State Prevailing Wage Laws and School Construction Costs

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Critics of prevailing wage laws claim that their elimination will cut total public construction costs by 15 to 25 percent. Justification for this assertion may be found in a 1983 study comparing the cost of public construction regulated by the Davis-Bacon Act with the cost of similar private construction. However, this study failed to account for the difference in the cost of public and private buildings absent regulation. Using F. W. Dodge data for 1991 to 1999, we show that the inclusion of the appropriate controls in a study of new school construction costs finds no statistically significant difference between the cost of public schools built with prevailing wage regulations.

> . . . the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influence, are usually slaves of some defunct economist.
>
> John Maynard Keynes[1]

PREVAILING WAGE LAWS REGULATE THE PAYMENT OF CONSTRUCTION WORKER WAGES on public construction by mandating in the specifications for each prospective public construction project that specified wages and benefit contributions be paid for a detailed set of occupations. There is a federal prevailing wage law, the Davis-Bacon Act (1931), that regulates federal public construction, and there are currently 31 state prevailing wage laws. The Davis-Bacon Act mandates that in counties where 50 percent plus one of the wages in any construction occupation are the same (typically the

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[1] John Maynard Keynes. 1991. *The General Theory*, p. 383. New York: Harcourt Brace.

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collectively bargained wage), then that modal wage is said to prevail; otherwise, the mean wage prevails. Some states adopt a similar switching rule, whereas others systematically adopt either the mode or the mean. Prevailing wage laws can vary in the method and frequency in which prevailing wages are determined, as well as in the area, work, or occupations covered. Proponents of prevailing wage regulations argue that they encourage the construction industry to develop along a high-wage, high-skill growth path that leads to a safer and more experienced workforce. Critics of prevailing wage regulations contend primarily that they raise public construction costs.

The impact of prevailing wage laws (PWLs) on the costs of public construction remains one of the most important issues in the policy debates surrounding this form of labor market regulation. Debates regarding the maintenance or modification of PWLs at both the state and national levels typically focus on these regulations' effect on the total cost of public construction. Critics of these laws assert that prevailing wage regulations raise public construction costs in addition to having other deleterious effects. Critics consequently anticipate considerable cost savings from the repeal of PWLs. For instance, Gary Johnson, governor of New Mexico, has asserted ". . . without the constraint of the Little-Davis-Bacon Act, we could build four schools instead of three for the same amount of money."[2]

Assertions of similar cost savings on the order of 15 to 25 percent have been made before other state legislatures and in local editorials. For instance, in the Ohio legislature in 1997, in a hearing over exempting public schools from prevailing wage regulations, David DeLeone, business manager for West Geauga local schools, testified that exemption from prevailing wage regulations in 1995–1996 would have saved his district from 25 to 50 percent on renovation and new construction at four schools. During that same debate, Representative Robert Corbin of Dayton argued that not requiring union wages for school building projects would save taxpayers up to 25 percent. The *Atlanta Journal and Constitution* in 1994 opined, "Public projects conforming to prevailing-wage rules cost far more than free-market projects. The difference can run more than 20 percent." Similarly, in 1996, the *San Diego Union-Tribune* held that "the state's prevailing-wage law raises the cost of public works projects by 20 percent." The *Cincinnati Enquirer*, during Ohio's 1997 debate, opined that exempting Ohio's schools from prevailing wage regulation "could stretch school spending by at least 15 percent, saving millions for taxpayers." In June of 2000, the *Baltimore*

[2] Gary Johnson before the New Mexico State Legislature, State of the State Address, January 16, 1996.

Sun claimed that Florida had saved about 15 percent on its school construction costs by repealing its prevailing wage in 1979.[3]

Despite the importance placed on PWLs' impact on total construction costs, little empirical evidence has been presented to support the claims of cost savings. Early studies of the Davis-Bacon Act sought to estimate the cost to the federal government by comparing Davis-Bacon wages with average wages for construction workers by occupation and geographic area (Gujarati 1967; USGAO 1979; Bourdon and Levitt 1980; Goldfarb and Morrall 1981; Theiblot 1986) More recently, Petersen (2000) has examined the impact of PWLs on compensation for construction workers and particularly on health and pension benefits, but he does not analyze the effect of PWLs on total construction costs. Kessler and Katz (2001) point out, however, that while these studies concur that Davis-Bacon raises wage rates and, by implication, costs to the government, there is wide variation in the estimates. Estimated costs of Davis-Bacon to the federal government range from 1.4 to 24 percent. While they are correct in commenting that these studies suffer from the lack of adequate controls for workforce mix, productivity, and labor hours, Kessler and Katz do not address these issues themselves. Rather, they focus on a separate issue of the possible disparate impact of PWLs on labor market outcomes by race and union status. Bilginsoy and Philips (2000) performed a 6-year before-and-after test of the effects of the passage of the Skill Development and Fair Wage Policy (1992) in British Columbia by looking at a small sample of 54 public schools. They found no statistically significant change in construction costs once the business cycle and the number and size of contractors were controlled for.

