Repeal of Idaho's Prevailing Wage Law: An Economic Evaluation

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Abstract

We studied the effects of repealing Idaho's prevailing wage law, particularly on Idaho's construction trades employees, county and state economies, and state public works expenditures. We used trend and regression analyses as well as IMPLAN input–output modeling using data from a wide range of sources. We found a strong downward trend in average construction wages in Idaho for both union and nonunion jobs. Salary losses have since dramatically increased that lowered Idaho's national ranking for average earnings/construction worker. These trends implied that (1) construction wages in Idaho fell sharply since repeal of the prevailing wage law and relative to the rest of the nation, and (2) despite Idaho's rapid population and economic growth, repeal of the prevailing wage law may have exerted downward pressure on *all* wages in Idaho.

Key Words: prevailing wage laws, efficiency wage theory, unions, average wages, construction.

Introduction

In 1985, the Idaho legislature repealed Idaho's prevailing wage law. As a matter of public policy, legislation on the payment of prevailing wages to construction workers raises issues that include level of government expenditures, economic growth rates, economic well-being of employees, and potential shortages of qualified workers. These interrelated issues concern specific economic variables. Does a prevailing wage law affect the wages of all or just some construction workers? If prevailing wage laws change construction wages, what employment effects might we expect? What happens to construction-worker training programs and worker productivity when prevailing wages are paid? Are the costs of state and local public works projects higher or lower with prevailing wages? These among many more questions arise when legislative discussion focuses on prevailing wage laws. During 1999 the Center for Business Development and Research, University of Idaho, initiated an inquiry of the effects of repealing Idaho's prevailing wage law on Idaho's construction trades with funding from the North Idaho Central Labor Council.

Idaho's prevailing wage law, enacted in 1911 as a part of eight-hour workday legislation, was amended several times from 1911 to 1965. Efforts to repeal this law and to pass a state "right to work" law began in 1979, and by 1985 both of these legislative initiatives were successfully enacted. In repeal discussions, market economists argued that substantial savings on public construction costs would result. Several studies of the impacts of repeal have not found conclusive evidence that repeal has saved a significant amount of public funds.

Study Objectives

Past studies of the effects of prevailing wage laws in other states supported the hypothesis that this legislation increased

wages in covered industries, i.e., industries whose employees are covered by unemployment compensation. Those results suggest that for the period of 1911-1985 wages in the building trades for Idaho's public works projects were above those in non-covered portions of the construction industry. In his studies, Philips (1995, 1998, 1999) found a substantial wage advantage to the existence of a prevailing wage law and a reduction in wages associated with the repeal of prevailing wage legislation. In his employee compensation regression analysis Philips used variables for trend rates of growth, regional location, and business cycles. Our hypothesis in this study is that the construction earnings effects of Idaho's prevailing wage law repeal will be consistent with Philips' findings.

For our second study objective we extend our analytical scope beyond that of Philips' study to estimate changes in county and state overall economic activity in terms of variation in trend growth rates for output, value added, earnings, and employment in all business sectors. We obtained estimates of the macroeconomic aggregates using Impact Analysis for Planning (IMPLAN) modeling techniques.

Our third objective was to determine if a decline occurred in the level of occupational maturity of construction workers relative to industry standards. Occupational maturity is measured by injury rates in the construction industry. The hypothesis is that construction firms will use lower-cost, inexperienced construction workers with a consequent increase in on-the-job injuries.

A fourth research objective was to test the hypothesis that declines in construction wages and productivity have resulted in higher total costs for public works projects funded by the State of Idaho. One justification for repealing prevailing wage laws is the belief that costs of public works construction projects would decline based on the assumption that wages could be reduced without comparable reductions in productivity. Efficiency wage theory links pay with labor productivity; specifically higher pay results in increased employee productivity. If the proponents of repeal were correct, repeal would lower pay rates without significant declines in productivity and result in lower public works project total costs. Philips presented evidence supporting his hypothesis that repeal of Utah's prevailing wage law would not lead to decreased public works project costs.

Although all objectives are analyzed, the focus of this paper, however, is primarily on the first objective.

Methods and Data Sources

Our research employed statistical trend and regression analyses, comparisons of predicted values with actual data, and IMPLAN input–output modeling of county and state income impact assessments using multiplier-based predictions. We measure a substantial portion of the economic impact on wages, earnings, and employment by deviations in the trends. In dynamic economies prices, allocation of resources, and overall growth constantly change. In trend analyses historical data are used to estimate underlying economic structures and links. We use trend analysis to predict what would have happened if the repeal had not occurred. Regression analyses identify underlying economic structures and links. Regression coefficients and the tests for statistical significance indicate which variables might best explain wage or employment level, how important those variables are, and how well the theory fits the facts. Using the regression equation, we predicted future wage and employment levels.

The IMPLAN input–output system is a technique for assessing the impact of economic changes on a regional economy, such as industry growth or decline. Originally developed by the USDA Forest Service, the IMPLAN modeling system incorporates the economic links within and among a region's industries, households, and export sectors. Using the multiplier analysis associated with this economic

modeling system, we predict changes in the industries that constituted the region's economy. We state changes in terms of income, employment, and industry outputs.

We obtain the majority of the data for the project from federal and state government sources, including Regional Economic Information Systems (REIS) and other U.S. Bureau of Economic Analysis units, the Idaho Industrial Commission, the Idaho Department of Labor, and the U.S. Bureau of the Census.

RESULTS

We present results by study objective. Our first objective was to apply Phillips' Study hypothesis to Idaho, which states that repeal of prevailing wage laws will cause a decline in real construction wages.

Objective One: The Phillips Study Hypothesis

Several approaches are utilized to examine the Phillips Study hypothesis as it applies to Idaho.

Approach 1: Increase in Sole Proprietors.—First we look at the increase in sole proprietor construction firms since repeal, a possible market response to declining construction incomes. Construction employment is observed over the course of the business cycle in the 1980s and 1990s. Employment fell from 1979 through 1983 and again in 1986 and 1987, but rose steadily from 1987-1999 (Fig. 1). An interesting aspect was the growing difference between covered employment, i.e., covered by unemployment compensation, and total employment, i.e., covered and uncovered employment (Fig. 1). Proprietorships are included in total, but not covered, employment and account for the difference in the two statistical series. Most likely, this growth correlated with economic expansion, but also may be explained partly by the increased number of construction workers establishing their own businesses (as contractors), possibly in response to the change in wages associated with the repeal. *County Business Patterns* data from the U.S. Bureau of the Census confirms this trend. From 1986 until 1997 the number of construction firms increased every year, with the exception of 1988. In 1986 there were 1869 construction firms, and by 1997 there were 5436—an increase of 191 percent.

