decision rejecting the claim that Davis Bacon was a Jim Crow law:

Americans of all races were in need of aid from the government during the Great Depression. Congress enacted the DBA [Davis Bacon Act] to assure workers a fair wage, provide local contractors a fair opportunity to compete for local government construction contracts, and to preserve its own ability to distribute employment and federal money equitably through public works projects.

Judge Bryant rejected plaintiff's claim that Davis Bacon was a Jim Crow law and plaintiffs chose not to appeal his decision.

Peter Philips received his B.A from Pomona College (1970) and his Ph.D. from Stanford University (1980). He is a Professor of Economics and the senior labor economist at the University of Utah. Philips has published widely on the canning and construction industries in journals such as *Industrial and Labor Relations Review*, *Industrial Relations*, *Business History*, the *Journal of Economic History*, *Historical Methods*, *The Journal of Economic*



Literature, *The Journal of Education Finance*, *The Journal of Labor Research*, the *Cambridge Journal of Economics*, the *Journal of Industrial Medicine*, the *Journal of Occupational and Environmental Medicine* and the *Industrial Relations Research Association Annual*. Philips is a respected expert on prevailing wage laws and on employment, training, wages, benefits and safety in the construction industry. He has served as an expert on the Davis-Bacon Act for the U.S. Labor Department and the U.S. Justice Department. He has testified before many state legislatures on construction regulation issues. His most recent books, *Building Chaos: an International Comparison of Deregulation in the Construction Industry* (Routledge Press, 2003) and *The Economics of Prevailing Wage Laws* (Ashgate Press 2005) analyze the effects of regulations on the construction industry both within the United States and internationally. His most recent journal articles focus on school construction costs, construction labor market regulation, fatalities in the construction workplace and the effect of subcontracting on construction safety. Philips' mother's family comes from Waterloo, Iowa and his father's family come from Illinois. Philips' parents met at the University of Iowa at the end of World War II and moved to California upon his father's graduation as a civil engineer. Philips is married with two children (one recently deceased). In the summers, Philips is a volunteer ranger in the Grand Tetons National Park. Philips may be reached at philips@economics.utah.edu. Philips maintains a webpage at <http://www.econ.utah.edu/~philips/soccer2/index.htm>

Chapter 1:

Prevailing Wage Regulations Increase Training, Productivity and Wages



Electrician apprentices go to school and learn on-the-job for five years.

In construction, helpers help—and apprentices learn. The apprenticeship system in construction is the largest, privately financed, post-secondary education system in the United States. In Iowa, almost 70% of all construction apprentices are enrolled in union-contractor jointly-managed apprenticeship programs. As we shall see below, in Iowa, apprentices in these jointly-managed, collectively-bargained, construction apprenticeship programs receive, on average, around \$3700 per year in scholarships to go through their apprenticeship programs. Plus, they receive pay while they are working. So for union apprentices,

apprenticeship training costs are minimal. There are no big student loans to pay off. And upon completion, they have the skills to allow them to earn a middle class living with decent benefits for themselves and their families. Depending on the construction trade, apprentices go to school while obtaining on-the-job training for a period ranging from two to five years. In many cases, primarily in the union sector, apprentices are rotated between employers to become exposed to a variety of tasks and skills. Apprenticeship training is formal, monitored, measured and tested. On prevailing wage jobs, all novice workers must be enrolled in a valid, formal apprenticeship program. They cannot simply be helpers in dead-end unskilled jobs leading nowhere. As we shall see in this chapter, prevailing wage regulations encourage increases in apprenticeship training by both union and nonunion contractors. An example of good apprenticeship training is found in Cedar Rapids.

CEDAR RAPIDS -- The apprenticeship program for union plumbers throughout Eastern Iowa will show off a new \$4 million training facility to the public Friday. The state-of-the-art training facility at 5101 J St. SW offers hands-on training opportunities in ever-evolving plumbing technologies,With 50,000 square feet of space, the facility is more than four times as large as the union's previous apprentice training facility....Plumbers who go through the apprenticeship program learn to master a broad range of skills, from powerhouse piping to refrigeration. The skill base has become more demanding with the arrival of digital electronic valves and the growing sophistication of refrigeration systems....The facilities include five classrooms and laboratories....Separate from the main building of the facility is a working "house," the Plumbers Training Technology Center. Apprentices use the house to demonstrate their abilities installing plumbing and fixtures in an actual residential setting, including the plumbing and ventilation stack required with bathrooms on multiple floors.

About 200 apprentices from Eastern Iowa participate in the five-year program, interspersing sessions of intensive training with regular work as apprentices in business.¹

Currently, at the end of 2006, there are 187 registered plumbing apprentices at this Des Moines Plumbers and Steamfitters Local # 33's training facility. This year's annual expense is \$1,284,022 and the average cost of training paid for by the joint labor-management training committee is \$6,866 per apprentice. In the unionized sector of construction, contractors and the union collectively bargain over an apprenticeship contribution rate. After settling on an amount (say 50 cents per hour), each contractor then contributes 50 cents for each and every hour that each and every one of his (or her) journeyman or apprentice blue collar workers work. In effect, the union contractors and the pool of trained journeymen together pay for the training of the next generation of workers. In this case, plumbing contractors and journeymen plumbers together pay almost \$7,000 per year putting almost 200 apprentice plumbers through school. And this is not just true for plumbing:

CLIVE, Iowa -- Chris Richards came to suburban Des Moines to become an apprentice union electrician. "Everybody is always going to need electricity," says Richards, 29, of Sioux City. Skilled jobs requiring apprenticeships offer an alternative to careers that require a college degree and to low-paying jobs that require little or no training beyond high school....Among the benefits: Working a paying job while learning a trade; minimal costs for the apprentice; no big student loans to pay off; a job already in hand when training is done.²

There are two union electrician apprenticeship programs in Iowa—one in Clive and the other in Cedar Rapids. Together they currently enroll 439 electrician apprentices and spend \$2,829 per apprentice putting these young people through school. Excluding the large union-carpenters apprenticeship program, jointly managed and collectively bargained apprenticeship programs in Iowa enroll about 1000 apprentices per year and spend about \$3700 per apprentice on training and about \$4 million per year in total. (See Table 1). These data do not include apprenticeship programs such as those for asbestos and insulation workers that apply to Iowa but are located outside the state (the asbestos and insulation workers training facility is located in Omaha).

	Annual Expenditures	Expenditures per Apprentice	Currently Enrolled Apprentices
Operating Engineers #234, Des Moines	\$682,374	\$16,247	42
Plumbers & Steamfitters #33, Des Moines	\$1,284,022	\$6,866	187
Sprinklerfitters #669, Iowa	\$45,000	\$500	90
Painters & Drywall Finishers #246, Des Moines	\$55,000	\$948	58
Glaziers #1075, Des Moines	\$65,000	\$1,548	42
IBEW #347, Des Moines	\$900,000	\$2,769	325
IBEW #405, Cedar Rapids	\$342,000	\$3,000	114
Sheet Metal Workers #263, Cedar Rapids	\$97,709	\$1,994	49
Sheet Metal Workers Local Union #45, Des Moines	\$90,000	\$1,200	75
Laborers Local Union #177 in Des Moines	\$287,000	\$4,415	65
Total	\$3,848,105		1047
Average		\$3,675	

Table 1: Apprentice enrollment and training expenditures, 2006 for some unionized apprenticeship programs in Iowa

The nonunion sector also enrolls apprentices. However, while the nonunion sector claims 60% of the market, they only train 30% of the apprentices. Also, outside of electrician and plumber apprentices, the nonunion sector in Iowa trains just 13% of all apprentices. The nonunion sector uses helper more often than they do apprentices.

Enrolled Apprentices in Iowa--1995 to 2003							
	Union-Mgt	Nonunion	Unknown	Total	Union-Mgt	Nonunion	Unknown
BRICKLAYER (CONST.)	274	1		275	100%	0%	0%
CARPENTER	626	134	1	761	82%	18%	0%
ELECTRICIAN	1,342	1,468	42	2,852	47%	51%	1%
MILLWRIGHT	172			172	100%	0%	0%
PAINTER (CONST)	273			273	100%	0%	0%
PIPE FITTER (CONST)	245	6		251	98%	2%	0%
PLUMBER	637	449	26	1,112	57%	40%	2%
ROOFER	325	59		384	85%	15%	0%
SHEET METAL WORKER	544	101		645	84%	16%	0%
STRUCTURAL-STEEL WORKER	386			386	100%	0%	0%
OTHER	743	233	1	977	76%	24%	0%
TOTAL NON-ELECTRICIANS	4,225	983	28	5,236	81%	19%	1%
TOTAL EXCLUDING ELECT. & PLUMBERS	3,588	534	2	4,124	87%	13%	0%
TOTAL	5,567	2,451	70	8,088	69%	30%	1%

Table 2: Total number of apprentices enrolled in Iowa construction programs 1995 to 2003 by trade

Source: US Bureau of Apprenticeship Training

Helpers (as distinguished from apprentices in formal training programs), to the extent that they are allowed to learn (which is often not the case), do so on a catch-as-catch-can basis without formal classroom training, without testing, without conscious rotation between skills, without monitoring and without measurement. Their learning is not overseen by a master worker, and their education is not planned or supervised by an apprenticeship committee. Many helpers do not advance in the trade, and many leave the industry after a short period. It is not surprising that where prevailing wage laws are repealed, apprenticeship training falls off significantly.

When prevailing wage laws are repealed, contractors, no longer obliged to train their novice workers, can cut their bids by jettisoning the costs of formal training. Public owners, obliged to accept the lowest bid begin giving work to contractors who do not train. Apprenticeship training in Kansas construction fell by 38% in the four years after that state repealed its prevailing wage law in 1987. Minority apprenticeship training in Kansas fell by 54%. This was due to a shift away from collective bargaining towards open shop (or merit) shop construction. Merit shop contractors accounted for only 12% of all apprentices being trained in Kansas. As the merit shop share of the market grew after repeal, apprenticeship training fell substantially.³

When training stops the knowledge and skills of the local construction labor force deteriorates and becomes outdated. Workers become less skilled and work becomes less safe. Injuries rise and workers compensation premiums escalate. Future construction costs rise as the qualifications of the local construction labor force decline. Other industries are put at risk to the extent their future depends upon a qualified construction labor force erecting the technologically sophisticated infrastructure of the future.



How Can a High Paid Worker Be Cheaper than a Cheap Worker?

A sewer line can be dug using large numbers of unskilled workers equipped with shovels or a handful of skilled workers equipped with backhoes. The wages of the skilled workers will be higher, but labor costs as a percent of total costs could easily be the same or lower.

There is always more than one way to skin a cat in construction as elsewhere. You can build an earthen dam with hundreds of unskilled, low-wage menial laborers armed with shovels and buckets, or you could build that same dam with a handful of

workers operating million-dollar belly-loaders and other earth-moving heavy equipment. Which way is best? The low-wage, low-skill road might be best in a situation of massive unemployment of unskilled workers. But a high-skill, high-wage approach leads to better results in wealthier societies. This approach creates and reproduces a skilled labor force that is not only better equipped to handle technical and sophisticated work that the shovel and bucket brigade could never tackle, but also this approach creates a community of middle class families out of blue collar jobs. This also usually creates safer work. As the unshored trench on the left deepens, these workers are increasingly exposed to the dangers of trench cave-ins. The backhoe operator on the right works above the trench free from the risk of cave-ins.

One fact that all sides agree upon is the fact that prevailing wage laws raise construction worker incomes. Figure 1 shows that in states with lower-wage construction workers, the productivity of those workers is lower and the value added from their work to society is lower.⁴

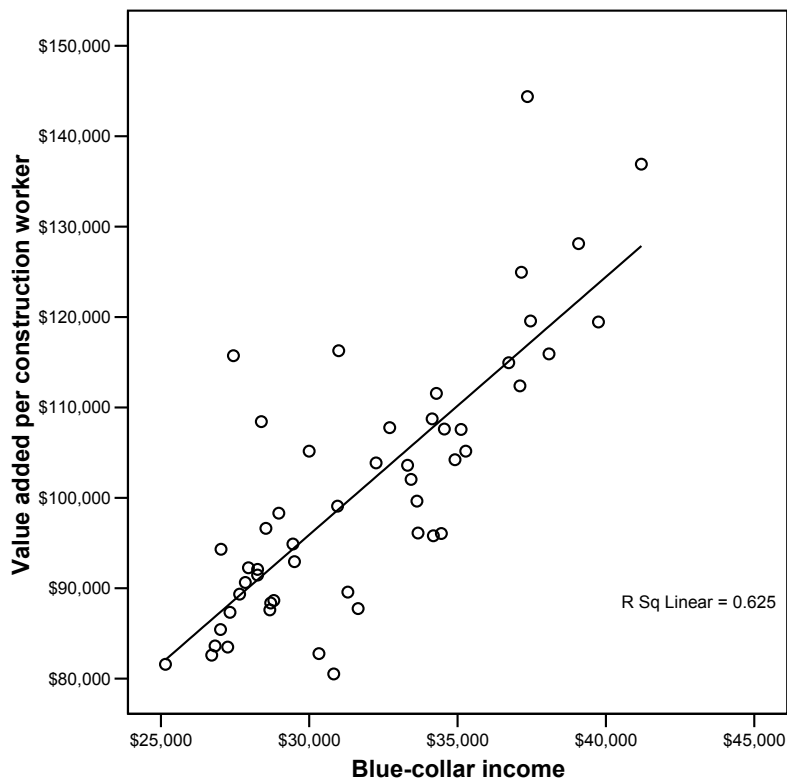


Figure 1: Annual income per construction worker and value added per worker by state, 2002

Source: Census of Construction, 2002

Table 3 shows that states with prevailing wage laws have, on average, 13% to 15% higher value added per worker, not just on public works but across the state compared to states without prevailing wage laws. This is because prevailing wage laws encourage training, capital investment and better labor management practices.

Table 3: Average value added per worker in states with and without prevailing wage laws, 2002⁵

No Law		Law		Percent Higher in Law States	
Mean	Median	Mean	Median	Mean	Median
\$93,523	\$90,637	\$105,505	\$104,685	13%	15%

Increased worker value added and income provides the ability for the construction industry to provide its workers with health insurance, pensions, social security contributions, money for workers compensation coverage and unemployment insurance. Indeed, increased value added per worker is what makes a society wealthier—there really is no other way. Because construction is a highly turbulent and dangerous industry, monies for workers compensation and unemployment insurance are crucial. And like for all working families, money for health insurance and retirement security are crucial. Prevailing wage regulations by encouraging construction to develop along the high value added growth path, helps insure that construction workers and their families can provide for themselves and contribute to the community. This is why union-trained workers qualify for “the finest jobs in the construction industry:”

DES MOINES -- State and federal officials touted a "Helmets to Hardhats" program involving construction trade unions giving returning veterans a top priority for coveted apprenticeship programs. "I've been to several going away ceremonies," said Gov. Tom Vilsack. "We feel very strongly about making them understand we appreciate their service."... "These are the finest jobs in the construction industry," said Gen. Matthew Caulfield, executive director of the national program. Iowa Workforce Development head Richard Running said his agency will coordinate the program with the Iowa National Guard and other military leaders, as well as leaders of the construction industry and buildings trades unions....Iowa National Guard Adjutant Maj. Gen. Ron Dardis said there's been broad support for troops from throughout the business community, but said the backing from the construction industry has been particularly striking. "This is the first industry in the U.S. to make this total commitment," he said.⁶

When a society asks its young people to go to war, everyone hopes that each and every soldier returns to home and loved ones safe and sound. When those servicemen and women return, they should be able to come back to a society that can offer them decent jobs. That is the philosophy of the Helmets to Hardhats programs. No one is

asking for handouts. Servicemen and women do their duty. They then have an opportunity to learn a trade. They may be able to leverage skills learned in the military. Upon completion of their construction apprenticeships, their skills mean they bring to the table greater productivity capable of generating a higher value added and supporting a better income with health insurance and pensions. What prevailing wage legislation does is buttress this process by helping to ensure on public works that crews are staffed with highly qualified workers many of whom have served their country.