In contrast, a study by Fraundorf, Farrell, and Mason (1984) differs from these other early studies both in the methodology employed and in the magnitude of the estimated effect of PWLs on construction costs. Unlike the analyses that infer cost differences based on wage-rate differences, the Fraundorf, Farrell, and Mason study estimates the impact of prevailing wage regulations based on an examination of actual total project costs. Fraundorf, Farrell, and Mason collected data on 215 buildings constructed in rural areas in 1977 and 1978. Approximately half these buildings (113) were federal construction projects built under Davis-Bacon regulations, whereas the remaining projects (102) were private buildings constructed without regulations. Fraundorf, Farrell, and Mason predicted the log of

[3] *Crain's Cleveland Business*, March 3, 1997, p. 2; *The [Cleveland] Plain Dealer*, May 16, 1997, p. 1A; *The Atlanta Journal and Constitution*, June 28, 1994, Section A, p. 8; *The San Diego Union-Tribune*, April 17, 1996, p. B6; *The Cincinnati Enquirer*, April 27, 1997, p. D2; *The Baltimore Sun*, June 2, 2000, p. 27A.

total construction costs based on the square foot size of the building, dummy variables for a variety of building materials, and regional dummy variables indicating where the building was constructed. Fraundorf, Farrell, and Mason's focus variable was a dummy variable for whether or not the building was federal or private property. Fraundorf, Farrell, and Mason found, controlling for other factors, that the total cost of a federal project was 26 to 38 percent higher than the cost of a comparably sized private structure. This estimated impact of the Davis-Bacon Act on federal construction projects is in line with many claims made by politicians and editorial writers in public-policy debates surrounding PWLs. This correspondence may be an example of Keynes' well-known dictum regarding the influence of economists.

The magnitude of Fraundorf, Farrell, and Mason's estimate, however, is surprising from what we know of the role of labor costs in the total costs of construction. In 1982 in the United States, construction worker labor costs, including wages, benefits, and payroll taxes, as a percentage of total construction costs including materials and labor but excluding land purchases and architect fees, was 30 percent.[4] It is unlikely that the total cost of construction would fall by 26 percent from a regulatory change that was hypothesized to affect primarily a cost component that accounted for 30 percent of total cost.[5] We believe that Fraundorf, Farrell, and Mason's seemingly large estimated impact can be explained by the difference in cost between public and private buildings independent of prevailing wage regulations. Public owners, on average, may design buildings with longer expected lifetimes compared with private owners. The fittings and components in public buildings may be more expensive. Quality and workmanship specifications may be higher. In general, the fact that public owners are under different economic and political pressures compared with private owners may lead to higher cost differentials associated with public buildings independent of prevailing wage regulations. Indeed, Fraundorf, Farrell, and Mason are cognizant of this possibility. They acknowledge that "If the government is more exacting than private owners in its quality standards, labor hours (and cost) and possibly material costs would be higher on government projects" (1983:145).

Fraundorf, Farrell, and Mason's data contained only public buildings, all of which were built under the federal Davis-Bacon Act, and private

[4] 1982 Census of Construction. Olsen (1979) found a similar proportion of labor costs to total costs for new school construction in 1972.

[5] According to the 1992 Census of Construction, labor costs as a proportion of total costs of construction in 1992 were 26 percent.

buildings, none of which were constructed under prevailing wage regulations. Had Fraundorf, Farrell, and Mason's data contained public buildings that were not constructed under prevailing wage regulations, they could have controlled for the possible difference in building costs associated with differences in specifications tied to public construction compared with private construction. By focusing on the impact of the federal Davis-Bacon Act, it was impossible for Fraundorf, Farrell, and Mason to do this simply because no federal building was constructed during their period of analysis absent prevailing wage regulations.[6] Thus their overall study design prevented them from employing the appropriate control needed to avoid conflating differences between public and private construction with differences in construction costs due to the effect of prevailing wage regulations. What is needed is a group of public buildings constructed in the absence of prevailing wage regulations. These observations are available if one focuses on state public construction simply because some states apply prevailing wage regulations and others do not.