We used regression analysis as illustrated below to estimate the degree to which repeal increased new construction firms:

$$Y = 4909 + 943X_1 - 375X_2$$
$$(3.92)\quad (2.01)\quad (-2.32)$$

in which Y = total number of construction firms, and X_1 = a dummy variable representing repeal, and X_2 = unemployment rate representing the business cycle. The *t*-statistics, shown under the coefficients, are significant at the 5-percent level. The adjusted R-squared is 0.43; thus, the model explains about 43 percent of the variation in the dependent variable. An estimated 943 more construction firms were created as a result of repeal of the prevailing wage law. The sign of the coefficient on unemployment is negative as expected given the inverse relationship between the unemployment rate and increased business activity in the construction sector. These variables provided strong statistical support to our hypothesis that individuals went into business for themselves, a form of occupational mobility.

Approach 2: Out-of-State Firms.—A second approach to confirming Phillips' hypothesis in Idaho was to examine the effect of the prevailing wage law's repeal on the participation of out-of-state firms in Idaho construction industries; we examined census data on commuting obtained from the 1980 and 1990 censuses. Fewer out-of state construction firms were taking bids in Idaho in 1990 than in 1980 (Table 1). The out-of-state firms working in Idaho paid more in 1990 than in 1980 after adjusting for inflation. Furthermore, more Idaho firms worked out-of-state in 1990 than in 1980, but their wages had fallen sharply, even on those projects conducted out-of-state. The commuting data suggest a change in

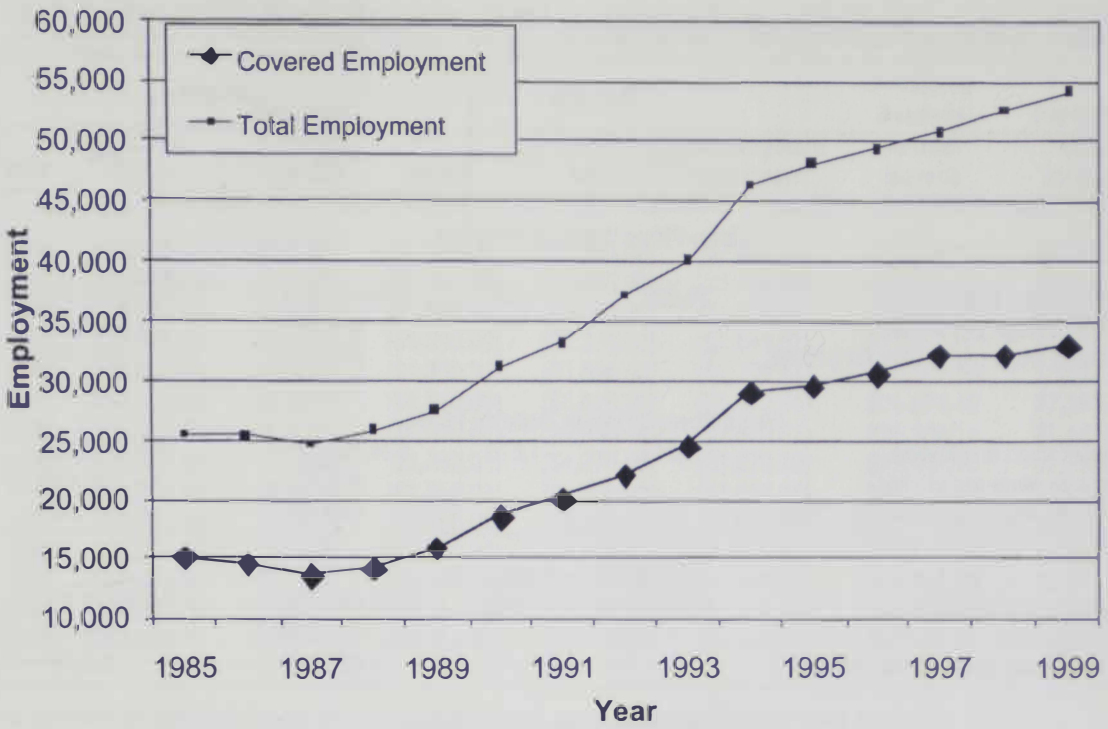

Figure 1. Covered and Total Construction Employment in Idaho, 1985-1999

behavior by Idaho firms engaged in construction projects within and outside the state. Some firms headquartered outside Idaho worked on projects within Idaho between the census years before and after the repeal of the prevailing wage law.

The employment and wage data from the 1980 and 1990 censuses indicated the number of workers employed by Idaho construction firms increased from 15,691 to 17,475. Using the wage and employment data, the average annual wage rose from $14,563 to $20,868. When these averages were adjusted for inflation, the real wages paid by Idaho firms on in-state projects fell 9.7 percent. The comparable data on employment and wages for Idaho firms working on projects outside Idaho showed that employment increased from 1245 to 1670, and the annual average real wage fell 22.0 percent.

The census-commuting data suggested that fewer out-of state construction firms were taking bids in Idaho, with employment at those firms declining from 472 to 325. However, for those out-of-state firms who worked on projects in Idaho, the data indicated they were paying 20.4 percent more in real wages in 1990 compared to 1980. Moreover, the annual average real wage paid by out-of-state firms on projects in Idaho were 24.5 percent higher than what Idaho firms paid on projects in Idaho and suggested that out-of-state firms had underbid Idaho firms on certain types of in-state construction projects even though out-of-state firms had higher labor costs. One possible reason for the bidding success of out-of-state firms was the level of labor skills that were no longer available in the Idaho labor force making it difficult for an Idaho firm to submit a bid. Alternatively, it may have been the case that the relatively higher-wage labor employed by out-of-state firms was sufficiently more productive to result in lower production costs for out-of-state firms.