Union and Nonunion Apprenticeship Programs

Prevailing wage regulations encourage collective bargaining. Collective bargaining brings contractors together allowing for the creation of multi-employer apprenticeship training programs. Multiemployer programs do a better job training workers partly because workers can move from contractor to contractor within their apprenticeship broadening their work experience and exposure to new skills. Multiemployer programs also mean that the apprentice can stay active. As one contractor's work slows down, another contractor's work picks up, and the apprentice can move to where the work is, without abandoning his (or her) apprenticeship. Cihan Bilginsoy, the country's leading economic expert on construction apprenticeship has shown that multiemployer programs lead the way in apprenticeship training. In one recent study of construction apprenticeship programs, Bilginsoy concludes:

The [statistical] estimations show that apprentices in unilateral employer-only programs were roughly twice as likely to cancel out of the training program as were their peers in union-management joint programs. Apprentices in joint programs are also found to have been more likely to complete training and receive certification. Combined with the fact that more apprentices were enrolled in the joint programs than in the non-joint programs, these results suggest that joint programs made a larger contribution to the maintenance of the crafts labor force.⁷

The high completion or graduation rates typical of union-management joint programs nationally are also typical in Iowa.

Completion Rates	
Sheet Metal Workers #263	98%
Sheet Metal Workers Local Union #45, Des Moines, Iowa	98%
Plumbers & Steamfitters #33, Des Moines	95%
Sprinklerfitters #669, Iowa	95%
IBEW #347, Des Moines	95%
IBEW #405, Cedar Rapids	92%
Operating Engineers #234, Des Moines	82%
Painters & Drywall Finishers #246, Des Moines	65%
Glaziers #1075, Des Moines	65%
Laborers Local Union #177 in Des Moines	55%

Table 4: Apprenticeship Completion Rates for Iowa Joint Union-Management Programs

Each of the joint-union-management Iowa programs shown in Table 4 graduates more than half of their apprentices; almost all graduate more than two-thirds of their enrolled apprentices.

Table 4 also shows that the sheet metal apprenticeship programs graduate almost all of their enrolled apprentices (98%) while the electricians, plumbers and sprinkler fitters all graduate more than 90% of their apprentices. Nationally, three-quarters of all graduating apprentices come from union-management joint apprenticeship programs. The same is probably true in Iowa. Table 2 shows that 69% of the enrolled apprentices in Iowa are in union-management programs. Because these programs tend to have a higher graduation rate than nonunion programs, union-management programs probably account for about 75% of actually graduated apprentices in Iowa. The reason is simple: these union-management programs are a good deal for the apprentice. Someone else is investing in your future. You learn—these are top flight programs—while you earn. Classroom training is melded in with on-the-job training so that you have an income while you study, and the income is directly related to your hands-on-training. There is no bait-and-switch where you came to train but you were simply used as cheap labor. These industry-funded, union-management apprenticeship programs in construction create a system of higher education and skill formation for young people who are adapted for and interested in a hands-on education. One of the nice things about prevailing wage laws is that they encourage the nonunion sector to follow suit and increase apprenticeship training.

Bilginsoy has shown that states that have prevailing wage laws also have more apprenticeship training taking place. In “Wage Regulation and Training: The Impact of State Prevailing Wage Laws on Apprenticeship” Bilginsoy concludes:

...the supply of apprenticeship is higher in the prevailing wage law states. It also rises with the strength of the prevailing wage law. Thus, regulation clearly raises the recruitment rate.. Secondly, apprentices complete graduation requirements at a slower rate in states without prevailing wage laws, indicating a lower efficiency in producing certified workers.⁸

Thus, prevailing wage regulations encourage apprenticeship training which in turn builds more skills within the industry, increases labor productivity, enhances the ability of workers to earn a decent living, improves the prospects for a safe and effective workforce and creates middle class jobs in an inherently causal and unstable industry.

Chapter 2:

Prevailing Wages Do Not Raise Costs

How Davis-Bacon Was Restored After Katrina

On September 7, 2005, less than two weeks after Hurricane Katrina, President Bush suspended the Davis Bacon Act which mandates the payment of prevailing wages on federal public works. Contractors were now free to pay any wage above the federal minimum of \$5.25 for workers to rebuild from the devastation. Under headlines such as

- **Immigrant workers rile New Orleans; Rules shelved, crews labor for meager pay⁹**

the media began reporting the effects of the suspension of the Davis Bacon Act on reconstruction efforts. Local commentators rose in objection to the suspension. For instance, the New Orleans *Times-Picayune* editorialized under the headline—“Rebuilding effort should be localized”:

[W]e are already moving quickly and boldly in the wrong direction....[Y]ou can hardly entice [our citizens] back if you're only willing to pay poverty wages. But in the wake of the disaster, President Bush suspended the Davis-Bacon Act....In essence, there's no ceiling preventing sky-high profits for these [out-of-state] contractors and not much of a floor to ensure that wages to workers are not abysmally low. There is an intelligent way to rebuild our city. This, however, isn't it.¹⁰

Opposition to the suspension of prevailing wages expanded to 38 House Republicans who sent a letter to President Bush urging the reimplementation of prevailing wages on federal reconstruction efforts in the Gulf States.¹¹ Republican Representative Don Young, Alaska, chairman of the House Transportation and Infrastructure Committee wrote that prevailing wage rates were needed to attract an experienced and qualified labor force:

Since we are committed to rebuilding what was destroyed by Katrina and Rita, we should make certain that the task is done right. With a prevailing wage, and thus a more experienced workforce on the job, construction will be completed in less time which will lower overall costs. A well compensated, quality workforce will also lower future costs associated with maintenance and repair. The residents of the Gulf Coast who struggled through so much need these jobs in order to recover financially. If our ultimate goal truly is to see that the region is rehabilitated, our first action should be to see that those who have suffered so greatly from Katrina

and Rita are paid a meaningful wage.¹²

Pennsylvanian Republican Congressman Tim Murphy worried that rebuilding New Orleans on the cheap put the quality of construction at risk and raised the specter of cost overruns.

Without Davis Bacon requirements, contractors no longer competed on the basis of who can best train, best equip, and best manage a construction crew. Instead they competed on the basis of who can find the cheapest workers either locally or through importing workers from elsewhere. This put the quality of construction at risk, and potential cost overruns.¹³

Republican Congressman and Deputy Majority Whip Jerry Weller from Illinois wrote President Bush on October 18:

Our goal should be to rebuild in a manner that is not only cost effective but also has a positive effect on long-term maintenance. It has been proven that projects built by less skilled labor increase the cost associated with long-term maintenance, repair and reconstruction. By paying less for unskilled labor now, we will bear a much larger expense in the future.¹⁴

Despite these concerns regarding the quality of work, downstream maintenance costs, cost overruns and reasonable wages, others asserted that the suspension of prevailing wages would cut down total construction costs by a huge amount.

In a letter to President Bush the day before Davis Bacon was suspended, 35 House Republicans asserted:

...Davis-Bacon regulations effectively discriminate against contractor employment of non-union and lower skilled workers and can even raise construction costs by up to 38 percent.¹⁵

This assertion that total construction costs could be cut by “up to 38%” by reducing the wages of blue-collar construction workers is mathematically impossible simply because labor costs as a percent of total construction costs are not all that high. For the US as a whole, in 2002 according to the most recent *US Census of Construction*, blue collar payroll amounted to 20.2% of the total net value of construction.¹⁶ In Iowa, construction workers wages accounted for 21.6% of total net construction costs.¹⁷ If one adds to this an additional 10% to 20% of payroll for benefits, total blue collar construction labor costs run between 24% to 26% of total net construction costs.¹⁸ Thus, even if all workers worked for free, you could not save “up to 38%” on total construction costs by eliminating prevailing wage rates.¹⁹

Indeed, due to technological changes, improved materials and increased managerial efficiency, wage costs as a percent of total costs in construction has been falling steadily for decades both overall in the US and in Iowa. For instance, in Iowa in

1972 wage costs as a percent of total costs were 25.5% while thirty years later in 2002 wage costs were 21.6% of total costs. Figure 2 shows the decline in labor costs both nationally and in Iowa.

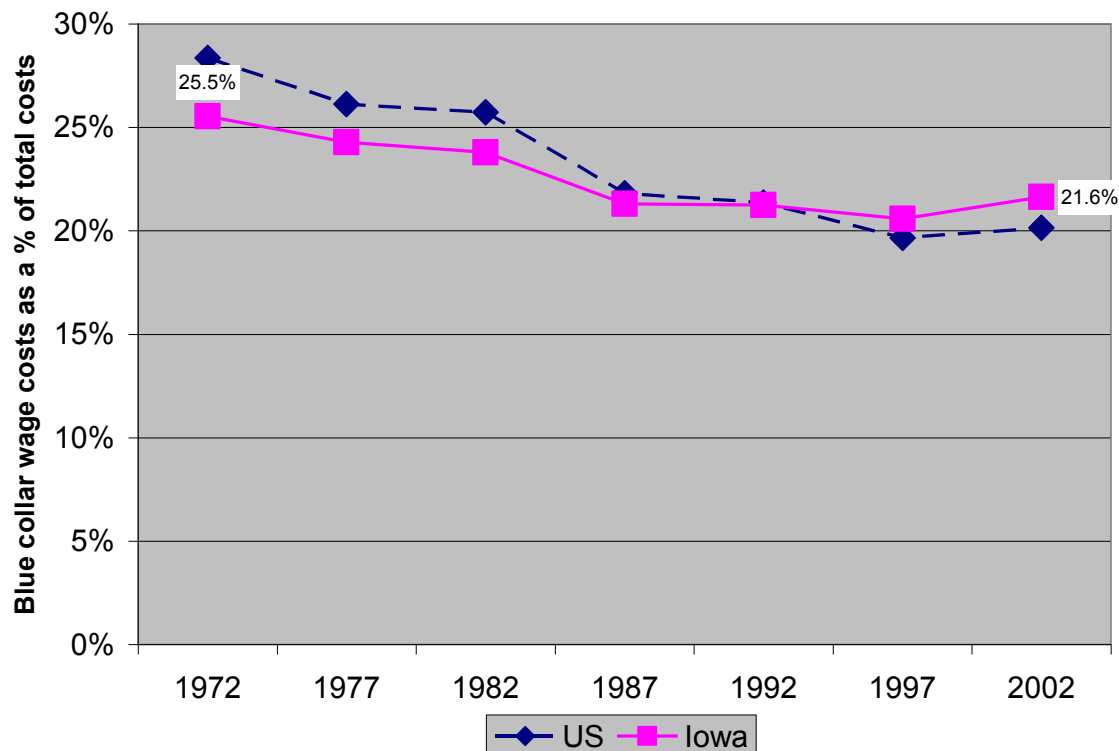


Figure 2: Trends in blue collar wage costs as a percent of total construction costs in Iowa and the U.S., 1972 to 2002, US. Census of Construction

Looking at Actual Total School Construction Costs

Those who claim that prevailing wage regulations substantially increase public construction costs make such claims usually by arguing that prevailing wage regulations raise wages (which they do) and therefore they must raise costs. But such an assertion tends to assume that even though wages go up, labor productivity does not. This assumption does not square with the facts—that construction workers in prevailing wage law states receive more apprenticeship training and generate more value added per worker. But the old adage that the proof is in the pudding applies here. The question is not what happens to wage rates when prevailing wage regulations are applied or removed, but rather what happens to overall construction costs.

A Natural Experiment: the Kentucky, Ohio, Michigan Study

It turns out that in the 1990s, a natural experiment occurred that can help us answer this question. In 1996, Kentucky went from not having a prevailing wage law on schools to implementing prevailing wages. In 1997, Ohio went from having prevailing

wage regulations on schools to removing the law. Due to a court decision, Michigan suspended its prevailing wage regulations on schools in late 1994 only to judicially re-implement the regulation in the middle of 1997. So we have a natural experiment that employs both a before-and-after comparison, and a here-and-there comparison of new school construction costs, with and without prevailing wage regulations, in adjacent to each other states. Figure 3 shows the timing in the 1990s when each state had and did not have prevailing wage regulations in force regulating school construction.

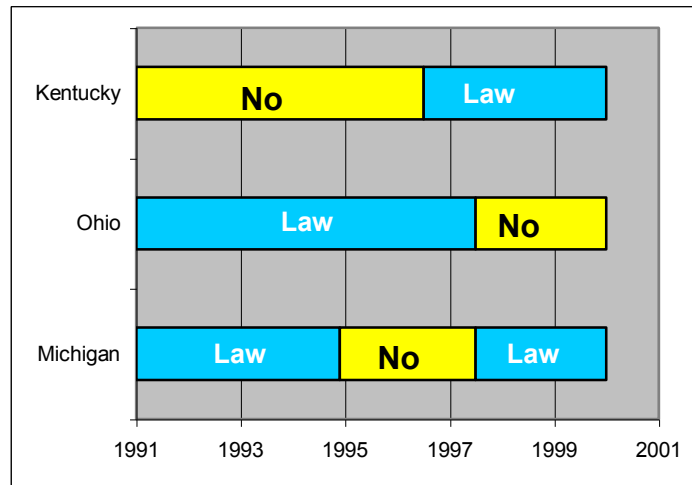


Figure 3: Prevailing Wage Policy by State 1991-2000

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 prevailing wage regulations.²⁰

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 5: Description of the new schools used in the study

Table 5 shows that of the 391 new schools with an average size of 86,415 feet, almost half (49%) were built under prevailing wages and half (51%) were not. Michigan, which had prevailing 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.

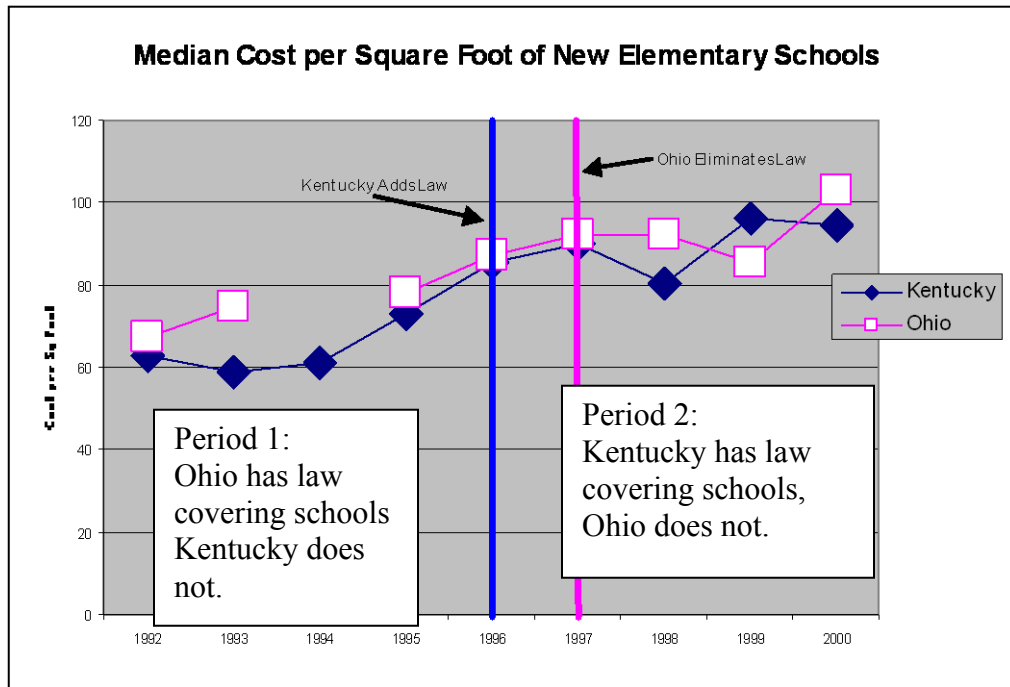


Figure 4: Square foot cost of new schools in Kentucky and Ohio before and after changes in each state's prevailing wage law

A simple comparison in Figure 4 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 prevailing wages in 1996 nor Ohio removing prevailing wages for schools in 1997.²¹ Table 6 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 6 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.**

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		

Table 6: Comparison of the Real (Inflation-Adjusted) Square Foot Cost of New Public Schools by Urban and Rural Schools and Built without or with Prevailing Wages

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 prevailing wages on total start costs.***

In subsequent peer-reviewed²² research on more than 4000 new schools built nationwide published in the *Journal of Education Finance*,²³ 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 prevailing 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 on public construction monies would be well advised to avoid breaking ground as winter hits and to seek breaking ground when the economy slumps. Establishing prevailing wages will result in higher wages, benefits, training and productivity, but will not increase total construction costs.