Following Kessler and Katz (2001) and Petersen (2000), we use variation in prevailing wage laws across states in an effort to construct the appropriate controls for analyzing the effect of PWLs on total construction costs. We focus on public school construction in order to isolate a relatively homogeneous building product. While 31 states have prevailing wage regulations, in 1997 Ohio exempted public school construction from its PWL. Thus, currently, 30 states require that public schools be built under prevailing wage regulations, whereas 20 states do not require the payment of prevailing wage rates. We first estimate the cost impact of prevailing wage regulations using data on new public school construction only. This differs from the Fraundorf, Farrell, and Mason approach and yields quite different results. We then replicate the Fraundorf, Farrell, and Mason approach comparing new public school construction costs with new private school construction costs. In the case of states with PWLs, the results of this replication are similar to Fraundorf, Farrell, and Mason's findings. However, we also get results similar to Fraundorf, Farrell, and Mason's when we compare the costs of new public school construction with new private school construction in states that do not have PWLs regulating school construction.

[6] The Davis-Bacon Act was passed in 1931 and suspended briefly during short periods of the Nixon and first Bush administrations.

The Data

The F. W. Dodge Corporation is a private service company that provides information nationwide to contractors regarding requests for bids from prospective owners of construction projects. F. W. Dodge follows the bid process from the initial stage when a project is announced to the final bidding. Among other information, Dodge records the accepted bid price. Dodge does not track the actual final construction cost, which can differ from the accepted bid price based on change orders that occur during construction. Change orders alter or add to the initial construction specifications of the construction project and usually add to the final cost of the project. Thus, using Dodge data to estimate the effects of prevailing wage regulations on construction costs precludes an examination of the effects of these regulations on change orders. Proponents of PWLs argue that prevailing wage regulations discourage the participation of low-balling bidders that aim to recoup their profits lost in a low bid through inducing change orders after the bid is won. The validity of this argument cannot be tested with F. W. Dodge data. Thus our analysis is restricted to an estimate of the effect of prevailing wage regulations on accepted bids as a measure of final cost.

We have gathered F. W. Dodge data on the accepted bid prices from all 50 states on public and private new school construction costing at least $750,000 and begun anytime from the second half of 1991 to the first half of 1999. In addition, the Dodge data indicate the type of school (elementary, middle, or high school), the month and year when the bid was accepted, the square foot size of the project, and the location of the project. In testing the effects of prevailing wage regulations, we have used two specifications. The first is a dummy variable indicating the presence or absence of a prevailing wage regulation covering the school project. In a second specification, we divide state PWLs into a group of states with weaker regulations and a group with stronger regulations. In this classification, we rely on the work of Armond Thieblot, a critic of prevailing wage regulations (Thieblot 1995). Thieblot ranked state prevailing wage regulations based on a scale of 1 to 8, where prevailing wage rates were closer to unregulated market rates at the lower end and closer to union rates at the higher end. We have split Thieblot's classification into two groups. States with a score of 1 to 4 were grouped into a weak-law category and states with a score of 5 to 8 were grouped into a strong-law category. Table 1 shows the distribution of ownership status and legal regime for our sample of 4986 new schools. In our first four models we use only the 4653 new public schools in this sample. In our fifth model we use the 2924 new public and private schools in states with PWLs, whereas in our last model we use the 2062 new

TABLE 1

DISTRIBUTION OF NEW SCHOOLS BY OWNERSHIP AND LEGAL REGIME

Public Schools			
No law	Law		Total
1911	2742		4653
41%	59%		100%
	Weaker	Stronger	
	1206	1611	2817
	43%	57%	100%
Private Schools			
No law	Law		Total
151	182		333
45%	55%		100%
Total Schools			
2062	2924		4986
41%	59%		100%

SOURCE: F. W. Dodge Corporation, 1991–1999.

public and private schools in states without PWL. In these last two public-private samples, public schools account for 94 percent of all new schools in the law states and 93 percent of all schools in the no-law states.