Approach 3: Apply Statistical Parameters to Idaho.—The third approach in confirming the Phillips hypothesis to Idaho is to apply the statistical parameters of the Phillips Study to Idaho data. In the University of Utah economic study of the repeal of nine prevailing wage laws, Philips et al. (1995)

Table 1. Construction Firms, in 1980 and 1990

	Workers		Wages	
	1980	1990	1980	1990
Idaho Firms Working in Idaho				
Construction employees	15,691	17,475	$228,513,514	$364,664,853
Average wage per worker			$14,563	$20,868
Average wage per worker (in $1999)			$29,233	$26,408
Idaho Firms Working Outside Idaho				
Construction employees	1,245	1,670	$24,168,252	$40,107,252
Average wage per worker			$19,412	$24,016
Average wage per worker (in $1999)			$38,966	$30,392
Total Idaho Firms				
Construction employees	16,936	19,145	$252,681,766	$404,772,105
Average wage per worker			$14,920	$21,142
Average wage per worker (in $1999)			$29,948	$26,756
Out-of-State Firms Working in Idaho				
Construction employees	472	325	$6,829,564	$8,978,040
Average wage per worker			$14,469	$27,625
Average wage per worker (in $1999)			$29,044	$34,959

Source: U.S. Bureau of Economic Analysis REIS. *Journey to Work*. 1980 and 1990.

reported the results of their regression analysis using an extensive data set that included 27,778 observations of annual construction earnings, cross-classified by state and type of construction contractors, from 1975 through 1991. Using the statistically derived importance of their regression equation factors, Philips et al. reported estimated effects on annual earnings, employment, and tax revenues of the laws' repeals. Using data for the State of Idaho and the regression model's parameters, we estimated the impacts on average annual earnings, employment, and state tax revenues for 1986, the first year after the law's repeal, through 1999.

Results shown in Table 2 were derived from the Phillips regression model parameters applied to Idaho data. The model analyzes the effects in Idaho of prevailing wage law repeal on construction earnings, adjusting for regional differences in average earnings and normal growth trends. Average annual earnings of $33,005 was the estimated starting point from which $79 was subtracted because the average income level of Idaho's mountain state location is less than the national average (regional control variable). The next adjustment was to compensate for the economic impact on earnings of having had the prevailing wage law repealed (repeal variable). Income, or earnings level, also was adjusted for a secular or normal growth trend for the economy. In the Utah study, construction earnings or incomes were predicted to increase each year at the rate of $225/year. This increase would occur simply with the passage of time, most likely linked to productivity and price level changes. An unemployment rate adjustment was the last element in the explanatory equation, and it captured the effects of the business cycle experienced in Idaho.

In 1986 the predicted average annual earnings was $26,238.07, which is $6766.93 less than the starting point. The magnitude of the predicted "Lost Income" varied between $6337.62 and $8539.73 over the forecast period. The income loss shows

Table 2. Regression Model for Idaho, Based on Philips's Regression Equation, 1986–1999.

Year	Starting Point	Regional Control Variable	Repeal	Secular Trend	Unemployment Adjustment	Predicted Average Annual Income	Predicted Lost Income
1986	$33,005.00	($79.00)	($1,350.00)	($2,700.00)	($2,637.93)	$26,238.07	$6,766.93
1987	$33,005.00	($79.00)	($1,350.00)	($2,925.00)	($2,425.68)	$26,225.32	$6,779.68
1988	$33,005.00	($79.00)	($1,350.00)	($3,150.00)	($1,758.62)	$26,667.38	$6,337.62
1989	$33,005.00	($79.00)	($1,350.00)	($3,375.00)	($1,546.37)	$26,654.63	$6,350.37
1990	$33,005.00	($79.00)	($1,350.00)	($3,600.00)	($1,788.94)	$26,187.06	$6,817.94
1991	$33,005.00	($79.00)	($1,350.00)	($3,825.00)	($1,879.90)	$25,871.10	$7,133.90
1992	$33,005.00	($79.00)	($1,350.00)	($4,050.00)	($1,970.87)	$25,555.14	$7,449.87
1993	$33,005.00	($79.00)	($1,350.00)	($4,275.00)	($1,879.90)	$25,421.10	$7,583.90
1994	$33,005.00	($79.00)	($1,350.00)	($4,500.00)	($1,697.98)	$25,378.02	$7,626.98
1995	$33,005.00	($79.00)	($1,350.00)	($4,725.00)	($1,637.33)	$25,213.67	$7,791.33
1996	$33,005.00	($79.00)	($1,350.00)	($4,950.00)	($1,576.69)	$25,049.31	$7,955.69
1997	$33,005.00	($79.00)	($1,350.00)	($5,175.00)	($1,607.01)	$24,793.99	$8,211.01
1998	$33,005.00	($79.00)	($1,350.00)	($5,400.00)	($1,516.05)	$24,659.95	$8,345.05
1999	$33,005.00	($79.00)	($1,350.00)	($5,625.00)	($1,485.73)	$24,465.27	$8,539.73

a generally upward trend (Fig. 2). The downstream impacts of the lower income levels would have included lower levels of spending, a lower growth trend in state economic activity because of the lost spending, and a lowered level of taxes paid by construction workers.

Our regression model predicted associated employment changes with the repeal of prevailing wage law in Idaho. Substantial evidence suggests that prevailing wage laws are statistically correlated with higher wages; states without coverage by such legislation report lower wages. Because of the law's repeal, wages in the construction industry have been lower and employment should be higher. Market economists associate lower wages with higher levels of employment, rather than higher profitability for construction