A Comparison of 15 Great Plains States

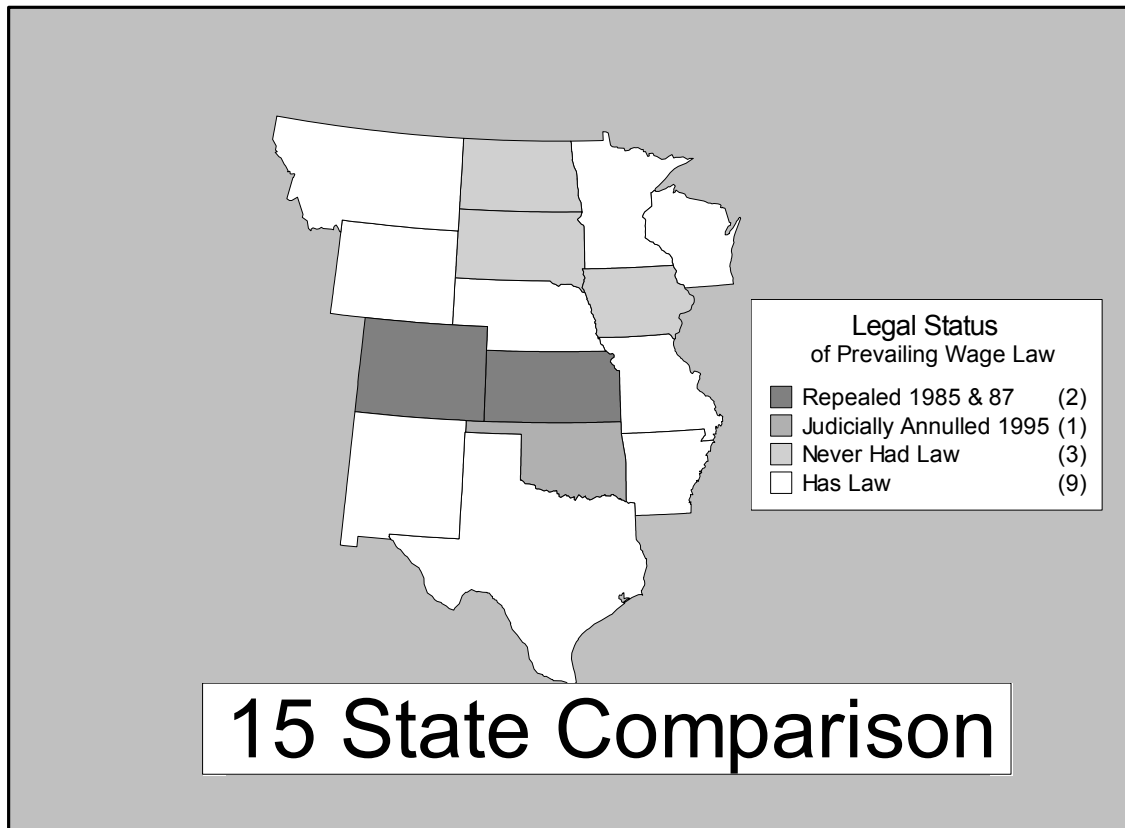


Figure 5: 15 state comparison of public school construction costs

In 1998, this author prepared a study of the cost of new school construction for the Kansas Senate Labor and Industries Committee.²⁴ Covering public school construction between 1991 and 1997, this report examined the difference in average square foot cost among 15 Great Plain states including Iowa. At the time of the study, nine states had prevailing wage laws (WI, MN, NE, MT, WY, MO, AR, TX and NM) while six did not (IA, ND, SD, KS, CO and OK). See Figure 5.

Table 7: Average new elementary school construction costs in Great Plain states with and without prevailing wage laws (in 1997 dollars)

Table 7 shows FW Dodge data on the average new elementary school construction costs for 365 new elementary schools built under prevailing wage regulations and 81 new elementary schools built without prevailing wage regulations (including 8 new elementary schools in Iowa). The average cost of elementary schools built with prevailing wage regulations was \$76.86. The average for elementary schools built without prevailing wage regulations was \$76.23 and for Iowa, the average square foot cost for 8 new elementary schools built between 1991 and 1997 was \$72 per square foot. The standard deviations (essentially the “wiggle” around these averages) indicate that none of these small differences in average square foot costs are statistically significant. (In other words, the differences in averages is probably due to random chance.)

Similar results were obtained for the costs of construction new middle schools and new high schools. Figure 6 shows these averages for the 9 states with prevailing wage laws, the 6 states (including Iowa) without prevailing wage regulations and Iowa separated out. In all cases, the differences in construction costs are small and statistically insignificant (that is: probably due to random chance). To say that these differences are due to random chance means that if you were to rely on the cost differences found in this sample to predict what the cost differences would be in the future with and without prevailing wage laws, you would in all probability turn out to be wrong.

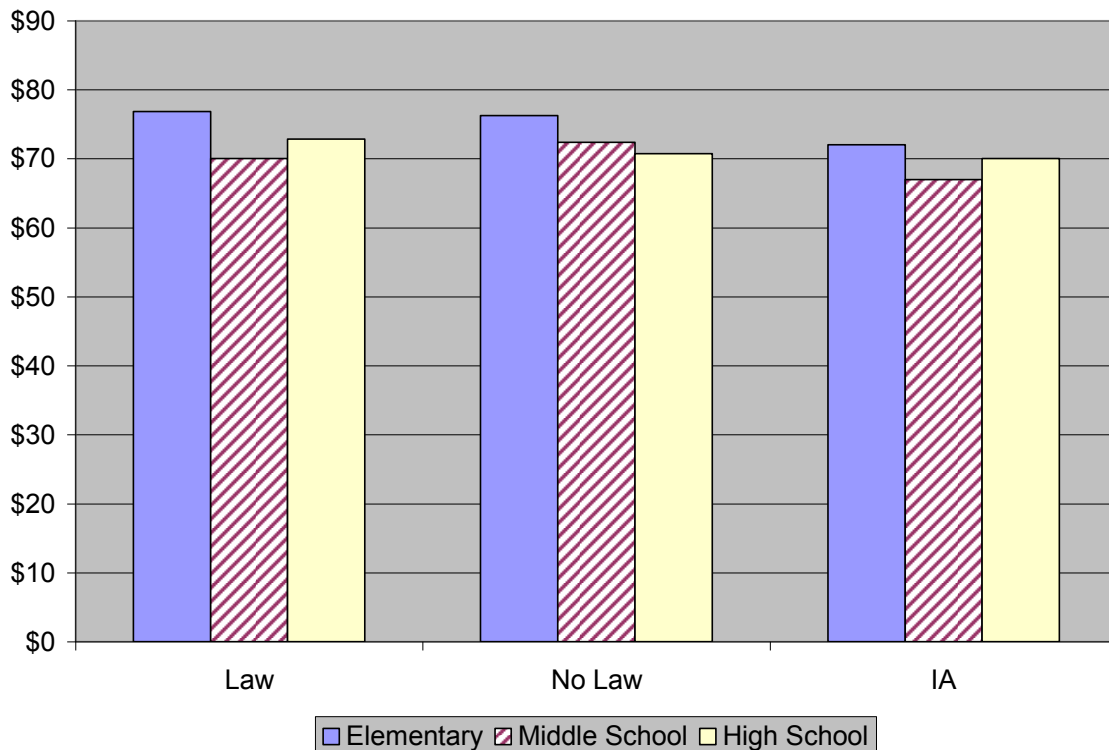


Figure 6: Square foot cost of school construction

These straight-forward statistics are consistent with most of the recent published literature on the cost associated with prevailing wage regulations. For instance, Mark Prus and Kevin Duncan, in an article that reviews most of the recent literature, conclude:

Recent studies have employed different data sets and statistical tests to estimate the cost of these policies in Canada and the U.S. Despite these differences, these studies all share the common finding that fair and prevailing wage laws are not associated with higher construction costs.²⁵

The effect of prevailing wage regulations on public construction costs remains an active area of research. One of the limitations of this research is the difficulty of quantifying the quality aspects of construction done with and without prevailing wage regulations. The quality of construction (along with on-time completion) are key elements in construction costs that are not well captured in the literature. Much of the research is based on accepted bid price or “start cost” (e.g. the FW Dodge data). Even research using final project costs does not capture downstream maintenance. Nor does this literature capture issues of safety and the cost of injuries to workers. Nor does the literature capture the dangers of using unskilled workers pose for the property of owners. And of course, this literature does not look at the broader benefits to the community of having a local construction labor force that receives middle class wages and family-supportive health and pension benefits. All sides agree that prevailing wage regulations encourage the use of skilled labor. Skilled and experienced workers tend to be safer and tend to do the job correctly. The costs of not using skilled workers can be difficult to measure but nonetheless very real.

Chapter 3:

Prevailing Wage Regulations Encourage Quality Construction

Quality Construction: the Case of the Old Cap Fire

In construction, like in many areas of life, there is a right way and a wrong way of doing things. OSHA regulations, building codes and project specifications are all written to ensure that projects are built safely, correctly and according to the desires of the owner. Safety inspections, building inspections and owner oversight are all needed to get the job done right. But inspection is not enough. Construction work is dispersed. Inspectors and supervisors cannot be constantly looking over the shoulders of each and every construction worker.

For owners who want safe, up-to-code, high quality, on-time-construction, meeting specifications—the first line of defense is trained workers who know how to do things safely and correctly. You need a workforce that has the work ethic to insist things be done right the first time, and workers who have the job-security allowing them to resist pressures to do things unsafely or on the cheap. When you do not have these things, seemingly low-cost strategies can turn out very badly.

A case in point is the restoration of the Iowa Old Capitol Dome. In the summer of 2000, Old Cap, Iowa's first state capitol located at the heart of the University of Iowa campus, was slated for exterior renovations. Shive-Hattery, an engineering firm from Cedar Rapids, was given oversight of the program. In January, 2001, asbestos was discovered, and in August, 2001, Enviro Safe Air from South Dakota (a non-prevailing wage law state), as the low bidder at \$105,876, began work on the asbestos removal portion of the contract.²⁶



Phil Larson of Shive-Hattery said that he and other supervisors inspected almost daily the site where Enviro Safe Air employees worked. The University of Iowa official monitoring the project also inspected the site regularly: “Lots of people had eyes on them,” Larson asserted.²⁷ If inspection, by itself, could ensure a job done safely, Old Cap would not have burned.

But project overseers had faith in the asbestos removal subcontractor. “We think they [Enviro Safe Air] were doing the job properly. Our experience with them has been

very good,” Shive-Hattery’s Larson said.²⁸ Unfortunately, no background check had been done on Enviro Safe Air to see what the experience of other owners and project managers had been. Such a background check would have revealed that Enviro Safe Air had received 11 state code violations for the way it removed asbestos in the previous ten years having paid \$10,000 in fines. In May, prior to the Old Cap fire, Enviro Safe Air had settled a lawsuit out-of-court over asbestos removal violations.²⁹

At the price Enviro Safe Air had bid the job, it was proving difficult to complete the work on time. The Old Cap fire occurred on November 20, 2001, almost two months behind the stated September 28 completion date for the asbestos removal.³⁰ The fast way to remove paint and asbestos is with heat guns and torches—but this is not a safe way for workers who are exposed to lead fumes and dried asbestos particles nor is it a safe way for a wooden building structure to be renovated. As early as the end of 2000, the University had decided heat guns should not be used.³¹

Nonetheless, heat guns and torches were being used on the Old Cap removal work, and the consequences were eerily predicted by another contractor on the job site. On October 23, 2001—about a month before the fire, Fritz Miller of Renaissance Restoration of Illinois (a prevailing wage law state) wrote an email to Al Bawden, a Shive-Hattery project manager, saying that Enviro Safe Air workers had set the building on fire several times. Two days later, he again emailed Bawden:

I have personally witnessed Enviro Safe personnel using open flame torches to remove paint on the cupola. This is an unsafe method of removal, and we have great worry that a catastrophic fire will result from this practice.³² ... Burning material was falling from the work (on fire, not just smoldering)³³



Clearly, inspections of Enviro Safe’s activities were not adequate. According to Miller, within 30 minutes of being told not to, Enviro Safe Air workers resumed the use of open flame torches to remove paint and asbestos.³⁴ Drew Ives, interim associate vice president and director of the University of Iowa Facilities Services Group said after the fire: "The workers probably had a lot of pressure from the home office to pull off the job because it was costing them to have people there."³⁵ Indeed, OSHA alleged that Enviro Safe Air instructed workers to use heat to remove material containing asbestos. This is not only a fire hazard. Heat can also dry the asbestos fibers allowing them to become airborne and creating a health risk to workers and others. Additionally, OSHA alleged that Enviro Safe Air improperly used open-flame torches to remove lead-based paint,

another environmental (as well as fire) hazard. OSHA also said that Enviro Safe Air failed to properly train workers in removing lead-based paint.³⁶ Regarding hazardous material removal workers, the US Department of Labor States:

No formal education beyond a high school diploma is required for a person to become a hazardous materials removal worker. Federal regulations require an individual to have a license to work in the occupation....Most employers provide technical training on the job, but a formal 32- to 40-hour training program must be completed if one is to be licensed as an asbestos abatement and lead abatement worker or a treatment, storage, and disposal worker.³⁷

Apparently this is the training that OSHA asserted Enviro Safe Air did not provide its workers. And apparently prior to the fire no one investigated whether Enviro Safe Air was providing properly trained and licensed workers to the Old Cap job site. The DOL says that: "The occupation [of hazardous materials removal] is characterized by a relatively high rate of turnover, resulting in a number of job openings each year stemming from experienced workers leaving the occupation."³⁸ So this is an occupation where there is high labor turnover, experienced workers leave, a one-week training course is required but sometimes no one checks to see if workers have that training.

One on-line job board states that most asbestos removal and insulation workers receive only informal training:

Most insulation workers learn their trade informally on the job, although some complete formal apprenticeship programs. ...[T]rainees in formal apprenticeship programs receive in depth instruction in all phases of insulation. Apprenticeship programs may be provided by a joint committee of local insulation contractors and the local union of the International Association of Heat and Frost Insulators and Asbestos Workers, to which many insulation workers belong. Programs normally consist of 4 years of on-the-job training coupled with classroom instruction, and trainees must pass practical and written tests to demonstrate their knowledge of the trade.³⁹

In all probability, the Old Cap fire would not have occurred if the workers on the job knew what they were doing. But to get a worker who knows what he or she is doing, you cannot award contracts to contractors whose bidding strategy is based on paying the least amount of wages possible.

Could prevailing wage regulations have prevented the Old Cap fire?

One possibility is that had prevailing wage regulations been in force, Enviro Safe Air may not have been on the job in the first place. Subsequent to the fire, the University of Iowa banned Enviro Safe Air from submitting any further bids to the University.⁴⁰ But this was shutting the door after the cows got out. Prevailing wage regulations discourage contractors from following a strategy of low-balling bids and then trying to maintain their profits and keep to schedule by using substandard materials or corner-cutting methods. Prevailing wage regulations award contracts not to contractors who can bring the cheapest workers to the job, but to the contractors who can most efficiently manage high-wage, high skilled workers. Knowledgeable and experienced, high-skilled workers do

things quickly by knowing what they are doing and using the right equipment and materials rather than by cutting corners and taking uncalled for risks.