The Model

In the first four models, we estimate the effect of prevailing wage legislation on school construction costs using the following fixed effects model:

$$\ln Cost_{it} = \alpha_i + \lambda_t + \beta_1 Squarefeet_{it} + \beta_2 Schooltype_{it} + \beta_3 Season_{it} + \beta_4 PWL_{it} + \varepsilon_{it} \quad (1)$$

where ln *Cost* is the start cost or bid cost. Nominal bid prices were deflated using the consumer price index.[7] α_i is the individual effect for each state. Our period under study was one of economic expansion. To control for the effects of the business cycle on school construction costs, in two specifications we include λ_t to account for the individual effect for each year. In two other specifications we use the natural log of the state unemployment rate for all workers for each year to capture local business cycle conditions. Following Fraundorf, Farrell, and Mason, we use the natural log of the

[7] In unpublished tests, the use of an alternative, a private building cost index published by the *Engineering News Record*, yielded very similar results to the tests reported here.

square footage of each project, *Squarefeet*, to control for the size of the project and to test for economies of scale. *Schooltype* is a vector of dummy variables differentiating between elementary, middle, and high schools. *Season* is a vector of dummy variables indicating the quarter in which the project was started. The hypothesis here is that starting projects in the fall builds into the teeth of winter weather conditions and may raise total bid price. *PWL* is a dummy variable indicating that the project is built in a state with a prevailing wage law. The geographic dispersion of PWLs is not random. These laws are common in the North and West and absent during our time period in the South. The great plains and mountain states show considerable variation in legal regime. In the two specifications where PWLs are categorized as having strong or weak wage requirements, we test separately whether new public schools in weak-law states differ in cost from public schools in law states and whether public schools in strong-law states differ in cost from those in no-law states.

In our last two models, where we include both public and private schools, we substitute $\beta_5 Public_{it}$ for $\beta_4 PWL_{it}$, indicating whether or not the school is public or private. In model 5 we consider only schools in states where public school construction would be covered by a prevailing wage regulation, whereas in model 6 we consider only states where public school construction would not be regulated by PWLs. In no case are private schools regulated by PWLs. Thus this new variable *Public* is coincident with PWL in states with PWLs but not in states without PWLs.

Results

The results from six models are presented in Table 2. The first two use year dummy variables to capture the effect of the business cycle on real construction cost, whereas models 3 and 4 substitute the state unemployment rate to measure this effect. With each business-cycle control we present two models, one measuring the overall effect of PWLs and one measuring the separate effects of weak laws and strong laws.

Like Fraundorf, Farrell, and Mason, we find that there are economies of scale in construction. The coefficient for the log of the square feet of the project is an elasticity indicating that a doubling of the size of the project yields about a 93 percent increase in total project cost. Controlling for the size of the project, new high school costs are estimated to be 5 to 8.1 percent more compared with a similarly sized elementary school. This may reflect the added costs of more sophisticated classroom space required for science and language laboratories in high schools. Middle schools are not found to

TABLE 2

Regression Results: Determinants of Total New School Construction Cost

Variable	Model 1 Public Schools	Model 2 Public Schools	Model 3 Public Schools	Model 4 Public Schools	Model 5 Public and Private Schools	Model 6 Public and Private Schools
Square feet	0.932***	0.932***	0.928***	0.928***	0.938***	0.907***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.008)	(0.009)
Middle school	0.005	0.005	0.001	0.001	0.003	−0.002
	(0.011)	(0.011)	(0.011)	(0.011)	(0.015)	(0.016)
High school	0.050***	0.050***	0.060***	0.060***	0.044***	0.081***
	(0.011)	(0.011)	(0.012)	(0.012)	(0.016)	(0.017)
Winter	−0.039***	−0.039***	−0.020*	−0.023*	−0.034*	−0.017
	(0.014)	(0.014)	(0.013)	(0.013)	(0.018)	(0.019)
Spring	−0.018	−0.018	−0.003	−0.003	0.001	0.009
	(0.013)	(0.013)	(0.012)	(0.012)	(0.017)	(0.018)
Summer	−0.016	−0.016	−0.015	−0.015	−0.014	−0.014
	(0.013)	(0.013)	(0.013)	(0.013)	(0.018)	(0.019)
1992	−0.020	−0.020				
	(0.032)	(0.032)				
1993	−0.022	−0.022				
	(0.033)	(0.033)				
1994	0.007	0.007				
	(0.035)	(0.035)				
1995	0.030	0.030				
	(0.031)	(0.031)				
1996	0.037	0.038				
	(0.032)	(0.032)				
1997	0.062**	0.060**				
	(0.031)	(0.031)				