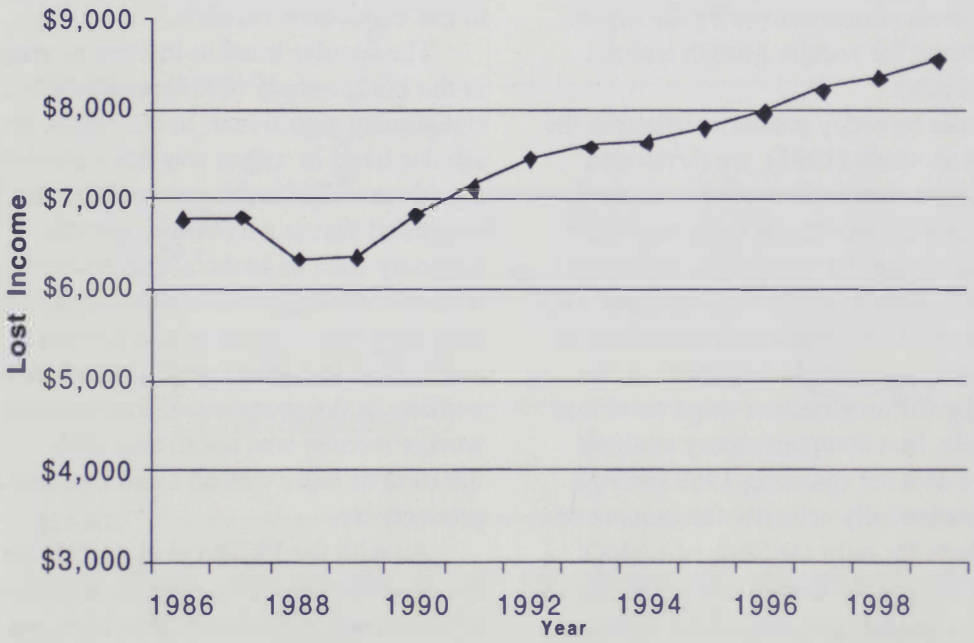

Figure 2. Average Lost Income per Job As a Result of the Repeal of Idaho's Prevailing Wage Law, 1986–1999

Table 3. Net Loss of Income and Employment Due to Repeal of the Prevailing Wage Law, in Idaho, 1999

	Direct	Indirect	Induced	TOTAL
Employee Compensation	$20,882,011	$4,663,837	$4,903,093	$30,448,942
Employment	1,251	270	292	1,813
Total Personal Income	$25,026,724	$6,386,074	$6,026,959	$37,439,757
Sales	$200,000,005	$18,756,705	$16,933,188	$235,689,898
Total Value Added	$43,342,292	$10,255,103	$10,293,006	$63,890,402

contractors. Our model's employment projections indicated that the average level of employment across the various components of the construction industry declined by 2.7 percent in 1986. Those components were viewed as either an industry or occupation class of construction workers, such as plumbers and pipe fitters. A recession in the Idaho economy was a major reason for this decline in employment. During the remainder of the forecast period, employment in construction was predicted to have been higher than it would have been without the repeal, except in 1990. The percent increases in employment from lower wages ranged from <0.1 percent in 1991 to 7 percent in 1988. Since 1995 percent increases in employment have fell between 4 and 6 percent. The employment gains associated with the lower wages caused by the repeal were adjusted for secular growth and the business cycle.

In order to verify results obtained in the Philips et al. study (1995), we developed and tested a comparable model for only the Idaho economy. Income or wage analysis in Philips' study used a very large, multistate data set that began in 1975 and spanned 16 years. Because of information contained in that data set, a regional component in the predicted state construction wage level was identifiable. In a complementary analysis we used a data set spanning 1969 through 1997 to statistically estimate the income or wage effects for only the State of Idaho's repeal of the act. To ensure comparability of the current results with that of the Philips study, we used the same explanatory variables, with the exception of the regional control variable. The explanatory power of the included variables in the Idaho equation accounted for two-thirds of the observed changes in construction wages or income. For our Idaho analysis the comparable starting point, or intercept term, was $33,283 or $278 more than the Philips study results below and shown for Idaho in Table 3.

$$Y = \underset{}{33{,}283} + \underset{(16.5)}{37.1X_1} - \underset{(0.55)}{4{,}236X_2} - \underset{(-3.4)}{265X_3} \quad \underset{(-1.09)}{}$$

where Y = average construction wage, X_1 = secular trend variable, X_2 = dummy variable representing repeal, and X_3 = business cycle proxy as represented by the unemployment rate. The *t*-statistics, shown under the coefficients, are significant at the 5 percent level. The adjusted R-squared is 0.66, thus the model explains about 66 percent of the variation in the dependent variable.

The secular trend in income or wages in the Philips study (1995) was positive and statistically significant. In our study, the secular trend in wages was not statistically significant. This result was unexpected and suggested that in a dynamic, growth economy such as Idaho's, construction workers' earnings were not keeping pace with the general trend rate of growth in the earnings or income experienced by other workers in the economy. Either construction worker income was not in step with inflation or there was no trend increase in productivity.

As with the Philips et al. (1995) study the dummy variable measuring the impact of repeal was significant. However, we estimated impact of repeal at $4236, or three times larger than that found in Philips' multi-state analysis. The *t*-statistic for the

dummy variable was -3. This larger figure suggested that in the case of Idaho's construction workers, repeal has had a much larger negative effect on wages than that experienced in other areas of the country. The small estimated difference associated with repeal found in the Philips estimates may have been attributable to the smaller wage or income impacts in other, larger states and overwhelmed the effects noted in Idaho. Clearly, repeal of the prevailing wage law was more important in explaining Idaho construction wage changes than it was in Philips' construction wage study.

The business cycle component explaining wage or income levels of Idaho's construction workers was measured by the state's unemployment rate. The estimated coefficient for the unemployment rate was a negative $265, or $38 less than the Philips' result; it implies that as the unemployment rate increased, the earnings of construction workers declined, an expected result but the variable was not significant. The *t*-statistic for the unemployment term was -1.09 as measured at the 5 percent level of significance. Rising unemployment rates generally mean less demand for workers and declining earnings; falling unemployment rates are associated with rising wages. Overall, results of our study consistently followed those, which provided further credibility to the statistical results. If there were a notable difference, it was in the effects of the time trend for earnings.

Approach 4: Changes in Real Wages.—Our fourth approach in testing the Phillips hypothesis was to examine differences in inflation-adjusted wages over time. To understand relative income changes for construction workers in Idaho as compared to national averages, we calculated their price-adjusted, or real, earnings from 1969 to 1997. The data presented in Figure 3 indicate Idaho construction workers received earnings below the national average through the 1970s, then the 1980s improved their position relative to the national average. Since repeal of the prevailing wage law in 1985, price-adjusted earnings of Idaho construction workers have shown a steady decline with the largest difference occurring in 1997.