According to Terry Cole, president of Renaissance Restoration, in a September 13, 2001 letter to Shive-Hattery: Enviro Safe Air “at their own admission (has) no experience removing paint coatings and no experience working on historic structures.” Enviro Safe Air had refused to try methods other than blow torches and heat guns and had rebuffed Renaissance Restoration’s suggestion to use a product called Take-Off 2000.⁴¹ One of the purposes of prevailing wage regulations is to ensure that craft wages rather than unskilled wages are paid. Craft workers earn more because they know how to do more. They know not just one skill but a craft set of skills. Craft asbestos workers would know how to switch from one technique to another. Just as there is more than one way to skin a cat, there is more than one way to skin paint or asbestos off a building. Paying prevailing wages would allow the contractor to hire workers capable of doing the job the preferred, superior and safer way.

A **second possibility** is that under prevailing wages, workers would not have tolerated the techniques pushed by Enviro Safe Air. If you have to compete paying prevailing wages, you have to use trained workers. Trained workers know what burning lead paint can do to their lungs. They know what burning asbestos can do to their health. OSHA said that Enviro Safe Air did not properly train their workers in safe asbestos removal. If you have to pay prevailing wages, you will hire workers with experience and training in asbestos removal who in all likelihood have already been trained in safe procedures. In the case of Old Cap, what was safe for the workers was best for the owners—asbestos and lead paint removal that did not involve heat. We have seen that inspections alone do not work. You have to have workers who know the difference between safe and dangerous work procedures. In the case of the Old Cap fire, the contractor needed insulation workers who knew what they were doing, workers who had gone through an apprenticeship program. However, when you take pot-luck, that is not what you are likely to get.

Prevailing wage regulations would have increased the prospects that the workers on Old Cap would have been apprenticeship trained having received “in depth instruction in all phases of insulation.”

Are prevailing wage regulations an absolute guarantee against fire and accident? Are they an absolute guarantee against poor design and engineering? Absolutely not. But prevailing wage regulations are an additional safeguard in a system where both belts and suspenders are needed. Prevailing wage regulations put knowledgeable workers on the job with sufficient economic and job security that they can afford to resist unsafe construction methods.

Prevailing wages also encourage career workers in a volatile construction labor market. By paying decent wages and benefits, worker paid prevailing wages can afford to stay in the industry adding to their apprenticeship training through extended industry experience. Careers. Pride in craftsmanship. Experience. Work ethic. All these are needed to make system work. Inspections are not sufficient. Insurance never entirely makes up for what is lost. Prevailing wage regulations provide a third leg of the stool that is quality construction: Inspection—Insurance—Craftsmanship. Together these make for safe and successful construction.

Chapter 4:

Prevailing Wages Encourage a Safer Workplace

AP Investigation: Mexican worker deaths rise sharply even as overall U.S. job safety improves

Eighteen-year-old Carlos Huertawas told to stand in a trash container, which a forklift raised 10 feet so he could wash a brick wall. But the improvised platform wasn't secured to the forklift's prongs, and it soon toppled.

...16-year-old Antonio Garcia Reyes was framing the roof of a new college dormitory in Alabama when he plunged three stories. He had no harness or other protection against a fall, accident investigators found.

...in South Carolina, brothers Rigouerto and Moses Xaca Sandoval died building a suburban high school that, at 15 and 16, they might have attended. They were buried in a trench when the walls of sandy soil collapsed....

The boys offered their employers cheap, pliant labor. Each of these four teens had just been hired by a subcontractor, the kind of outfit bigger firms sometimes employ to keep costs down....Accidents like these suggest that employers tell Mexicans to do the most glaringly perilous tasks, says Susan Feldmann, who fields calls from Spanish-speaking workers for an institute within the federal Centers for Disease Control. "They're considered disposable," she says.⁴²

Associated Press, March 12, 2004

Construction is extraordinarily dangerous work. Bidding procedures that emphasize cutthroat bidding that leads to untrained, uninformed and inexperienced "cheap, pliant labor" doing the most dangerous work makes construction deadly. Prevailing wage regulations that emphasize competition based on better training and a more experienced labor force leads to safer construction.

In 2004, one-in-five of all workplace deaths occurred in construction; one-in-ten of all workers hurt on-the-job were construction workers.⁴³ Hispanic workers are twice as likely to be killed in construction work compared to all other construction workers.⁴⁴ In 2004, 312 Hispanic construction workers were killed on-the-job compared to 261 in 2003.⁴⁵

Some work is inherently more dangerous than others. Falls and electrocutions are major sources of construction fatalities. Consequently it may not be surprising that while

roofers make up approximately 2% of the construction workforce, in 2003-2004 they accounted for about 6% of all fatalities. But training and following proper safety procedures can offset inherent dangers. Had 16-year-old Antonio Garcia Reyes been tied off, his fall would not have been fatal. Had the trench in which 15 and 16 year old brother Rigouerto and Moses Xaca Sandoval been sloped or shored, there would not have been a cave-in in the sandy Alabama soil. Electricians are more exposed to the possibility of electrocutions, but despite this extra risk, this usually better trained group of construction workers have a fatality rate (6% of all construction workers in 2003-2004) that is about equal to the percent of electricians in the construction workforce. The role of safety training is reflected in the fatality rates of relatively less-trained laborers and relatively better-trained carpenters.⁴⁶ There are about the same number of laborers and carpenters in the construction labor force (around 12% to 14% of the overall construction workforce for each group). Yet less-trained laborers account for almost one-fourth of all construction fatalities (24% in 2003 and 23% in 2004) while better-trained carpenters account for less than a tenth of all construction fatalities (8% in 2003 and 9% in 2004).⁴⁷ The Associated Press analysis of the epidemic in fatalities for Mexican workers concludes:

Public safety officials and workers themselves say the answer comes down to this: Mexicans are hired to work cheap, the fewer questions the better. They may be thrown into jobs without training or safety equipment. Their objections may be silent if they speak no English. Those here illegally, fearful of attracting attention, can be reluctant to complain.⁴⁸

Without prevailing wage regulations, government opens itself up to encouraging contractors to bid on projects based on hiring workers who will “work cheap,” work “without training or safety equipment,” not object to corner-cutting procedures, be fearful of their supervisors, take unnecessary risks, be ill informed of their rights and ask few questions.

While Iowa has not yet experienced the wave of immigrant construction workers to the degree now found in other parts of the country,⁴⁹ the issue of construction injuries and fatalities is growing in importance in Iowa:

Iowa workplace deaths up, report says

Work-related deaths in Iowa climbed by 7.3 percent to 88 in 2005 to the highest level since 1992, the U.S. Bureau of Labor Statistics reported Thursday in its annual census of workplace fatalities. Non-highway deaths such as crushing injuries from farm equipment and falls in construction accidents were the second-highest since the bureau began its census of fatalities 14 years ago....Many of the accidents that cause death and injuries to Iowa workers could be prevented by complying with existing laws, [Iowa AFL-CIO President Mark] Smith said, such as those requiring that open trenches of a certain depth be reinforced when laborers are inside them. Six Iowans died of "collapsing materials" in 2005, the bureau reported.⁵⁰

OSHA official Joe Reina states that when there is a fatality: "Ninety-five to 99 percent of the time, there's going to be noncompliance with [an OSHA] standard that could have prevented the fatality." A classic example is trench fatalities. About 10% of all construction fatalities stem from trench cave-ins. (Currently a little more than 100 workers per year). If you think about it, you will realize that a trench in construction has many of the dangers of mining but construction trenching is often done much less safely than mining procedures. OSHA standards state that whenever a trench is deeper than 3 feet—that is any trench where a worker digging will be below grade on the downward-sweep of his shovel—the trench must be sloped, shored or shielded. Of the 530 fatalities due to trench cave-ins in construction over the period 1984 to 1996 studied by Suruda, et al. (including this author), every one involved a failure to comply with current OSHA standards.⁵¹ It is faster and cheaper to dig a trench without sloping the sides or using trench boxes, but it is not safer.

OSHA has a limited number of inspectors and workplace inspections are less frequent than perhaps they should be. Prevailing wage regulations, by encouraging the employment of skilled and experienced workers minimizes the harm of limited OSHA oversight and places on-the-job workers who know how and can insist upon doing things the safe way. Prevailing wage regulations prevent the state from inadvertently awarding bids to contractors who have shaved their bid by planning to avoid the perhaps slower, perhaps costlier but better and safer and legal way to get the job done.

Immigrants are not the only construction workers who may be uninformed, inexperienced and vulnerable to workplace fatalities because of a lack of proper training and proper procedures. Young workers are particularly vulnerable. This author as a teenager worked for a pipe laying company as a "spotter." A spotter dug exploratory holes in advance of a backhoe to ensure that the backhoe did not encounter or break other pipes or cables. The spotter had to dig fast and deep to complete the hole prior to the backhoe catching up to the suspected spot of intersection. These 4 by 4 and 6 by 6 foot holes were quickly dug by hand and very vulnerable to cave-ins. But I knew nothing of the risks. I was simply cheap, untrained, inexperienced and uninformed labor that threw dirt as fast as he could for a minimum wage. This sort of uninformed and deadly risk-



Workers escaping deep trench after a backhoe has burst a water main. While most trench fatalities are from cave-ins, drownings, electrocutions, asphyxiation and explosions are additional risks associated with water, sewer, gas and electric lines.

taking occurs all the time on some construction jobs.

Hearing into sewer deaths begins

DES MOINES, Iowa -- A hearing began Monday concerning safety citations issued to the employer of two men killed at a sewer project last summer. Daniel Grasshoff, 25, of St. Charles, Mo., and Brian Burford, 19, of Lemay, Mo.... were working on a Depression-era sewer line in an industrial area on the city's east side when they were overcome by hydrogen sulfide gas. Autopsies showed that they drowned in little more than a foot of water at the bottom of the 15-foot trench. The toxic gas is produced when sewage decomposes. IOSH inspectors said the men were working without fresh-air pumps or respirators. The crew also failed to use ladders and tethers that may have helped pull the men to safety, inspectors said.⁵²

Associated Press, August 25, 2003

Properly trained and experienced workers would know that sewer lines pose risks of asphyxiation. They would know IOSH requirements regarding respirators and tether lines. Prevailing wage regulations prevent competition on public works from forcing contractors to low-ball bids by relying on inexperienced workers and cutting corners that might make work go faster but at the risk of workers' lives.

Statistics bear out common sense. As shown below, states with prevailing wage laws have 28% fewer fatalities. When the state laws are ranked in terms of their strength as weak, moderate and strong, states with strong laws have 42% fewer fatalities.

Using U.S. Bureau of Labor Statistics data from the Census of Fatal Occupational Injuries for the years 2003 through 2005,⁵³ I applied a commonly used statistical technique in economics—weighted least squares regressions—testing the relationship between the presence or absence of prevailing wage laws and the construction fatality rate by state.⁵⁴ In the first model, I tested the simple formulation of the effect of the presence of a state prevailing wage law on the construction fatality rate. In Model 2 (Table 8), I broke state laws into three categories—weak, medium and strong laws—testing whether differences in the law based on the calculation of prevailing wages, coverage and enforcement affected the fatality rate.⁵⁵ Model 1 states that prevailing wage laws, in general, decrease construction fatality rates by approximately 25%. Model 2 indicates that the effect of prevailing wage laws in decreasing construction fatalities are strongest in states with stronger laws—an approximate 28% decrease in states with medium strength laws and a 42% decrease in states with strong laws.ⁱ In states with weak laws (TX AR TN MT and NE in this sample), there is no measurable or statistically significant decrease in the construction fatality rate compared to states without prevailing wage laws.

ⁱ The formula for translating the coefficients shown in Table 7 into percentages is: $100 * (\exp(\text{coefficient}) - 1)$

Dependent Variable: Log of Fatality Rate			
Model 1:		Model 2:	
Independent Variables:			
Law	-0.25	Weak law	0.07
		Medium Law	-0.26
		Strong Law	-0.35
Constant	-1.65	Constant	
R-Square	0.11	R-Square	0.27
Number of Observations	106	Number of Observations	106
Weighted ordinary least squares regressions			

Table 8: Estimated Effect of Prevailing Wage Laws on the Frequency of Fatalities in the Construction Industry

NOTE: estimates for law and strong law are statistically significant at the 1% level, the estimate for medium law is statistically significant at the 5% level and the estimate for weak law is statistically not significantly different from zero or no effect. The regressions are weighted by the relative construction employment in each state. Unweighted regressions yield similar results: -.18 for law and -.21 and -.32 for medium and strong law respectively (all statistically significant) and with weak law remaining statistically insignificant.

Conclusion

Prevailing wage regulations dampen the tendency to bid on public projects using strategies focusing on cheap, inexperienced, untrained and uninformed labor. Prevailing wage regulations discourage strategies based on cutting corners where safety is concerned. Prevailing wage regulations do not prevent the employment of young workers or Hispanic workers or even illegal workers, but prevailing wage regulations encourage doing things the right way including providing safety training, mixing crews to include experienced workers, setting ground rules so that workers can insist on doing things safely. It may cost more when you dig a trench to put in trench boxes. It may take more time when replacing sewer lines to set up fresh air pumps. It may slow things down a bit to tether roofers framing in the top of a building. And by avoiding these procedures, you may be able to submit a lower project bid. But that does not mean that building this way is cheaper. The cost in human lives, the cost in human injuries are real and important. While injuries and deaths will never be completely eliminated from construction, it is useful to remember OSHA official Joe Reina's observation that "Ninety-five to 99 percent of the time [when there is a fatality], there's going to be noncompliance with [an OSHA] standard that could have prevented the fatality." Prevailing wage regulations reduce the incentive to cheat on safety by emphasizing competition based on training, skill, management organization rather than competition based on "cheap" "pliant" and even "disposable" labor.

Chapter 5:

Prevailing Wage Regulations Promote Health Insurance Coverage while discouraging Cheating on Payroll Taxes

Opponents of prevailing wage regulations talk about keeping worker wages low, but the real harm comes in the absence of worker health insurance, pension coverage and payroll taxes for unemployment and workers comp premiums. Figure 7 shows that in states with prevailing wage laws, blue-collar construction worker incomes are 15% higher than in states without prevailing wage laws, but legally mandated per-worker payments into workers comp, unemployment insurance and social security are 25% higher in prevailing wage law states. Furthermore, employer contributions to health insurance for construction workers and their families plus pension coverage are a full

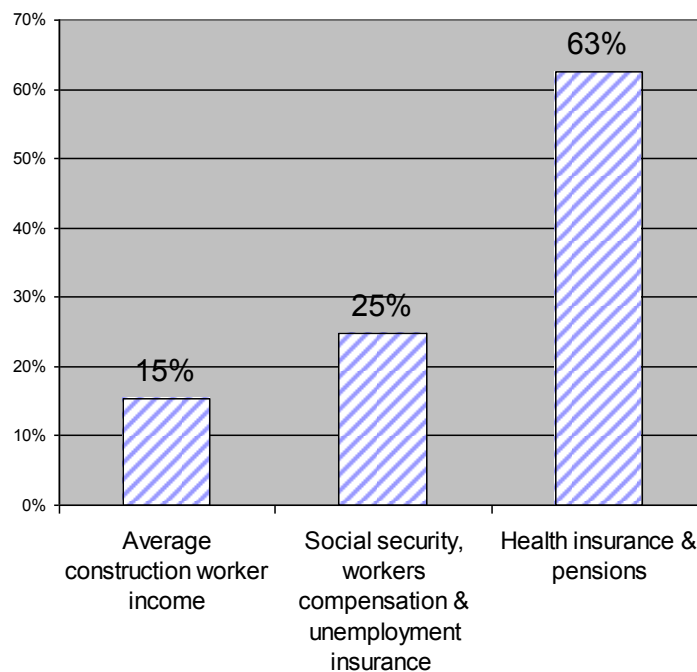


Figure 7: In prevailing wage law states, construction worker incomes are 15% higher, but payroll contributions to unemployment and workers comp are 25% higher and contractor health and pension contributions are 63% higher. Source: US Census of Construction, 2002.