TABLE 2

CONTINUED

Variable	Model 1 Public Schools	Model 2 Public Schools	Model 3 Public Schools	Model 4 Public Schools	Model 5 Public and Private Schools	Model 6 Public and Private Schools
1998	0.107***	0.107***				
	(0.032)	(0.032)				
1999	0.174***	0.175***				
	(0.033)	(0.033)				
Log of unemployment			–0.223***	–0.224***	–0.172***	–0.291***
			(0.023)	(0.023)	(0.031)	(0.037)
Prevailing wage law	0.008		0.016			
	(0.030)		(0.030)			
Public school					0.155***	0.156***
					(0.025)	(0.025)
Weak PWL		–0.012		–0.001		
		(0.044)		(0.045)		
Strong PWL		0.025		0.031		
		(0.041)		(0.041)		
N	4653	4653	4653	4653	2928	2058
Adjusted R^2	0.871	0.871	0.869	0.869	0.862	0.871
Dependent Variable is the ln(total cost)						

NOTE: Standard errors are in parentheses below the coefficients; state dummy variables are not reported.
***Significant at the 0.01 level.
**Significant at the 0.05 level.
*Significant at the 0.10 level.

be more expensive than similiarly sized elementary schools. We find that bids accepted in the winter are from 1.7 to 3.9 percent lower for similar schools compared with bids accepted in the fall, although this result is not statistically significant in model 6.[8] Given a lag between bid acceptance and anticipated groundbreaking, this difference may be accounted for by the greater cost in winter versus spring of outdoor work coming at the onset of construction. Year dummies in models 1 and 2 do not show an increase in real construction costs over costs in 1991 until 1994. These effects do not become statistically significant until 1997. By 1999, however, real construction costs are 17 percent higher than they were in 1990. In models 3 and 4, the log of the unemployment rate is substituted for year dummies. This formulation finds an elasticity of –22 percent, indicating that a doubling of the local unemployment rate is associated with a 22 percent decline in total construction costs. The unemployment rate is thought to capture not only local labor market conditions but also other local economic conditions that may affect building material costs and contractor markups.

Our focus variable in the public-schools-only models 1 through 4, *PWL*, the dummy variable indicating the presence of a state PWL tests the proposition whether, controlling for other factors, the cost of public schools in PWL states differs from that of public schools in states without PWLs.[9] Fraundorf, Farrell, and Mason found the effect of the Davis-Bacon Act to raise public construction costs by 26 to 38 percent. Our estimates of the effect of this regulation on accepted bid prices for public schools are much lower. In models 1 and 2, using year dummies, we find a 0.8 percent increase in accepted bid price associated with state prevailing wage regulations in general and a –1.2 percent decrease in accepted bid price associated with weak prevailing wage regulations and a 2.5 percent increase in accepted bid price tied to strong prevailing wage regulations. Similarly, using state unemployment rates as a control for local economic conditions in models 3 and 4, we find a 1.6 percent overall effect on accepted bid prices tied to prevailing wage regulations and a –0.1 percent decrease in accepted bid price tied to weak regulations and a 3.1 percent increase associated with strong regulations. In no case are these coefficients statistically different from zero at any standard level of significance.

[8] The dummy variable for a winter bid acceptance date is higher and only statistically significant in model 5, law states. This is probably due to the fact that the majority of no-law observations in model 6 are in southern states, whereas many law states are in the Northeast.

[9] This is a two-sided test because proponents and opponents of PWLs disagree. Opponents claim that the wage requirements of these regulations will increase construction costs. Proponents argue that the training fostered by collective bargaining will lower public construction costs.

We believe that the primary reason for the difference in our findings compared with those of Fraundorf, Farrell, and Mason is the fact that our tests focus on differences in public school construction costs in states with PWLs compared with states without PWLs. In Fraundorf, Farrell, and Mason's model, the reference is private construction. In model 5 (Table 2), we apply Fraundorf, Farrell, and Mason's specification to states with PWLs only. Thus the dummy for public schools applies only to schools built under a prevailing wage regulation. We find in this sample that public schools cost 15.5 percent more than private schools. One might conclude that this differential was caused by prevailing wage regulations.[10] However, applying this same specification to the sample of states with no prevailing wage regulations in model 6, we find new public schools cost 15.6 percent more than private schools in these states. Clearly, this differential cannot be tied to PWLs. Thus it is likely that the Fraundorf, Farrell, and Mason results are due to differences in the costs of public versus private buildings rather than the fact that in their sample the public buildings were built under prevailing wage regulations.