To put this difference in earnings in

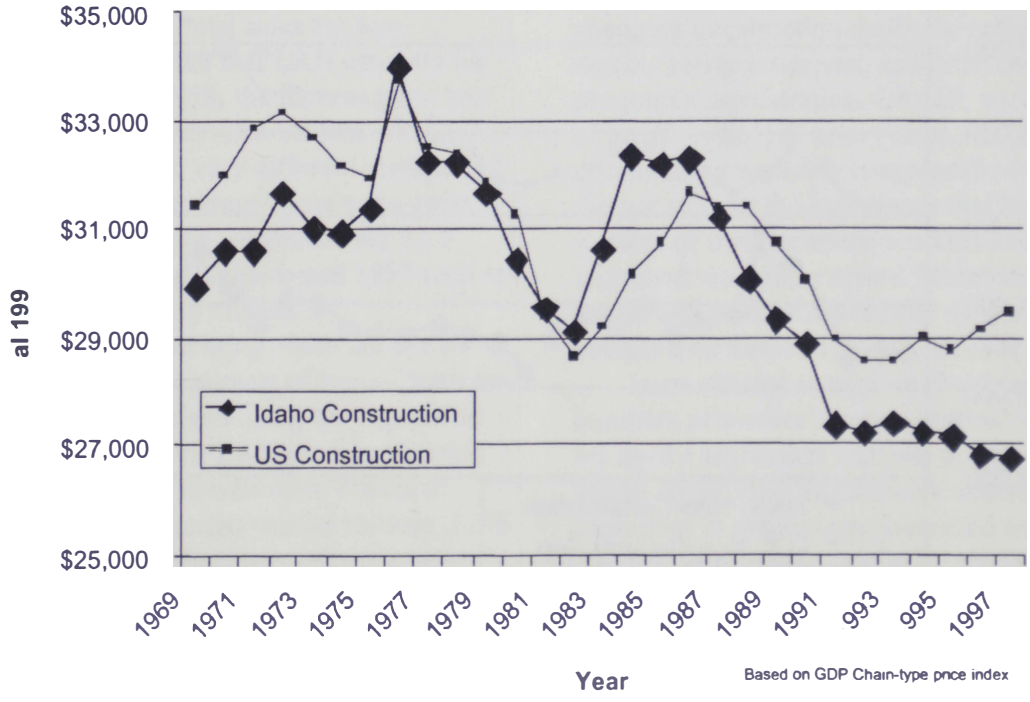

Figure 3. Real Construction Earnings Per Worker 1969-1997 U.S. and Idaho Averages (Base Year = 1992)

context, we calculated the real earnings of non-construction workers. The national non-construction workers' average earnings were consistently above those of Idaho's workers (Fig.4). The national trend showed a more rapid increase than that in Idaho. From a competitive perspective, Idaho most likely will begin to experience labor shortages in the construction industry because real earnings in other occupations and other parts of the country have been growing, although the real earnings of construction workers have been in decline.

A significant change in analysis occurred when we shifted our focus from average annual construction earnings to total earnings in Idaho. Using structures in the Philips study, we generated comparable estimates of the loss to state government tax revenues associated with the income loss realized by Idaho construction workers. The total construction earnings for 1999 were $1.63 billion, which was $37.8 million less than would have occurred without repeal of prevailing law. Throughout the period of 1985–1999 total loss of income for construction workers due to prevailing wage law repeal was larger than total incomes earned by the additional construction workers linked to the lower wages resulting from the repeal.

Employment in construction would have increased due to normal growth and the overall economic expansion. Total earnings for construction workers were lower than they otherwise would have been. Because of this earnings penalty or loss, retail businesses have lost sales, and the state has lost revenue from both sales and income taxes. Over this period the state lost a total of $25.4 million in taxes. In order for the state to compensate for the tax revenue lost since the repeal, our analysis suggested that savings on public works projects from changes in construction earnings would only have had to exceed $25 million. Effectively, government agencies would have had to save $1.8 million on average/ year on construction projects just to break even with the lost tax revenues.