65% higher in prevailing wage law states. The absence of prevailing wage laws allows unscrupulous, low-wage contractors to lower wages some, but the absence of prevailing wage regulations even more detrimentally encourages such contractors to throw out health insurance and worker comp premiums almost entirely. If the industry does not pay for the health, safety and retirement costs of construction workers, the taxpayer can be left with the bill.

Prevailing Wages, Health Insurance and Public Health Costs

In 2003, the construction industry provided less health insurance for workers than any other major sector of the economy: only 43% of establishments in construction provided health insurance compared to 69% in manufacturing and 56% in the overall economy.⁵⁶ In the case of Iowa, these data are a little troublesome because these government data on health insurance combine the construction industry with fisheries and agriculture. So for Iowa, the government reports that only 22% of construction contractors combined with agricultural and fishery establishments offer health insurance to their workers. (You have to be an establishment with employees to be counted in these data). The statistic of 22% for Iowa may be low in part because Iowa has more agricultural establishments than most states. However, in the surrounding agricultural states with prevailing wage laws, all these states have higher percentages of construction-agriculture-fisheries establishments paying health insurance: Wisconsin (53%), Minnesota (43%), Nebraska (29%), Missouri (43%) and Illinois (50%). In contrast, South Dakota which does not have a prevailing wage law has only 24% of construction, agricultural and fishery establishments providing health insurance—a result similar to Iowa.

Prevailing wage regulations require that contractors not only pay better wages but also provide benefits. Health insurance, if not provided, can end up costing taxpayers money. Almost all union contractors provide health insurance. Most high-wage nonunion contractors also provide health insurance, but many low-wage nonunion contractors do not. Figure 8 shows the distribution of health insurance among employed union and nonunion construction workers.⁵⁷ (These data are from another source where construction is not combined with other industries). One-third of nonunion construction workers have no form of health insurance, whatsoever. In contrast only 4% of union construction workers have no health insurance, at all.⁵⁸ The primary reasons union workers have health insurance is because collective bargaining requires that union contractors put into all their bids the hourly cost of health insurance contributions.⁵⁹ One reason some nonunion workers have health insurance is because prevailing wage jobs require that all contractors put the cost of health insurance into their bids on public works. Some high-wage nonunion contractors that do a lot of public works have very good health insurance programs.

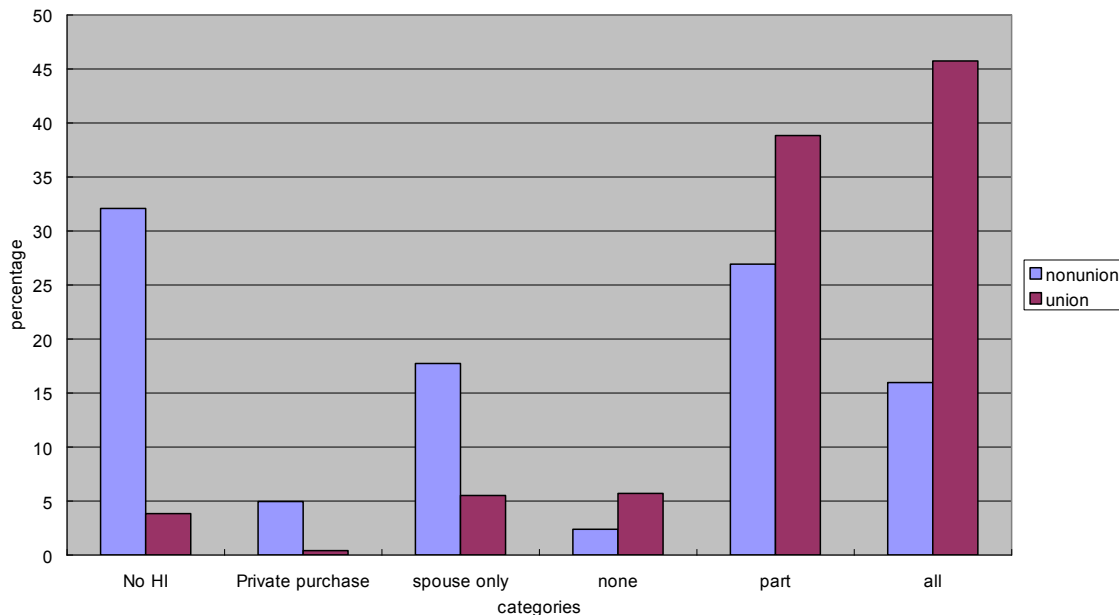


Figure 8: The distribution of health insurance among union and nonunion construction workers

The fact that one-third of nonunion construction workers do not receive any form of health insurance is mirrored by the fact that states without prevailing wage laws have fewer contractors offering health insurance. In states with prevailing wage laws, 44% of construction contractors offered at least some of their workers health insurance while in states without prevailing wage laws, only 34% of contractors offered health insurance.⁶⁰

Failure to pay health insurance in the construction industry can end up costing the taxpayer. Professor Jeff Waddoups of the University of Nevada at Las Vegas found that in Clark County (the Las Vegas area), construction workers formed a disproportionate share of patients receiving uncompensated care from public hospitals.⁶¹ Professor Waddoups found that compared to other sectors of the local economy, and considering the relative size of the construction industry, ***uninsured construction workers and their dependents were 88% more likely to receive uncompensated health care***. Professor Waddoups concluded:

All uncompensated [health] care costs [in Clark county] attributable to [uninsured] employed construction workers over the period amounted to \$6.3 million and the total cost of uncompensated care to the employed and their dependents was over \$37 million for the years 1998-2000.

This is a “pay-me-now-or-pay-me-later” issue. Establishing prevailing wage regulations will raise construction wages, benefits and health insurance coverage. The construction work force will become better able to take care of themselves and their families and less in need of a social safety net paid for by taxpayers. Prevailing wage

regulation will mean that construction workers will put less pressure on a public health care system that is already struggling to meet the needs of others.

Prevailing Wage Regulations and Payroll Taxes

Threatening the Viability of the Workers Compensation and Unemployment Insurance Systems

Payroll taxes provide funds for Social Security, workers compensation insurance and unemployment insurance, benefits needed by construction workers and their families. But in the arcane world of construction subcontracting, it is not difficult for unscrupulous contractors to magically turn workers into bogus independent subcontractors. Often it is as easy as passing out 1099 forms instead of W-2's to members of your work crew. Union contractors cannot do this because the union would not let them. High-wage nonunion contractors would be stupid to try this because their skilled work force would not stand for it, and would go elsewhere. Turning workers into bogus "independent" subcontractors is a trick low-wage contractors can get away with simply because their low-wage workers are cash-starved and will not put up a fuss if Social Security contributions or workers comp contributions are not paid.

DAVENPORT (AP) -- Jose L. Martinez, whose last known address was in Mexico, suffered head and neck injuries when he fell 20 feet in a work accident at the construction site of a new Wal-Mart Supercenter in Davenport, according to a police report....Local officials said they knew that Prime Contracting, of Stanton, Ky., a contractor on the Davenport site, had been discovered using undocumented workers on another Wal-Mart site....Mike Trier, who oversees worker's compensation issues for Iowa Workforce Development, said there is no record of Prime Contracting filing a required job site injury report in Iowa or Kentucky, no record that the company has workers' compensation insurance and no record it was registered to conduct business as a contractor in the state....Tony Morton, president of Prime Contracting, claims Martinez was not covered under his company's workers' compensation policy because he was employed by subcontractor Eric Everman. Martinez has worked for Prime Contracting since recovering from his injuries, Morton said, but he said he didn't know where Martinez was now. Records from Kentucky show that Prime Contracting and Everman both had their workers' compensation insurance canceled in July and that neither of the companies currently have the coverage.⁶²

Construction can be a rough and tumble industry. Cutthroat, low-ball bidding can lead contractors to throw out the baby with the bathwater when shaving their bid to win jobs. One technique is to dodge paying workers compensation insurance, unemployment insurance and social security taxes. There are lots of ways of doing this. One common but hard-to-measure way is simply to pay workers cash under-the-table avoiding all payroll taxes including social security. In a wrongful death lawsuit, this author once represented the family of a carpenter who died in an auto accident. The individual's

recorded earnings fluctuated wildly year-to-year based on whether the individual was being paid legally or under the table. This sort of illegal activity is stimulated by cutthroat bidding, enabled by a confusion of subcontractors on a job, and emboldened by the fly-by-night characteristics of an industry where many small contractors go in and out of business rapidly. Because it is illegal, and because dodging the taxman is the purpose, the prevalence of the black market of under-the-table payments is hard to measure with government statistics.

Making matters worse, the fully illegal black market in construction has a kissing-cousin, the gray market. In the gray market, contractors dodge payroll taxes by declaring their workers to be “independent subcontractors.” The guy swinging the hammer is really an employee but the contractor pays him as if he was a real bona-fide company, but a company with just one worker. Now it is up to this “independent subcontractor” to file taxes and often times they do not.

OMAHA (AP) -- Miguel is paid by the hour. He is told when to start and finish his workday, when to take breaks and what to do on his shift. He didn't bid for the job of hanging drywall, and he doesn't risk profit or loss. He wears a red hard hat bearing the "E & K" insignia of an Omaha contractor, Eliason & Knuth Drywall Co. He cashes a paycheck cut by a second company, an Atlanta-based labor broker called Eagle Managed Subcontractors. By all appearances, Miguel is somebody's employee. Yet before he could work on the new Omaha convention center, Miguel, as we're calling him, had to sign a contract declaring himself an independent subcontractor.⁶³

Some contractors will try the bogus subcontractor trick in any state. However, government data suggest that the use of bogus contractors to dodge paying social security, workers comp and unemployment insurance is less in states with prevailing wage laws. Construction has many legitimate owner-operator contracting firms with no employees. The plumber who pipes your basement or fixes your toilet or the electrician who wires your den may have no employees. Lots of home-improvement construction contractors do their own work with no help. But, it turns out that in states (like Iowa) where there are no prevailing wage laws, there is an excess of “independent contractors” over-and-above what you would expect just by counting up the home repairmen, remodelers and handymen.

Independent Contractors as a Percent of Employees in Construction

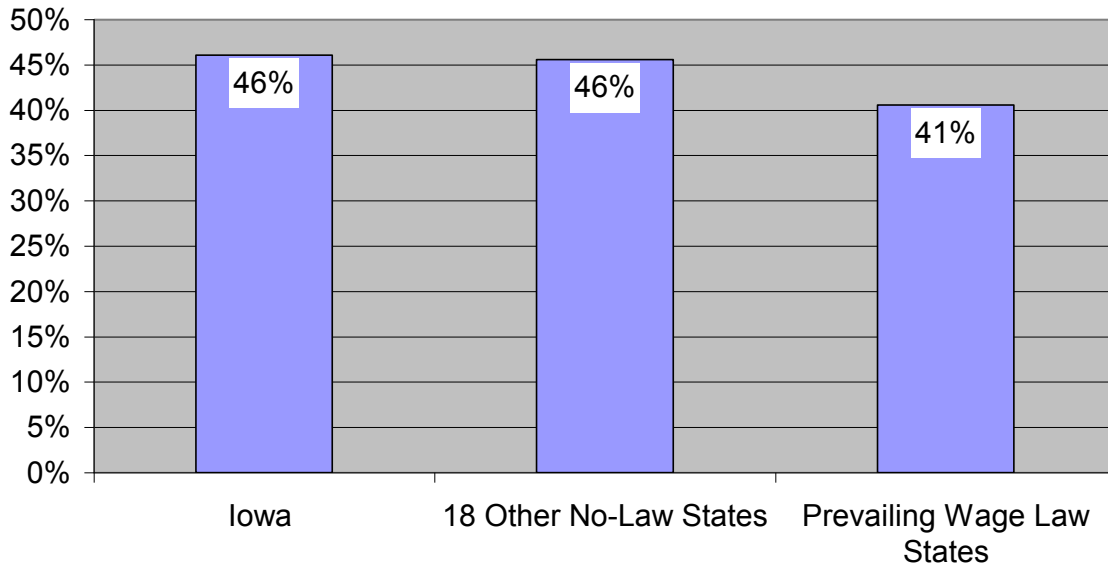


Figure 9: Independent contractors as a percent of construction employees for Iowa, 18 other no-law states and 31 states with prevailing wage laws, 2002

Sources: US Census Bureau, Economic Census, Construction 2002 and US Census Bureau, Nonemployer Statistics

Figure 9 shows the percent of “independent contractors” (i.e. construction contractors with no employees) relative to blue collar construction workers.⁶⁴ In the case of Iowa, for every 100 blue collar construction workers, there are 46 independent contractors (with no employees). This 46% is exactly the same as the average percent of independent contractors relative to construction workers in the other 18 states that do not have prevailing wage laws. However, in the 31 states that do have prevailing wage laws, there are only 41 independent contractors for every 100 construction workers. This is a statistically significant 5 percentage point difference indicating that there are more so-called “independent contractors” in Iowa and in other no-law states than you would expect. In rough terms, there are at least 2500 construction workers in Iowa who are being labeled “independent contractors” not because they are, but because someone is trying to dodge paying workers compensation insurance and unemployment insurance and shift who pays social security taxes.⁶⁵ The number may well be more because these government data only include those “independent contractors” who actually file social security tax returns. Many do not.

Debate over how to classify workers is not necessarily related to immigration status. Many U.S. employers have shifted work to subcontractors as a way of controlling personnel costs. But when illegal immigrants are involved, taxes tend

to disappear because the workers tend to be low-income, mobile, averse to filing government forms and ignorant of tax rules for subcontractors. It's impossible to say precisely how much tax revenue is disappearing. The *World-Herald* estimates that in the metropolitan Omaha area, there are 100 to 120 Eagle drywallers, if not more, working roughly an average of six to nine months. Allowing for a change in workers' status at the convention center, the potential revenue loss is about \$ 300,000 in federal taxes and roughly an additional \$30,000 in state taxes.⁶⁶

In all probability, phony “independent contractors” are probably the tip of an iceberg where under-the-table cash payments is the huge, hidden problem that threatens to sink state workers compensation programs and the unemployment insurance system while hemorrhaging public health services to the uninsured.

Prevailing wage laws help prevent both the black and gray markets in construction in two ways.

First, prevailing wage laws make cheaters nervous. Sure, if you are going to cheat, you’re going to cheat. But the obligation of providing certified payrolls and the prospect of inspection or getting reported make cheating harder. Most cheaters cheat because they think they can get away with it. Prevailing wage regulations create a job-site atmosphere where cheaters feel they are being watched and feel they might get caught. Cheaters tend to cheat across the boards. So the nice thing is when cheaters get caught in one scam, they are likely to be caught in all their scams. On prevailing wage jobs, contractors are less likely to cheat on payroll taxes and less likely to cheat on safety regulations as well as not cheating on prevailing wages. On regulated construction sites, one hand washes the other, discouraging cheating across the boards.

Second, prevailing wage laws discourage cheaters from bidding on a job in the first place. Prevailing wage regulations encourage competition over best management practices, most highly skilled and experienced crews, best technologies, best project scheduling and coordination and so on. Pure wage competition is discouraged. Consequently, shaving wages by paying workers under-the-table or making workers so-called “independent contractors” is discouraged. Contractors, who rely on cheating as their competitive advantage, typically are at a disadvantage competing along these other lines, and so they just don’t bid.

The nice thing about prevailing wage laws is that they not only encourage honest behavior on public works, they also encourage honesty to spread across the entire construction industry. Contractors aren’t stupid, and when they see that the rules of competition have changed on public works, they change their own behavior in order to compete, or they are replaced by others willing to play the game honestly. And you just can’t run a business using cheating strategies on private work and then totally changing your tactics to above-board practices on public jobs. The reverse is also true, when you learn to compete honestly on public works, that honesty spills over into your private dealings.