Conclusion

Proponents of prevailing wage regulations argue that by requiring that wages on public works at least equal those that prevail in private construction, these laws support or at least do not discourage the practice of collective bargaining in both public and private construction. Prevailing wage regulations also encourage nonunion contractors to adopt high-wage, high-skill labor strategies on public construction, and this may spread to the private sector. Collective bargaining and high-wage, high-skill strategies, in turn, encourage apprenticeship training—the majority of which is done under collectively bargained, joint labor-management apprenticeship programs. Proponents argue that prevailing wage regulations also help retain career workers in the industry, making for a more experienced, more productive, and safer workforce. Proponents also argue that prevailing wage regulations support the payment of health insurance and pensions in construction by requiring or encouraging such contributions on public works. This is done, in part, by inducing nonunion contractors to overcome the

[10] We do not find a public-private differential of more than 25 percent as we believe to be the proper interpretation of the Fraundorf, Farrell, and Mason findings. Their higher differential may be due to the heterogeneous character of the buildings in their sample. While we examine only schools, Fruandorf, Farrell, and Mason's sample includes offices, industrial buildings, storage facilities, medical buildings, amusement buildings, and other buildings.

fixed costs associated with health insurance and pension programs in order to do public works. In turn, this practice may spread to some extent into private, nonunion construction.

Critics respond to these alleged benefits of prevailing wage regulations by saying, in part, that these benefits, to the extent that they exist, are bought at too high a price. However, in making this argument, critics of prevailing wage regulations have relied too long on a published overestimate of the cost effects of PWLs. Controlling for the differences in public and private construction costs for comparably sized buildings, the effect of prevailing wage regulations on construction costs appear smaller than has hitherto been asserted. However, the effect remains uncertain. Our point estimates of the effect of these regulations are not statistically significantly different from zero.

Further research needs to be done in this area. The effect of prevailing wage regulations on the cost of construction may vary with the type of construction. Data limitations focused our research on accepted bid prices as a measure of cost. Prevailing wage regulations may affect the prevalence or absence of change orders after the bid has been accepted.

References

Bilginsoy, Cihan, and Peter Philips. 2000. "Prevailing Wage Regulations and School Construction Costs: Evidence from British Columbia." *Journal of Education Finance* (January):415–32.

Bourdon, C. C., and R. E. Levitt. 1980. *Union and Open-Shop Construction.* Lexington, MA: Lexington Books.

F. W. Dodge Corporation, McGraw Hill Construction Information Group, 1991–1999.

Fraundorf, Martha, John P. Farrell, and Robert Mason. 1984. "The Effect of the Davis-Bacon Act on Construction Costs in Rural Areas." *Review of Economics and Statistics* (February):142–6.

Goldfarb, Robert S., and John F. Morrall. 1981. "The Davis-Bacon Act: An Appraisal of Recent Studies." *Industrial and Labor Relations Review* (January):191–206

Gujarati, Domar N. 1967. "The Economics of the Davis-Bacon Act." *Journal of Business* (July):303–16.

Kessler, Daniel P., and Lawrence F. Katz. 2001. "Prevailing Wage Laws and Construction Labor Markets." *Industrial and Labor Relations Review* (January):259–74.

Keynes, John M. 1991. *The General Theory of Employment, Interest and Money.* New York: Harcourt Brace.

Olsen, John G. 1979. "Labor and Material Requirements for New School Construction." *Monthly Labor Review* (April):38–41.

Petersen, Jeffrey S. 2000 "Health Care and Pension Benefits for Construction Workers: The Role of Prevailing Wage Laws." *Industrial Relations* (April):246–64.

Thieblot, Armand J. 1995. *State Prevailing Wage Laws: An Assessment at the Start of 1995.* Rosslyn, VA: Associated Builders and Contractors.

———. 1986. *Prevailing Wage Legislation: The Davis-Bacon Act, State "Little Davis-Bacon" Acts, The Walsh-Healey Act, and the Service Contract Act*. Philadelphia: University of Pennsylvania Industrial Research Unit.

U.S. General Accounting Office (USGAO). 1979. *The Davis-Bacon Act Should Be Repealed.* Washington: GAO.