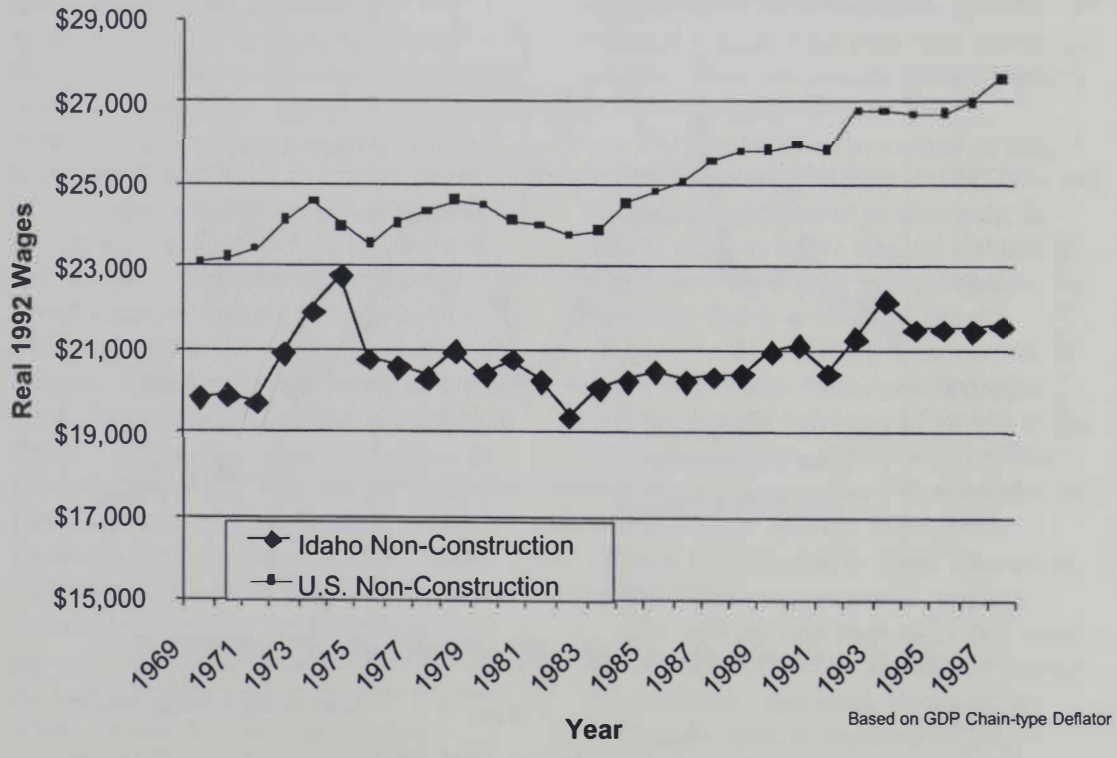

Figure 4. Non-Construction Earnings Per Worker Comparison — U.S. and Idaho

Objective Two: Lost Wages and Earnings on the Idaho Economy—IMPLAN

For our second study objective we extend our analytical scope to estimate changes in county and state overall economic activity in terms of the variations in trend growth rates for output, value added, earnings, and employment in all business sectors. The lost business sales associated with repeal retarded growth in the state's economy. Idaho's current business expansion would have been even more robust if it had enjoyed the higher level of sales lost due to the repeal. To check our estimates of the total tax effect of the repeal we generated an IMPLAN model of Idaho's economy to identify the overall effects of change in economic activity. The direct spending changes (first column of Table 3) from our IMPLAN estimates used a net income loss of $8540 per construction worker. The indirect and induced estimates were downstream effects of those changes and were the earnings, employment, sales, and output lost when businesses lost sales and cut back their level of operations. Using the proportions of income spent on sales, an average sales tax rate, and an average income tax rate, total sales tax loss associated with the IMPLAN estimate for 1997 was $575,458; the income taxes lost were $1.1 million; total tax loss was $1.7 million. Our two very different methods of estimating tax revenue losses were quite close in magnitude—compare our $1.7 million with the Philips-based 1997 total tax loss figure of $1.6 million.

What is interesting about the use of IMPLAN is the estimate of loss of business activity not obtained using the regression approach. The IMPLAN model estimated that, because of downstream effects of losses of construction worker income, $236 million in Idaho business sales never occurred. Furthermore, $64 million of Idaho's production of goods for the marketplace, as measured by value added, was lost. The lost taxes, lost business sales, lost production, and downstream jobs are the actual economic cost of the repeal.

As noted in our discussion of Figure 1, there have been a growing number of proprietorships in the construction industry, which suggested that individuals gaining experience in construction may have migrated away from traditional employment relationships. When wages decline in Idaho relative to the returns available in other states or for occupational choices, economic theory presumes that people will go where they can reap higher returns. This theory suggests that experienced construction employees may look elsewhere to maximize their returns, resulting in a less experienced workforce in Idaho's construction industry.

Objective Three: Decline in Occupation Maturity

We acquired data on construction industry injury rates to examine other aspects of the occupational maturity or experience level. We argue that less experienced workers have less expertise or human capital and are less productive. We attempted to estimate the effects of the repeal on occupational injury rates. The percentage of construction-based worker's compensation claims had a general downward trend (Fig. 5), reflected the national trend, and may have been due to changing construction methods, national worker safety programs, and differences in program administration. Overall, variations of gross on-the-job injury rates, as measured by worker's compensation claims, did not support the hypothesis that the number of inexperienced workers had increased workplace errors. Moreover, lost wages and medical costs (Fig. 6) were volatile over time and showed no clear trends.

In an attempt to explain changes in the numbers of worker's compensation claims, we used a regression analysis to determine which underlying factors were statistically important in determining observed trends. Because of overall volatility in the injury claims data, we adjusted the number of claims to an average claim rate, then examined Idaho's claim rate as compared to the nation's average claim rate. Due to several legislative factors and the institution of new methods of production, both the

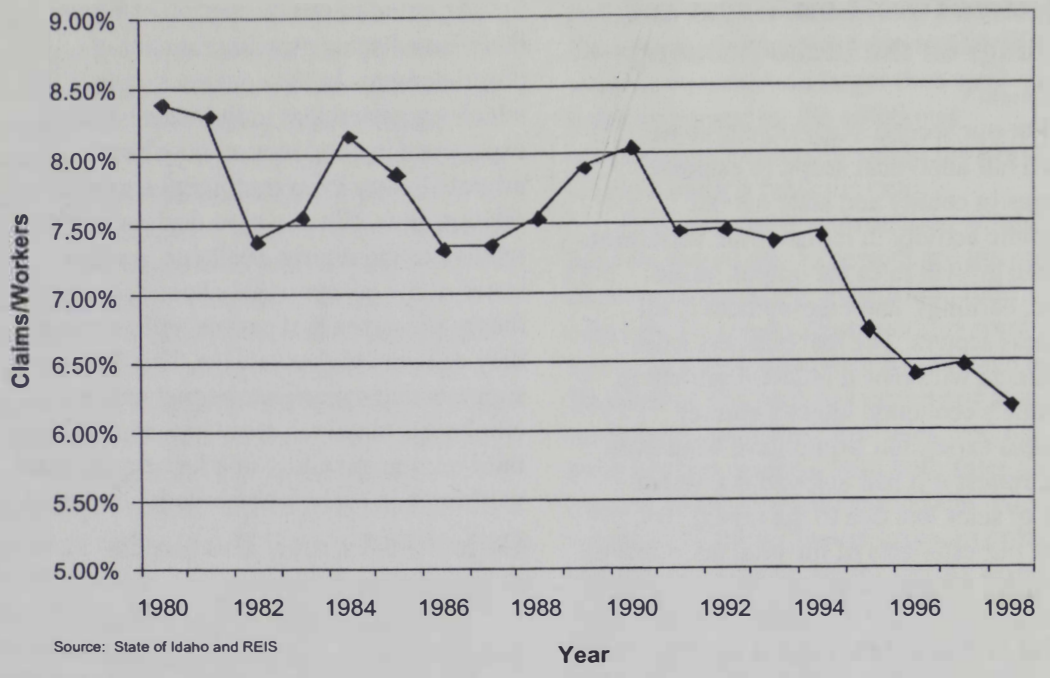

Figure 5. Worker's Compensation Claims—All Industries as a Percentage of Total Idaho Workers