Chapter 6:

Prevailing Wage Regulations Come from a Family of Laws Designed to Promote High-Skill/High Wage Development

The History of Prevailing Wage Laws

Thirty-one states including all the states adjoining Iowa except South Dakota along with the District of Columbia have currently enforced prevailing wage laws. (Oklahoma's law is still on the books but is judicially suspended). The Davis Bacon Act (1931) regulates the payment of prevailing wages on federal public works. These acts are part of a larger set of regulations that began in the last half of the 19th Century and developed through the 20th Century and into the 21st. These laws include

- Child labor laws
- Free public schools
- Workers compensation
- Fair labor standards including the 8-hour day
- Unemployment insurance
- The rights of workers to collectively bargain for wages and benefits
- Minimum wage laws
- Social security
- The right to a safe workplace including state and federal Occupational Safety and Health Administrations (OSHA)
- Public health acts to eliminate contagious disease and ensure healthful drinking water, sanitation and housing
- Public sponsored higher education available to students from all walks of life
- The civil rights act

All of these laws come from one spirit—that the American economy, in general, and the U.S. labor market, in particular, should develop along a high-skill, high-wage, capital-intensive and technologically dynamic growth path. This is a vision of an economy where jobs are systematically good and safe and constantly getting better as employers, workers and society all join together in investing in better technology, better tools and equipment and higher skills. This is a vision of society where children are in school preparing for a better future for themselves, their families and their communities. This vision rejects policies that encourage dead-end jobs where the future is the first victim of workplace practices. This is a view of competition where the playing field is level, and the worst employer does not

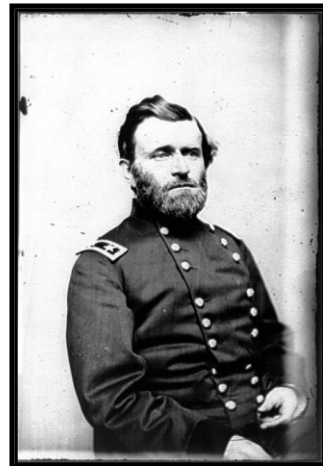
chase out all of the better, safer, fairer employers. This is a vision of the labor market where workers have rights—rights to organize together and bargain collectively and rights not to be the victims of discrimination or exploitation. This is also a vision of labor-management cooperation where win-win solutions predominate and mutual gain is the collective goal. Finally, and perhaps most importantly, this is a vision of families in communities where they earn sufficient income to fend for themselves, educate their children, pay taxes and support their community.

The First Federal Prevailing Wage Law

The first federal eight-hour day law was enacted on June 25, 1868. It also contained the first federal prevailing wage law. The country had just passed through a Civil War that among other things had kick-started massive industrialization across the north and west of the country. The next thirty years would see the emergence of a new class of wealth and power in the country. Men such as J.P. Morgan, John D. Rockefeller, and Andrew Carnegie were using the rapid growth stimulated by the Civil War as a foundation for accumulating economic power never before seen in the country.

At the same time, the lives of working people were in flux. Hours of labor had always been long but they had moved to the pace and the rhythms of the farm. Shoe factories in New England, meat packing plants in Chicago, woolen mills in California, and silver mines in Nevada changed all that. Work was being harnessed to the time clock, the production line and the will of the foreman. People were being ground down by the pace of machinery, the demands of the supervisor and the strain of 12 hour days and six day weeks.

In 1868 Congress addressed this issue with the National Eight Hour Day Law. The idea was to set labor standards, to guide the labor market, to nudge it away from the stretching out of the workday towards competitive behavior that emphasized increased productivity within a limited set of hours. It was felt that the market could not get there by itself. Short run competitive pressures would continually push for the longer day. But by regulating the market, the market could be forced to find its own best self-interest, competition over productivity rather than competition over sweating labor. The legal doctrine of individual contract prevented Congress from directly regulating the market, but Congress could regulate its own contracts. Thus, public works was targeted as a way of indirectly trying to regulate all labor markets. Republican Senator John Conness of California captured most of these ideas in one line of argument:



Ulysses S. Grant was the first President to seek enforcement of a federal prevailing wage law.

[The Eight-Hour Law] is but a very small boon that the working men of America ask from the Congress of the United States, namely: that the example be set by the Government of reducing the number of hours of labor. I know that the passage of this bill cannot control the labor of the country; but the example to be set by the Government, by the passage of this bill, is due to the laboring men of the country,

in my opinion. I know that labor in the main, like every other commodity, must depend upon the demand and supply. But, sir, I for one will be glad, a thousand times glad, when the industry of the country shall become accommodated to a reduced number of hours in the performance of labor. After forty or fifty years of such advance in the production of the world's fabrics by the great improvements that have been made by inventions, and the application of steam as a power, by which the capital of the world has been aggregated and increase many fold, I think that it is time that the bones and muscles of the country were promised a small percentage of cessation and rest from labor, as a consequence of that great increase in the productive industries of the country.⁶⁷

Opponents of the National Eight-Hour Day law wanted to leave the market completely unregulated and they were satisfied with whatever outcome emerged. Maine Republican Senator Fessenden summarized the laissez-faire position of the opposition and the fear that such a law would make workers feel entitled to shorter hours:

I oppose [this Act] upon principle, and because I believe that no good can come of it, and much evil probably will.... Let men make their contracts as they please; let this matter be regulated by the great regulator, demand and supply; and so long as it continues to be, those who are smart, capable, and intelligent, who make themselves skilled workmen, will receive the rewards of their labor, and those who have less capacity and less industry will not be on a level with them, but will receive an adequate reward for their labor.⁶⁸

Prevailing wage regulations were an integral part of the first national eight-hour law. For the Act said that when hours on public works were cut from 12 to 8, the daily wage should not be cut from (say) \$1.20 to 80 cents. In those days, construction workers were paid by the day. Congress said that when hours were cut, the contractor on public works still had to pay the daily wage that was current in the locale in which the work was being done. Proponents were not unmindful that such a provision would raise the hourly wage rate of workers. A popular doggerel of the time captured this position in rhyme:

Whether you work by the piece or by the day—
Decreasing the hours increases the pay⁶⁹

Enforcement of the current wage provision proved difficult. Twice Republican President Grant had to issue proclamations directing contractors and government agents to respect the current wage provision of the eight-hour day law.⁷⁰

Thus, the principle of a prevailing wage law at the federal level predates the current federal Davis-Bacon Act (1931) by fifty years. The purpose of the first federal law was to set labor standards regarding hours and wage rates in the public sector presumably with the hope that these standards might spread to the private sector. That the purpose was thwarted in enforcement is indicated by Grant's need to make the same proclamation twice. It was

also thwarted by legal decisions emphasizing the rights of individuals to contract without government interference.

Frustrated by problems of implementation and court rulings, the American Federation of Labor, in its first convention in 1881 stated what it thought the purpose of the law was and complained that it was not being enforced:

Resolved...that the National Eight Hour law is one intended to benefit labor and to relieve it partly of its heavy burdens, that the evasion of its true spirit and intent is contrary to the best interest of the Nation; we therefore demand the enforcement of said law in the spirit of its designers.⁷¹

The next year the AFL convention went on to argue “that the system of letting out Government work by contract tends to intensify the competition between workmen, and we demand the speedy abolishment of the same.” Further by focusing on enforcing the federal law, “the enforcement of the National Eight-hour law will secure adoption of similar provisions in nearly all the States of the Union.”⁷² Thus, the AFL wanted to get the government out of the business of pushing wages down and into the business of pushing hours of work down.

Soon the AFL would turn to states to develop and enforce hours and prevailing wage legislation, but in the United Kingdom and in Canada, legislatures were preparing to follow the U.S. example.

British (1890) and Canadian (1900) Laws

The country has no interest in keeping down the price of labour ; on the contrary, the country is interested in the advancement of the labour market....It is better for the workingman, for high wages enable him to supply himself with more of the necessaries, more of the comforts, more of the luxuries of life. This is better for the country also, as it stimulates the consumption of manufactured goods of all kinds. Higher wages benefit not only him who receives but him who gives, and they benefit not only the parties directly concerned, but the whole community.

Canadian Postmaster General

1900 Workmen's Wages on Government Contracts Debate

In England in 1890, the House of Lords issued the *Report of the Sweating Commission*. Sweatshop labor conditions had become a scandal. Construction was seen as one of the sweatshop industries. The system of contracting and subcontracting and lowest bidder acceptance led to a form of competition that was deleterious. To obtain a contract in the short run, contractors would ignore long term costs of the industry, such as training. Having shaved on a bid to win a government contract, contractors were trying to offset their costs through shoddy workmanship. Contractors who won a job would shop it around to laborers, seeing who would take the biggest pay cut to get a job. In response to these practices, Parliament enacted a prevailing wage law as part of a larger set of reforms designed to reign in the prevalence of sweatshop competitive practices.

Canada followed the English example in 1900. The Canadian Parliament was persuaded that there was a high-wage, high-skilled growth path and a low-wage, low-skilled growth path opening up before Canada. The high-wage path was seen as preferable because it promoted solid skills and good workmanship on public works, it created middle class citizens and it stimulated demand for local manufactured goods.

The First State Prevailing Wage Law--Kansas (1891)

In February 1891, Samuel Gompers,⁷³ president of the American Federation of Labor, visited Topeka, Kansas, to speak on what the local newspaper called "the great topic of labor." Ten years earlier, the AFL — at its own creation — had laid out legislative aims that included the eight-hour work day, the elimination of child labor, free public schooling, compulsory schooling laws, the elimination of convict labor, and prevailing wages on public works. These proposals were based on a belief that the American labor market should consist of highly skilled workers earning decent wages, with time for family, and with children free to earn an education. In Kansas in 1891, this made Samuel Gompers an ally of the Republican Party. The Republicans, who controlled the Kansas Senate, invited Gompers to speak there, and he did.

Gompers was in Kansas to focus on the eight-hour day. Like other Americans, Kansans in 1891 typically worked six days per week, ten to twelve hours per day. In the older trades and crafts, such as carriage making and saddle making, where the work pace was slow and under the workers' direction, the long work-day was tolerable. In the newer factories producing shoes, textiles, and the like; in the mines; and in the urban putting-out systems in needlework, six-day weeks and twelve-hour days were grueling. The AFL had made its prime objective a shortened work-day and work week with as little cut in pay as possible. In his Topeka speech, Gompers declared:

Our banner floats high to the breeze and on that banner float is inscribed, "Eight hours work, eight hours rest and eight hours for mental and moral improvement."⁷⁴

At that time, when there were no income supplement programs for the poor, low-income parents worked *and* had to send their children to work to make ends meet. This practice was later referred to by a North Carolina newspaper editor as "eating the seed corn." Each generation of poor condemned its offspring to poverty because the children grew up as illiterate as their parents. The prevalence of cheap child labor, which accounted for 5 percent of the manufacturing labor force in 1890 and a larger proportion of service sector workers, kept wages down and forced adult workers to put in the long hours to make ends meet. Gompers wanted regulation to force employers and the poor to adopt a strategy, however painful in the short run, of a high-wage, high-skilled growth path where children were in school and workers had the skills to justify wages that would allow for a family life. Gompers said,

The Federation endorses the total abolition of child labor under 14 years of age; an eight hour law for all laborers and mechanics employed by the government directly through contractors engaged on public work, and its

rigid enforcement; protection of life and limb of workmen employed in factories, shops and mines; ...the extension of suffrage as well as equal work for equal pay to women.⁷⁵

Gompers also pleaded for workers to be paid the "current" daily wage so they could afford the reduced work time. Government was being asked to set a good example for the private sector, to show that a refreshed labor force could produce in eight hours what a fatigued and bedraggled labor force turned out in ten or twelve hours. The prevailing wage law in its infancy was an attempt to obtain shorter working hours for *all* labor. The AFL paid attention to public works, however, because government at all levels was a major purchaser of construction. The AFL said government should not try to save money by eroding the wages of its citizens.

With similar logic, the AFL called for an end to convict labor. Many states employed convicts to pay for their keep. Convicts built roads on chain gangs, operated farms, made textiles, and sewed garments. Convict-made goods were sold, forcing down prices and the wages of working free citizens.

In February 1891, the Second Annual Convention of the Kansas State Federation of Labor, in Topeka, approved a bill concerning state-paid wages. That month, the bill, which included the prevailing wage section, called "for an Eight Hour Law" and was brought forth by Mr. Avery of the Typographical Union No.121, Topeka. The bill stated,

That in no case shall any officer, board, or commission, doing or performing any service or furnishing any supplies to the State of Kansas under the provisions of the act be allowed to reduce the daily wages paid to employees engaged with him (or them) in performing such service or furnishing such supplies, on account of the reduction of hours provided for in the act. That in all cases such daily wages shall remain at the minimum rate which was in such cases paid and received prior to the passage of the act.⁷⁶

The eight-hour bill was one of four labor-related bills pending in the legislature: the weekly pay bill, the child-labor bill, and the bill to make the first Monday in September a holiday, which would become known as Labor Day. In addition, that year the Kansas State Federation of Labor approved a resolution calling "for the abolition of convict labor when in competition with free labor."⁷⁷

The eight-hour bill, Senate Bill 151, failed in the Kansas senate March 6, 1891, with the prevailing wage section removed. But by March 10, when the prevailing wage section was put back in, the bill became law. This first prevailing wage law stated:

That not less than the current rate of per diem wages in the locality where the work is performed shall be paid to laborers, workmen, mechanics and other persons so employed by or on behalf of the state of Kansas....⁷⁸

We do not know the immediate impact of the Kansas prevailing wage law. But a report from the Oklahoma labor commissioner in 1910 may well have applied to Kansas.

The Oklahoma law was patterned after the Kansas act. It was passed in 1908. It was reported to have had the intended effect of setting wage and hour standards not only on public works but in related labor markets. The Oklahoma Commissioner of Labor stated in 1910:

The eight hour law has been of inestimable value to the laboring men of this state....The common laborer, who was heretofore employed ten and twelve hours per day, is now, under the provisions of this bill, allowed to work but eight hours....The law has not only affected the laborers and those who are dependent upon this class of work for a living, but it has gone further, and in many localities has gradually forced railroad companies, private contractors [i.e. private construction] and people of that class to pay a high rate of wages for unskilled labor.⁷⁹

The Federal Davis Bacon Act

For four years before the 1931 passage of the Davis-Bacon Act, 14 bills were introduced in Congress to establish prevailing wages in construction. Republican Representative Robert L. Bacon (NY) in 1927 introduced the first bill proposing a prevailing wage for construction, H.R. 17069. This member of Congress justified his measure as follows:

The Government is engaged in building in my district a Veteran's Bureau hospital. Bids were asked for. Several New York contractors bid, and in their bids, of course, they had to take into consideration the high labor standards prevailing in the State of New York...The bid, however, was let to a firm from Alabama who had brought some thousand non-union laborers from Alabama into Long Island, N.Y.; into my district. They were herded onto this job, they were housed in shacks, they were paid a very low wage, and the work proceeded...It seemed to me that the federal Government should not engage in construction work in any state and undermine the labor conditions and the labor wages paid in that State...The least the federal Government can do is comply with the local standards of wages and labor prevailing in the locality where the building construction is to take place.⁸⁰

Hearings for a federal prevailing wage law began in 1927 and continued in 1928 and 1930, but no bill was passed. On March 3, 1931, Bacon's original proposal, which he had reintroduced as H.R. 16619, was signed into law by Republican President Herbert Hoover.⁸¹

The Davis-Bacon Act required payment of prevailing wages on federally financed construction projects. However, the original language of the law was vague, and prevailing wages generally were not determined before the acceptance of bids. In 1935, Democratic President Roosevelt signed clarifying amendments to the act, which became the basis of the current Davis-Bacon Act.

States Adjoining Iowa

Illinois and Wisconsin passed their state prevailing wage laws the same year as the Davis Bacon Act (1931). Nebraska had already enacted its law in 1923. Arkansas passed a state prevailing wage law in 1955, Missouri in 1957 and Minnesota passed its law in 1973. (See Table 9).