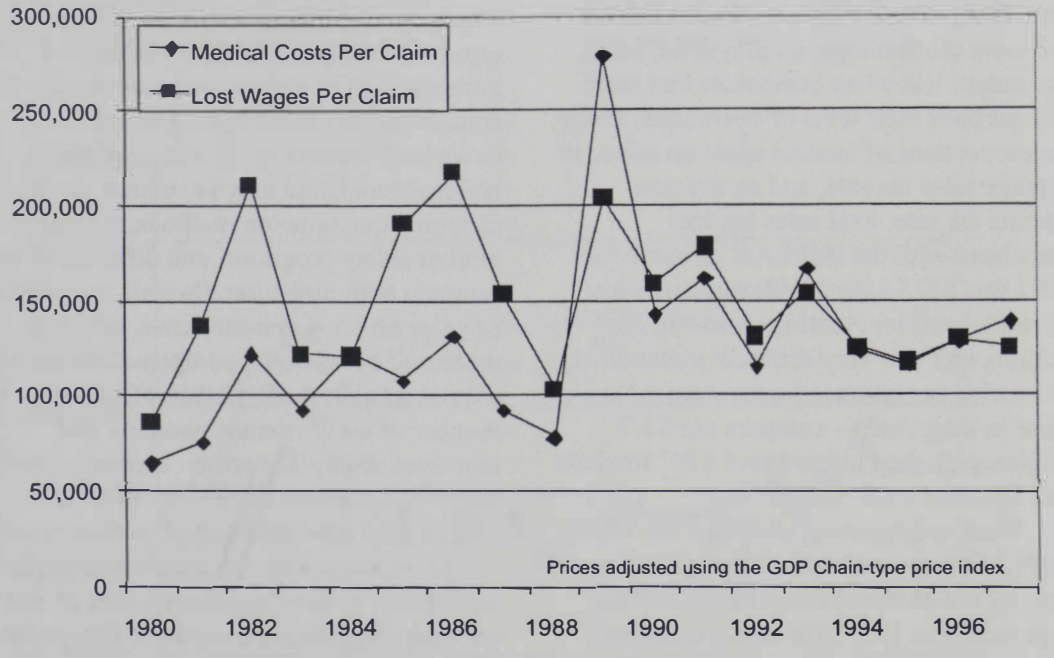

Figure 6. Real Lost Wages and MedicalCcosts Per Worker's Compensation Residential Construction Claim, 1980-1998 (1996 Dollars)

average claim rates for Idaho and the nation declined over the period addressed by our analysis. However, our statistical analysis indicated that Idaho's claim rate behaved differently than the nation.

The results of the regression equation appear below:

$$Y = 0.133 + 0.0145X_1 - 0.0051X_2 - 0.002X_3$$
$$(5.56) \quad (1.75) \quad (-1.94) \quad (-2.35)$$

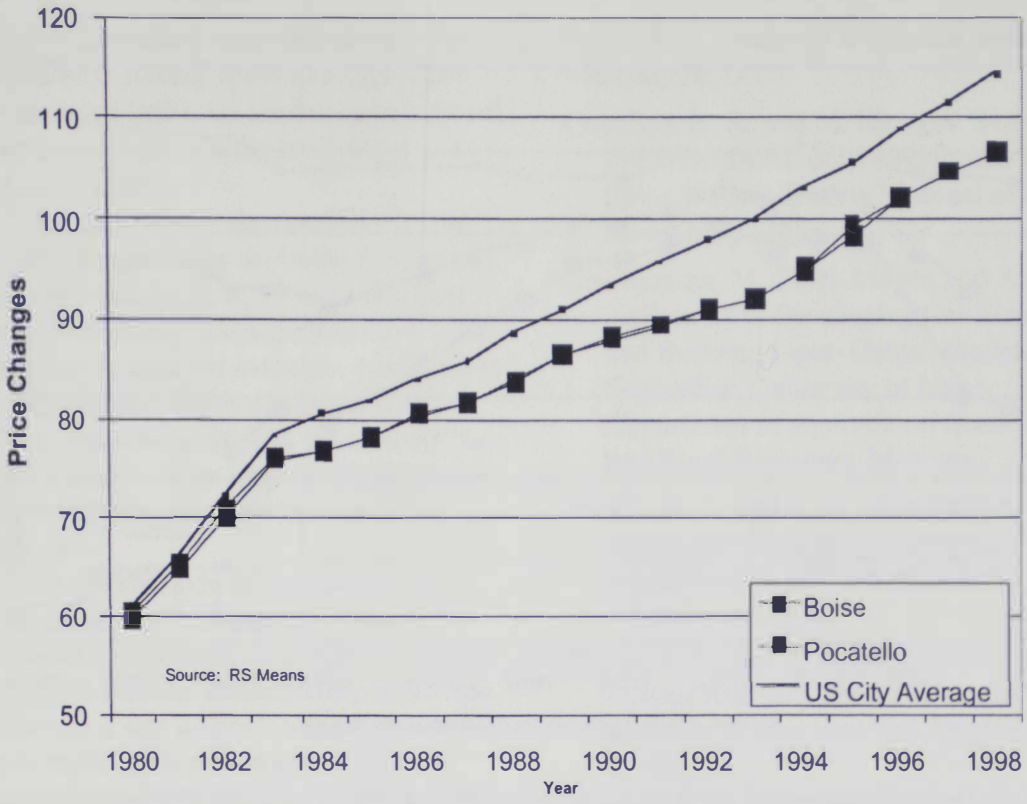

Figure 7. Idaho Construction Price Index Compared to US Average—1980-1997

where Y = injury claim rate, X_1 = dummy variable representing repeal, X_2 = business cycle proxy as represented by the unemployment rate, and X_3 = secular trend variable. The *t*-statistics, shown under the coefficients, are significant at the 5-percent level. The adjusted R-squared is 0.22, thus the model explains about 22 percent of the variation in the dependent variable

The largest coefficient, and thus most important factor in the statistical explanation of the difference in claim rates, was repeal of the prevailing wage law (X1). The magnitude and positive sign of this variable indicated that for those years without a prevailing wage law, Idaho's injury claim rate exceeded the nation's claim rate. The small, negative coefficient for the time trend suggested that the difference between Idaho's and the nation's injury claim rate was slowly shrinking. Possible or likely reasons for Idaho's claim rate approaching the nation's claim rate in the long term were compliance with statutes, and the diffusion of new construction technologies.

The negative coefficient for the unemployment rate (X_2) suggests that when Idaho's economy was slowing, there was a slight increase in the difference between the state's and the nation's claim rates. It may have been that shortcuts on job sites or the use of lower-priced labor were undertaken to keep construction costs down and profits up, and those shortcuts and low-wage labor caused a small increase in injury claim rates.

Objective Four: Declines in Worker Productivity Lead to Higher Costs

To test our hypothesis that there have been declines in construction worker productivity and consequently higher costs, we acquired R. S. Means construction price index information. One justification for repealing prevailing wage laws was the belief that costs of public works construction projects would decline because wages could be reduced without reduction in the overall productivity of the labor force. In several studies including Phillips

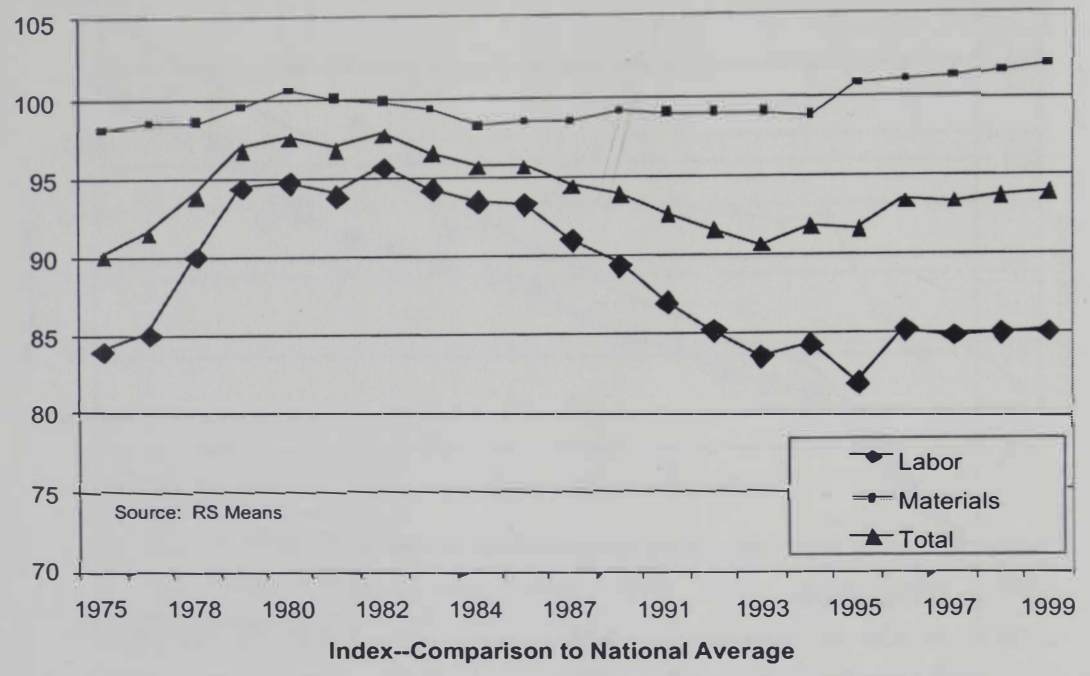

Figure 8. Boise Construction Price Index 1975-1999, as Compared to the National Average

et al. (1995), researchers were unable to detect a statistical relationship between school construction costs and prevailing wage laws, which meant that you could not predict lower construction costs with the repeal of a prevailing wage law.

Mainstream economic theories link pay with productivity in what is called the "efficiency wage hypothesis," specifically higher pay means higher employee productivity. If lower wages and productivity declined less than wages fell, there would have been a decline in overall project costs as purported by repeal advocates. One of the difficulties with using the construction index was that it is comprised of combined wage and productivity changes, and the two effects are inseparable in the information supplied.

Since the passage of the repeal in 1985, construction cost indices for Idaho cities seemed to parallel the national city average and suggested that there may have been a decline in wages, productivity, or both, and that little has changed since (Fig. 7).

Relative cost of construction materials showed a remarkable stability over the period from 1975 to 1999 (Fig. 8), suggesting that material costs in the Boise area have changed at the same rate as the nationwide city average. Relative costs of labor on Boise construction projects showed a slightly different pattern. Taking estimated wages and productivity of labor into account, the Boise's construction labor costs showed a sharp decline for the decade beginning shortly after the repeal. The deviation of trends noted in Figure 7 apparently was linked to a labor cost difference. The pattern strongly suggested initial cost savings associated with the repeal-based lower wages, and that wage increases and worker productivity declines were beginning to occur in the construction industry. The data displayed in Figure 8 clearly showed that Idaho real earnings declined for most of the 1990s and led us to conclude that, compared to national averages, productivity of construction workers in Boise was falling.

Conclusions

Our study statistically supported the hypothesis that prevailing wage legislation increased construction earnings although average lower wages were associated with

repeal of prevailing wage legislation when compared to having never had such a law. We included IMPLAN modeling techniques to estimate change in the level of overall economic activity.

Our data clearly showed Idaho's real construction earnings declining for most of the 1990s and the R. S. Means labor cost component rising. We submit that, compared to national averages, productivity of construction workers in Boise was falling. We concurred with the result of the Philips study—there may not have been a cost savings to repealing the prevailing wage law.

On the cost side of the government revenue benefit–cost equation were tax revenues lost because construction workers were paid less and consequently spent less. Although it was difficult to find any benefit from repeal, cost was in excess of $1.8 million/year. Furthermore, the IMPLAN estimates clearly indicated losses of business sales, production, and jobs. Those losses to Idaho businesses and households slowed the rate of economic growth.

Using construction industry injury rates as an index of workers' experience, we found that repeal of the prevailing wage law a significantly explained Idaho's injury claim rate being higher than the nation's claim rate.

With the repeal of the prevailing wage law, a number of construction workers entered the construction industries as contractors (sole proprietorships). That is, construction workers quite likely established their own businesses in response to the decline in wages associated with the repeal.

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