States having prevailing wage laws	Year passed	States without prevailing wage laws		
Alaska	1931	Georgia		
Arkansas	1955	Iowa		
California	1931	Mississippi		
Connecticut	1935	North Carolina		
Delaware	1962	North Dakota		
District of Columbia	1931	South Carolina		
Hawaii	1955	South Dakota		
Illinois	1931	Vermont		
Indiana	1935	Virginia		
Kentucky	1940			
Maine	1933			
Maryland	1945			
Massachusetts	1914	States that repealed prevailing wage laws	Year passed	Year of repeal
Michigan	1965			
Minnesota	1973			
Missouri	1957	Alabama	1941	1980
Montana	1931	Arizona	1912	1984
Nebraska	1923	Colorado	1933	1985
Nevada	1937	Florida	1933	1979
New Jersey	1913	Idaho	1911	1985
New Mexico	1937	Kansas	1891	1987
New York	1894	Louisiana	1968	1988
Ohio	1931	New Hampshire	1941	1985
Oklahoma	1909	Utah	1933	1981
Oregon	1959			
Pennsylvania	1961			
Rhode Island	1935			
Tennessee	1953			
Texas	1933			
Washington	1945			
West Virginia	1933			
Wisconsin	1931			
Wyoming	1967			

Table 9: States with and without prevailing wage laws

(NOTE: While Oklahoma has never repealed its prevailing wage law, the law has been judicially suspended since 1995. Since 1997, Ohio's law no longer applies to school construction.)

Conclusions.

Prevailing wage laws emerged from a concern that cutthroat competition over wages in construction would lead the industry down a low-wage, low-skill development path. This was said to put the quality of construction at risk and lead to an itinerant, footloose low-wage construction labor force. Poor construction workers would make

poor neighbors and potential burdens on the community. Reasonably paid construction workers, on the other hand, held out the possibility of being solid neighbors, good citizens and productive members of the community. Government, by the operation of prevailing wage laws, was supposed to get out of the business of cutting government costs by cutting the wages of its citizens. Whatever labor standards had been established, whatever wages prevailed in a local community, that is what the law said government should pay on public works.

Appendix:

Race and Davis Bacon

Opponents of prevailing wage regulations have circulated a myth that prevailing wage laws, in general, and the federal Davis Bacon Act in particular, are remnant Jim Crow laws, racially discriminatory in their intent and anti-black in their current effect. The origins of this argument stem from a 1990 op-ed by Scott Alan Hodge in the *Wall Street Journal*:

The original Davis-Bacon Act was drafted in 1927 by New York Rep. Robert Bacon after an Alabama contractor won the bid to build a federal hospital in Bacon's district. As Bacon reported at the first hearing on this bill, "The bid ... was let to a firm from Alabama who brought some thousand non-union laborers from Alabama into Long Island, N.Y. into my congressional district." What he meant, of course is that many of the workers were black—and willing to work for less than local building tradesmen.

Bacon's complaints brought a knowing smile from Georgia Rep. William Upshaw, who commented: "You will not think that a Southern man is more than human if he smiles over the fact of your reaction to the real problem you are confronted with in any community with a superabundance or large aggregation of Negro labor."⁸²

Hodge does not report Bacon's response to Upshaw which was:

...the contractor has also brought in skilled nonunion labor from the South to do this work, some of them negroes and some of them white, but all of them are being paid very much less than the wage scale prevailing in New York State...⁸³

For Bacon, the issue was not race. The issue was that both black and white workers from Alabama were being paid very much less than the wage scale prevailing in New York. Hodge and those who would repeat his argument try to characterize the Alabama contractor's labor force as entirely or primarily black. But this was not true. Hodge and his followers do not tell us that in the 1920s and 1930s, two-thirds of all Alabama construction workers were white. A typical Alabama general contractor of the time would have a white crew of carpenters, and a black crew of laborers.

But more on these facts later. We need to first understand the myth. Hodge went on to quote a second Southern congressman who supported the passage of the Davis-Bacon Act in 1931:

Four years later [in 1931] during the floor debate on the bill, Alabama Rep. Miles Allgood echoed Upshaw's sentiments: "That contractor has cheap colored labor....and it is labor of that sort that is in competition with white labor....This bill has merit...It is very important that we enact this measure."

Hodge does not tell us that the Davis-Bacon Act passed the Republican House in 1931 by voice vote with only one congressman, a Democrat from Texas arguing against the Act. Nor does he quote Northern voices such as that of New York Republican Congressman

Fiorello LaGuardia who spoke in favor of the Act. LaGuardia, in contrast to the Southern Democrats Hodge does quote, was a Republican as were both Representative Bacon and Senator Davis. He was from New York City near Bacon's Long Island district. And LaGuardia was personally familiar with the incident Bacon had mentioned. LaGuardia characterized the incident as follows:

A contractor from Alabama was awarded the contract for the Northport Hospital, a Veterans' Bureau hospital. I saw with my own eyes the labor that he imported there from the South and the conditions under which they were working. These unfortunate men were huddled in shacks living under most wretched conditions and being paid wages far below the standard. These unfortunate men were being exploited by the contractor. Local skilled and unskilled labor were not employed. The workmanship of the cheap imported labor was of course very inferior....all that this bill does, gentlemen, is to protect the Government, as well as the workers, in carrying out the policy of paying decent American wages to workers on Government contracts. [Applause.]⁸⁴

Unlike many arguments in the debate around prevailing wage regulations, the assertion that Davis Bacon was a Jim Crow law had its day in court in the case of *Brazier Construction, et al. v. Elaine Chao*, Secretary of the Department of Labor.⁸⁵ Heard in the United States District Court for the District of Columbia, in April 2002 Judge William B. Bryantⁱⁱ, an African American, decided against plaintiffs concluding:



Judge William B Bryant

Americans of all races were in need of aid from the government during the Great Depression. Congress enacted the DBA [Davis Bacon Act] to assure workers a fair wage, provide local contractors a fair opportunity to compete for local government construction contracts, and to preserve its own ability to distribute employment and federal money equitably through public works projects. The legislative history and the economic and social history of the United States during the time of the passage of the Act make it clear that the DBA would have been passed regardless of the discriminatory motives of some Congressman.⁸⁶

In his decision, Judge Bryant cited a previous Supreme Court case which in turn cited Representative Bacon, himself, regarding the intent of the Davis Bacon Act:

ⁱⁱ "Judge Bryant was appointed to the United States District Court in August 1965, and took senior status in January 1982. He served as Chief Judge from March 1977 to September 1981. He graduated from Howard University, receiving an A.B. in 1932, and from Howard University Law School, receiving an LL.B. in 1936. Judge Bryant served in the U.S. Army from 1943 to 1947. He was an Assistant U.S. Attorney for the District of Columbia from 1951 to 1954. From 1954 until his appointment to the bench, Judge Bryant was engaged in private practice." www.dcd.uscourts.gov/bryant-bio.html (accessed January 2, 2007).

[i]n the words of Representative Bacon, the Act was intended to combat the practice of “certain itinerant, irresponsible contractors, with itinerant, cheap, bootleg labor, [who] have been going around throughout the country ‘picking’ off a contract here and a contract there.” The purpose of the bill was “simply to give local labor and the local contractor a fair opportunity to participate in this building program.” 74 Cong. REc. 6510 (1931).

In addition to arguing that the Davis Bacon Act was discriminatory in intent, Plaintiffs also argued that it was discriminatory in effect by limiting the job opportunities of black workers. Judge Bryant summarized the argument thus:

Specifically, Plaintiffs contend that the DBA prevents small, non-union minority contractors and low-skilled and unskilled minority workers from competing for contracts and jobs because it does not allow them to pay and receive lower wages for their services...

But the assumption here is that minority workers are not and/or cannot become skilled workers. In fact, African Americans and Latinos are well represented in apprenticeship programs. In “How Unions Affect Minority Representation in Building Trades Apprenticeship Programs,” Bilginsoy shows that overall, 9% of all union construction apprentices are black and 7.3% are Latino.⁸⁷ In nonunion apprenticeship programs 7.3% of all apprentices are black and 7.9% are Latino. (See Table 10). The best road to advancement for minorities in construction is not the low road of cutting wages and benefits and reducing skills but rather training minorities to have the skills that will generate the income they want and need.

<i>Program and Ethnic/Racial Distribution of Incoming Apprentices by Occupation, 1989–1995</i>								
	Joint Programs				Non-joint Programs			
	%Black	%Latino	%White	<i>N</i>	%Black	%Latino	%White	<i>N</i>
Bricklayer	10.0	7.5	80.9	4,522	11.9	5.3	79.5	604
Carpenter	8.7	8.6	79.8	27,207	11.5	8.7	75.5	3,511
Electrician	7.5	6.1	84.3	25,955	7.4	7.0	83.3	23,478
Operating engineer	14.1	4.7	76.2	3,719	4.1	12.1	72.0	346
Painter	10.9	8.4	78.4	5,550	9.2	13.8	72.6	434
Pipefitter	7.1	5.8	84.8	8,144	5.3	9.6	83.3	2,498
Plumber	7.7	6.3	84.2	7,712	5.5	3.9	88.4	7,985
Roofer	14.5	10.0	73.0	9,757	8.9	33.9	52.8	1,531
Sheetmetal worker	7.7	5.8	84.6	9,188	6.1	8.6	83.0	2,875
Struc. steel worker	9.2	7.6	78.1	8,492	15.1	7.6	76.2	172
All occupations	9.0	7.3	81.1	110,246	7.3	7.9	82.3	43,434
<i>Note:</i> Shares of other racial/ethnic groups are not reported.								
<i>Source:</i> BAT/AIMS.								

Table 10: (Taken from Table 1 of “How Unions Affect Minority Representation in Building Trades Apprenticeship Programs”)

Endnotes:

- ¹ Dave Dewitte, Plumbers union to show off facility,” *The Gazette* (Cedar Rapids), September 27, 2005.
- ² “Job training alternative is big business for Clive center,” *The Associated Press, State & Local Wire*, October 7, 2002.
- ³ Peter Philips, “Kansas and Prevailing Wage Legislation,” University of Utah, February 1998.
- ⁴ US Bureau of the Census, Economic Census, Subject Series, *Construction*, “Industry: Summary 2002,” Issued October 2005, EC02-23SG-1, op. cit.
- ⁵ *Census of Construction*, 2002, Geographical Series, Summary.
- ⁶ Mike Glover, “Officials tout veteran apprentice effort,” *he Associated Press State & Local Wire, State and Regional*, July 6, 2005.
- ⁷ Cihan Bilginsoy, “The Hazards of Training: Attrition and Retention in Construction Industry Apprenticeship Programs,” *Industrial and Labor Relations Review* v57, n1 (October 2003): 54-67.
- ⁸ Hamid Azari, Peter Philips and Mark J. Prus, eds., *The Economics of Prevailing Wage Laws*, Ashgate Publishers, Hampshire England and Burlington Vermont, 2005.
- ⁹ Mary Lou Pickel, *The Atlanta Journal-Constitution*, October 19, 2005 Section: News, p. 1A. Other such stories include: “New Orleans rebuilds as tensions rise; Influx of Latino workers has local businesses and contractors feeling left out,” Kelly Brewington, *The Baltimore Sun*, October 14, 2005 Section: Telegraph, p. 1A; “Nuevo Orleans? An influx of Hispanic workers in the wake of Hurricane Katrina has some officials wondering why locals aren’t on the front line of recovery,” James Varney, *Times-Picayune*, October 18, 2005, New Orleans, Section: National, p. 1; “Immigrant workers becoming visible part of New Orleans work force,” Deon Roberts, *New Orleans City Business*, New Orleans, October 15, 2005.
- ¹⁰ Lolis Eric Elie, *Times -Picayune*, New Orleans, Section: Metro, p. B1.
- ¹¹ “Group of House Republicans Calls on Bush To Reinstate Davis-Bacon on Katrina Projects,” BNA, Construction Labor Report, Volume 51 Number 2541, Wednesday, September 28, 2005, Page 1017. The Republican signers of the letter include: Rodney Alexander (LA) Mark Kirk (IL) Don Sherwood (PA) Sherry Boehlert (NY) Randy Kuhl (NY) John Shimkus (IL) Jo Ann Emerson (MO) Ray LaHood (IL) Rob Simmons (CT) Phil English (PA) Steven LaTourette (OH) Christopher Smith (NJ) Mike Ferguson (NJ) Frank LoBiondo (NJ) John Sweeney (NY) Mike Fitzpatrick (PA) John McHugh (NY) Michael Turner (OH) Vito Fossella (NY) Candice Miller (MI) James Walsh (NY) Melissa Hart (PA) Timothy Murphy (PA) Greg Walden (OR) Jim Gerlach (PA) Bob Ney (OH) Curt Weldon (PA) Nancy Johnson (CT) Todd Platts (PA) Jerry Weller (IL) Tim Johnson (IL) Jim Saxton (NJ) Don Young (AK) Sue Kelly (NY) Chris Shays (CT) Peter King (NY) Joe Schwarz (MI).
- ¹² October 26, 2005, <http://donyoung.house.gov/PressRelease.aspx?NewsID=1592>.
- ¹³ <http://murphy.house.gov/News/DocumentSingle.aspx?DocumentID=36166>
- ¹⁴ Letter to President George Bush signed by Jerry Weller, October 18, 2005.
- ¹⁵ Letter to President George Bush signed by Tom Feeney, Jeff Flake, Marilyn Musgrave and 32 others, September 7, 2005.
- ¹⁶ US Bureau of the Census, Economic Census, Subject Series, *Construction*, “Industry: Summary 2002,” Issued October 2005, EC02-23SG-1, blue collar construction payroll from Table 1. Employment Statistics for Establishments by Industry: 2002, and the net value of construction from Table 2. General Statistics for Establishments by Industry: 2002. The net value of construction nets out work subcontracted to others. Payroll for Construction Workers includes the gross earnings paid in the reporting year to all construction workers on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, and vacation and sick leave pay, prior to deductions such as employees’ Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. See www.census.gov “Economic Census” button to obtain these data.
- ¹⁷ US Bureau of the Census, Economic Census, Geographic Series, *Construction*, Kentucky: 2002 Issued September 2005, EC02-23A-KY, Tables 1 and 2.
- ¹⁸ Table 3. “Detailed Statistics for Establishments by Subsector: 2002,” in the *Census of Construction* provides some guidance regarding the cost of benefits in construction. Total fringe benefits including payroll taxes and voluntary benefits amount to 23.8% of total payroll for *all employees* (not just blue collar

construction workers). White collar workers typically receive more benefits in construction for two reasons. First, the average white collar worker in construction in 2002 earned \$43,215 in wages and salaries while the average blue collar worker in construction earned \$32,580. Typically, workers with higher incomes receive more legally required and voluntary benefits. Second, white collar workers tend to stay with one contractor longer while blue collar workers tend to move from contractor to contractor. In the nonunion sector, moving between contractors can lead to loss of health insurance and other benefits. For these reasons, the almost 2 million white collar workers in construction probably receive a disproportionate share of the 23.8% of benefits paid compared to the 5 million blue collar workers. Consequently, a 10% to 20% estimate of benefits paid to blue collar workers is reasonable. Kentucky benefit costs as a percent of total costs are similar to the national average.

¹⁹ The legislative record is replete with assertions from critics of prevailing wage laws that repeal would save from 20% to 25% or more on total construction costs. Some contractors assert that their labor costs are 40% to 50% of their total costs and that by cutting wages in half, total costs would fall by 20% to 25%. Contractor statements about their labor costs are invariably misleading for three reasons. First, the contractor is often a subcontractor, and currently general contractors tend to buy the bulk of materials for a project. Thus, when the subcontractor says *his* labor costs are a high proportion or *his* total costs it is because he is buying a small percentage of the material costs for the job. Second, both specialty and general contractors tend to give their labor costs as a percent of *their* costs and not the owner's cost. The contractors leave out their profits when they think of *their* costs thus shrinking the denominator and inflating the estimate of labor costs as a percent of construction costs. Finally, contractors tend to think in terms of variable costs and not capital depreciation, rent and other off-site costs. Thus, the percentage they give tends to be labor divided by labor plus materials forgetting fixed costs and profits. Additionally, many contractors answering this question tend to be low-wage contractors using labor intensive management strategies that save on capital equipment and white collar labor expenses. The *Census of Construction* figures avoid all these errors.

²⁰ 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*).

²¹ "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.

²² 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.

²³ 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 p415-31 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.

²⁴ Peter Philips, *Kansas and Prevailing Wage Regulations*, February 20, 1998.

²⁵ Kevin Duncan and Mark J. Prus, "Prevailing Wage Laws and Construction Costs: Evidence from British Columbia's Skill Development and Fair Wage Policy," in Hamid Azari, Peter Philips and Mark J. Prus, eds., *The Economics of Prevailing Wage Laws*, Ashgate Publishers, Hampshire England and Burlington Vermont, 2005. Mark Prus is Professor of Economics and Dean of the College of Arts and Sciences, SUNY Cortland, and Kevin Duncan is Professor of Economics, Colorado State University, Pueblo. The one exception to this general conclusion is Dunn, Sarah ; Quigley, John M. ; Rosenthal, Larry A. The Effects of Prevailing Wage Requirements on the Cost of Low-Income Housing," *Industrial and Labor Relations Review* v59, n1 (October 2005): pp. 141-57. These authors estimate that in California prevailing wage regulations raise low-income housing construction costs by from 9% to 37%. It is not clear why

these authors' results for low-income housing construction differ from the literature on school construction costs. It may be that material costs in low-income housing are particularly low raising the share of labor costs as a percent of total costs. It may also be that skill requirements in low-income housing are less demanding minimizing the benefits of training found on prevailing wage work. Whatever the reason for these authors anomalous results for low-income housing, further research is needed to confirm their findings.

²⁶ Associated Press, State and Local Wire, "Ill-fated Old Capitol in Iowa City was plagued with problems from the beginning, a review of documents related to the project shows."

²⁷ Associated Press, State and Local Wire, "Shive-Hattery official defends company," November 29, 2001.

²⁸ Associated Press, State and Local Wire, "Shive-Hattery official defends company," November 29, 2001.

²⁹ Associated Press, State and Local Wire, "Repairs to Old Capitol escalate to more than \$5 million," November 30, 2001.

³⁰ Associated Press, State and Local Wire, "Ill-fated Old Capitol in Iowa City was plagued with problems from the beginning, a review of documents related to the project shows."

³¹ "The use of heat guns to remove coatings is not advisable for safety reasons. The possible emission of hazardous fumes and potential for fire are concerns." From project meeting minutes cited in Associated Press, State and Local Wire, "Ill-fated Old Capitol in Iowa City was plagued with problems from the beginning, a review of documents related to the project shows," January 20, 2002.

³² Associated Press, State and Local Wire, "Ill-fated Old Capitol in Iowa City was plagued with problems from the beginning, a review of documents related to the project shows," January 20, 2002.

³³ Associated Press, State and Local Wire, "Computer messages warned of a potential fire at Old Capitol," January 13, 2002.

³⁴ Associated Press, State and Local Wire, "Computer messages warned of a potential fire at Old Capitol," January 13, 2002.

³⁵ Associated Press, State and Local Wire, "Ill-fated Old Capitol in Iowa City was plagued with problems from the beginning, a review of documents related to the project shows," January 20, 2002.

³⁶ Associated Press, State and Local Wire, "Asbestos removal company faces more citations," February 28, 2002. An Enviro Safe attorney said that "I can't imagine those [charges] are going to stick."

³⁷ Department of Labor, Occupational Outlook Handbook, "Hazardous Materials Removal Workers," <http://www.bls.gov/oco/ocos256.htm> (accessed December 18, 2006)

³⁸ Department of Labor, Occupational Outlook Handbook, "Hazardous Materials Removal Workers," <http://www.bls.gov/oco/ocos256.htm> (accessed December 18, 2006)

³⁹ Diversity Working.Com—Largest Diversity Job Board Online, "Insulation Workers," http://www.diversityworking.com/career/Construction_and_Real_Estate/Insulation_Workers/Insulation_Worker.html (accessed December 18, 2006).

⁴⁰ Associated Press, State and Local Wire, "Contractor no longer welcome on Iowa campus," January 17, 2002.

⁴¹ Associated Press, State and Local Wire, "Repairs to Old Capitol escalate to more than \$5 million," November 30, 2001.

⁴² Justin Pritchard, "AP Investigation: Mexican worker deaths rise sharply even as overall U.S. job safety improves," The Associated Press State & Local Wire, March 12, 2004.

⁴³ Samuel W. Meyer and Stephen M. Pegula, "Injuries, Illnesses, and Fatalities in Construction, 2004," Bureau of Labor Statistics, <http://www.bls.gov/opub/cwc/sh20060519ar01p1.htm#2>, Originally Posted: May 24, 2006, (accessed December 28, 2006).

⁴⁴ Xiuwen Dong, MS, James W. Platner, PhD, "Occupational fatalities of Hispanic construction workers from 1992 to 2000" *American Journal of Industrial Medicine*, Volume 45, Issue 1, Pages 45 - 54 Published Online: 16 Dec 2003 (accessed December 27, 2006).

⁴⁵ This was partly due to the rising proportion of Hispanic workers among all construction workers, but while Hispanic construction employment grew by 12% between 2003 and 2004, Hispanic fatalities in construction grew by 20%. Samuel W. Meyer and Stephen M. Pegula, "Injuries, Illnesses, and Fatalities in Construction, 2004," op. cit.

⁴⁶ Particularly in the nonunion sector of construction, carpenters will be better trained than laborers. In the union sector, increasingly laborers go through apprenticeship programs or other extended early-on training.

⁴⁷ Samuel W. Meyer and Stephen M. Pegula, "Injuries, Illnesses, and Fatalities in Construction, 2004," and the Bureau of the Census, *Current Population Survey*.

⁴⁸ Justin Pritchard, "AP Investigation: Mexican worker deaths rise sharply even as overall U.S. job safety improves," The Associated Press State & Local Wire, March 12, 2004.

⁴⁹ While the South was experiencing the greatest growth in Mexican work-place fatalities, the Associated Press noted: "MIDWEST: The number of Mexicans killed annually doubled between 1996 and 2002, from 19 to 38; death rates were slightly above the national average for Mexicans." Justin Pritchard, "AP Investigation: Mexican worker deaths rise sharply even as overall U.S. job safety improves," The Associated Press State & Local Wire, March 12, 2004.

⁵⁰ Dave Dewitte, "Iowa workplace deaths up, report says," *The Gazette* (Cedar Rapids, Iowa), December 22, 2006, Section: Business and Financial News.

⁵¹ Anthony Suruda, Brad Thomas Whitaker, Peter Philips, Donald Bloswitz and Richard Sesek "Impact of the OSHA Trench and Excavation Standard on Fatal Injury in the Construction Industry," *Journal of Occupational and Environmental Medicine*, Vol. 44, No. 10, October 2002, pp. 902-905; also Anthony Suruda, Peter Philips, Dean Lillquist and Richard Sesek, "Fatal Injuries to Teenage Construction Workers in the U.S.," *American Journal of Industrial Medicine*, Volume 44, Issue 5 (November 2003) pp. 510-14.

⁵² Miranda Leitsinger, "Hearing into sewer deaths begins," The Associated Press, State & Local Wire, August 25, 2003.

⁵³ U.S. Bureau of Labor Statistics, State Occupational Injuries, Illnesses, and Fatalities, <http://www.bls.gov/iif/oshstate.htm>, (Accessed Dec 29, 2006, Last Modified Date: November 03, 2006)

⁵⁴ The BLS states: "State data presenting the number and frequency of work-related injuries, illnesses, and fatalities are available from two BLS programs: nonfatal cases of work-related injuries and illnesses that are recorded by employers under the Occupational safety and Health Administration's (OSHA's) recordkeeping guidelines are available for 46 States and Territories from the BLS Survey of Occupational Injuries and Illnesses (SOII); fatal cases of work-related injuries are available for all States, Territories, and New York City under a separate program, the BLS Census of Fatal Occupational Injuries (CFOI)....Note: The number of States for which SOII data are available varies from year to year because not all States have survey sample sizes sufficient to generate State specific estimates of workplace injuries and illnesses." The BLS does not report fatality frequencies by state. I use the state annual average construction employment figure from the injury data as the denominator for my fatality frequency calculation. Consequently, some states for some years are omitted from my analysis due to lack of SOII data. I only include states for which there were data for all three years 2003-2005. The prevailing wage law states included in the regressions were: AK AR CA CN HI IL IN KY MD ME MI MN MO MT NE NJ NM NV NY OR RI TN TX WA WI and WY. The no-law states were: AL AZ FL GA IA KS LA NC SC UT VA and VT.

⁵⁵ States in the data classified as strong-law states were: AK CA CN HI IL MI MN MO NJ NV NY RI WA and WI. States classified as medium strength states were: KY NM MD IN OR and ME. States classified as having relatively weak laws were: TX AR TN MT and NE.

⁵⁶ Agency for Healthcare Research and Quality. Percent of private-sector establishments that offer health insurance by industry groupings and State: United States, Table V.A.2(2003), May 10, 2004, <http://www.meps.ahrq.gov/MEPSDATA/ic/2003/Index503.htm> . http://www.meps.ahrq.gov/MEPSDATA/ic/1996/Tables_II/TIIA2.pdf . In the US Agency for Healthcare Research and Quality data from which these particular statistics come, construction is grouped with agriculture, fisheries and forestry. All three of these industries share similar problems regarding paying health insurance—small firms, seasonal work and considerable movement of workers from employer to employer.

⁵⁷ These data are drawn from *the Survey of Income Program Participants* and include only employed construction workers..

⁵⁸ US Census Bureau, *Survey of Income Program Participants* (SIPP), 1996-2000 panel, author's calculation for a sample of 789 employed construction workers, ⁵⁸ .

⁵⁹ The 4% of union workers who do not have health insurance are, for the most part, those newly hired and on a waiting period prior to qualifying for insurance. Within a local area, union workers can go from contractor to contractor and retain their health insurance. Typically, nonunion workers lose their insurance, if they have any, when they switch contractors.

⁶⁰ This calculation assumes that there is little systematic difference in the role of fisheries, agriculture and forestry across law and no-law states. An examination of the 31 states with prevailing wage laws and the 19 states without suggests that this is the case.

⁶¹ C. Jeffrey Waddoups, "Health Care Subsidies in Construction: Does the public Sector Subsidize Low Wage Contractors?" in Hamid Azari-Rad, ed., et al., *The Economics of Prevailing Wage Laws*, Ashgate Publishing Ltd. 2004.

⁶² *The Associated Press State & Local Wire*, November 10, 2003; Also reported in the *Quad-City Times*.

⁶³ Steve Jordon, Cindy Gonzalez, "When a worker is not an employee When illegal immigrants are classified as subcontractors, taxes tend to disappear. Who's the boss?" *Omaha World Herald* (Nebraska), April 27, 2003 NEWS; p. 1A.

⁶⁴ Office and white collar workers in construction are excluded so we are measuring independent contractors on construction sites to blue collar construction workers.

⁶⁵ This number was calculated using the average number of blue collar construction workers in Iowa reported in the 2002 *Census of Construction* multiplied by 5% (i.e. 50687 times 0.05 = 2534). This number would be larger today due to the growth in construction activity.

⁶⁶ Steve Jordon, Cindy Gonzalez, "When a worker is not an employee When illegal immigrants are classified as subcontractors, taxes tend to disappear. Who's the boss?" *Omaha World Herald* (Nebraska), April 27, 2003 NEWS; p. 1A.

⁶⁷ Congressional Globe, June 24, 1868, 40th Congress, 2nd session.

⁶⁸ Congressional Globe, *ibid*.

⁶⁹ Benjamin Kline Hunnicutt, *Work Without End*, Temple University Press, Philadelphia, 1988, p. 7.

⁷⁰ On May 19, 1869, President Grant issued the following proclamation:

that, from and after this date no reduction shall be made in the wages paid by the Government by the day to such laborers, workmen and mechanics on account of any such reduction of hours of labor.

On May 11, 1872 Grant reiterated with greater detail and emphasis in a second proclamation that per diem wages should not be cut with the required shorter hours:

...I, Ulysses S. Grant, President of the United States, do hereby again call attention to the act of Congress aforesaid, and direct all officers of the executive department of the government having charge of the employment and payment of laborers, workmen and mechanics employed by or on behalf of the government of the United States to make no reduction in the labor wages paid by the day to such laborers, workmen and mechanics on account of the reduction of the hours of labor.

The Statutes at Large and Proclamations of the United States of America from March 1871 to March 1873, Vol. XVII, Boston, 1873, pp. 955-56.

The Statutes at Large and Proclamations of the United States of America, from December 1869 to March 1871, Vol. XVI, Boston, 1871, p. 1127.

⁷¹ Federation of the Organized Trades and Labor Unions of the United States and Canada, 1881, "Declaration of Principles" in *Proceedings of the American Federation of Labor, 1881 to 1888*, Reprinted 1905, Pantograph Printing, Bloomington, Illinois (hereinafter *Proceedings*), 1881 p. 3. This organization changed its name to the American Federation of Labor in 1886.

⁷² *Proceedings*, 1882, pp. 4 and 18.

⁷³ For a biography of Gompers, see Peter Philips and Cory Sinclair, "Samuel Gompers," in Joel Mokyr, *The Oxford Encyclopedia of Economic History*, forthcoming, 2002.

⁷⁴ *Topeka Daily Capital*, February 25, 1891, p.1.

⁷⁵ *Topeka State Journal*, February 25, 1891, col. 3-4, p.1.

⁷⁶ *Sixth Annual*, 215.

⁷⁷ *Sixth Annual*, 124.

⁷⁸ L. 1891 Ch. 114 p.192-193.

⁷⁹ Chas. L Daugherty, Labor Commissioner, Oklahoma Department of Labor, *Third Annual Report*, Oklahoma City, OK, 1910, p. 327. The primary concern in both Kansas and Oklahoma was to use public works hours and wage policies to set and improve local labor standards. A typical enforcement case in Oklahoma as reported by the Labor Commissioner follows:

[Anadarko. May 10. 1908] We were advised that the O'Neill Construction Company had cut the wages on public works at Anadarko from twenty-five cents to seventeen and one-half cents per

hour....[C]ontract was taken with the understanding that twenty-five cents per hour should be paid. The work was not progressing as rapidly as necessary to the cost within the estimate, hence the contractors tried to take advantage of the situation by reducing pay. After thoroughly discussing the matter before the [city] council and contractor, the wages were restored to twenty-five cents. (p. 320)

Second Annual Report Oklahoma Labor Commissioner
Chas. L Daugherty, Oklahoma City, OK, August 7, 1909.

⁸⁰ U.S. House of Representatives, *Hearings before the Committee on Labor on HR 17069*, 69th Congress, 2nd Session, p. 2, February 18, 1927.

⁸¹ *Hearings Before the Committee on Labor, House of Representatives-Seventy-First Congress*. January 31, 1931. Bacons proposal was re-introduced in 1930 as H.R. 9232 by Congressman Elliot W. Sproul from Illinois, while Bacon proposed a complementary bill.

⁸² Scott Alan Hodge, "Davis-Bacon: Racists Then, Racist Now," *Wall Street Journal*, June 25, 1990, p. A14.

⁸³ Sixty-Ninth Congress, Second Session, House of Representatives, *Hearings Before the Committee on Labor*, H.R. 17069, Washington, GPO, 1927, pp. 2-4.

⁸⁴ U.S., Seventy-First Congress, Third Session, *Congressional Record-House*, February 28, 1931, p. 6510. The "[Applause]" is in the Congressional Record itself rather than an addition by this author.

⁸⁵ In this case, I was retained by the U.S. Labor Department and the U.S. Justice Department as an expert witness on behalf of the Defendants.

⁸⁶ Memorandum, United States District Court for the District of Columbia, *Brazier Construction Co, et al. Plaintiffs v. Elaine L Chao, Secretary of the Department of Labor, et al., Defendants*, C.A. No. 93-2318 (WBB), filed April 26, 2002.

⁸⁷ Cihan Bilginsoy, "How Unions Affect Minority Representation in Building Trades Apprenticeship Programs," *Journal of Labor Research*, Volume XXVI, Number 3 Summer 2005, pp. 451-463.