Union, Premium Cost, and the Provision of Employment-based Health Insurance

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Abstract

The decline of employment-based health plans is commonly attributed to rising premium costs. Using restricted data and a matched sample from the Medical Expenditure Panel Survey–Insurance Component, the authors extend previous studies by testing the relationships among premium costs, employment relationships, and the provision of health benefits between 1999 and 2012. The authors report that both establishment- and state-level union densities are associated with a higher likelihood of employers' providing health plans, whereas right-to-work legislation is associated with lower provision. These factors combined rival rising premium cost in predicting offering. This finding indicates that the declining provision of health benefits could be in part driven by the transformation of the employment relationship in the United States and that labor unions may remain a critical force in sustaining employment-based coverage in the twenty-first century.

Keywords

health benefits; unions; organization; employment relationship

Employment-based health plans have been the main channel through which most Americans acquire their health care, but its coverage has been in decline in the past few decades. Between 1987 and 2017, the proportion of Americans who were covered by employment-based health plans declined from 62.1 percent to 49 percent, a difference of 13.1 percentage points consisting of more than 41 million men, women, and their dependents who have access to health insurance through their own or family members' employment (DeNavas-Walt, Proctor, and Smith 2013; Kaiser Family Foundation 2016). Although the Affordable Care Act (ACA) has significantly reduced the uninsured population since 2013, particularly among low-income households (Griffith, Evans, and Bor 2017), the employment-based

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health plan remains the central pillar in the U.S. health care system. As such, the shrinkage of employer-sponsored health plans has drawn significant attention.

A main driver of the decline in employment-based health insurance is that fewer workplaces offer any health plans to their employees. Figure 1 presents the percentage of private establishments that provided health insurance between 1999 and 2014. It shows that at the turn of the century, close to 60 percent of all U.S. private workplaces provided at least one health plan. The number dwindled in the early 2000s and again in the aftermath of the great recession. In 2014, only 47.5 percent of establishments provided any insurance. Many of these losses were concentrated in small workplaces, which experienced the greatest relative declines in offers, whereas larger workplaces tended to remain stable (Buchmueller, Carey, and Levy 2013). Furthermore, the downward trend underestimates the deterioration of employment-based health plans, as many providing employers now adopt plans with more restrictive health care networks and higher deductibles.

The predominant explanation for this downward trend is the growth of premium costs. A recent report from the Kaiser Family Foundation (2016) indicates that the cost of health insurance has been on the rise. Between 2003 and 2016, the average annual health insurance premium for family coverage doubled from $9,068 to $18,142. The tendency to not offer health plans is particularly salient among small, low-wage employers (Chernew, Cutler, and Keenan 2005; Hadley 2006; Vistnes and Selden 2011).[1]

Although these studies agree that financial incentives would increase the prevalence of employment-based insurance, field and experimental studies report that the provision of a health plan is not solely a financial matter. In the late 1980s, the Robert Wood Johnson Foundation sponsored a series of programs in nine cities to subsidize health insurance for small firms that did not offer this benefit. A mere 5 percent of the eligible firms decided to enroll, contradicting the prediction that lowering premium costs would lead to higher provision (Helms, Gauthier, and Campion 1992). A similar voluntary program was conducted in two cities in New York State (Thorpe et al. 1992) and a randomized trial in San Diego (Kronick, Olsen, and Gilmer 2008), both suggesting that employers who do not offer health insurance are reluctant to do so even when up to 50 percent of the cost would be subsidized.

The main criticism of these findings is that the temporary nature of these programs was unattractive to many employers who did not want to offer insurance and then discontinue it when the subsidies ended. This very criticism points out the social nature of employment-based insurance. Employment-based insurance is not merely a form of compensation but signals a social commitment between employers and their employees. In addition to the rising cost, the decline of employment-based insurance may be in part driven by the transformation of the employment relationship in the United States (Bidwell et al. 2013; Cappelli et al. 1997; Rubin 1995).

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[1] In addition to premium cost, there has been an extensive investigation viewing the issue through a financial lens. Abraham, Feldman, and Graven (2014) found that because compensation in the form of insurance premium is either exempt or taxed at a lower rate, the preferential treatment helps stimulate the provision of health plans for those earning higher incomes or residing in the states with higher tax rates.

In this study we expand the focus on financial constraints and investigate how workers' collective bargaining power may shape the provision of health benefits and moderate the impact of premium costs in recent years. Rather than focusing on financial factors, we examine how the provision of employment-based health benefits could be codetermined by both economic and social concerns. In the next section, we trace the history of health benefits and review existing literature on the links between employment relationships and the provision of health insurance.

The Changing Landscape of Employment

Health benefits emerged as a popular form of compensation during World War II, after the Roosevelt administration instituted wage controls to curb potential inflation. This policy faced strong opposition from trade and labor unions, which had gained a strong foothold in national politics in the 1930s and threatened to organize strikes in response. To compromise, the War Labor Board excluded health benefits from wage controls, and the Internal Revenue Service granted employer-sponsored health benefits exempt status from income tax at the federal, state, and city levels.

The popularity of employment-based health benefits soared as unions expanded. By the 1960s, nearly all employers provided some form of health insurance. There are at least three reasons why the provision of health benefits rose alongside the expansion of organized labor even in the absence of wage control. First, unions both increase workers' bargaining capacities through the threat of strike and ensure that employers will be sensitive to the average worker's demand for health care (Budd 2005). This is because unionization creates a collective agent that can bargain for greater compensation relative to nonunionized workplaces, and an agent that solves information asymmetries among workers by bringing better information about what workers prefer to the negotiating table (Freeman and Medoff 1984).

This last part is key, as without unions, employers are more likely to favor compensation packages that exclude health benefits and related administrative costs. These two "faces" of unionism generated a consistent impact of strikes on compensation between the 1940s and the 1970s, the period of expansion and favorable political climates for unions. As is well examined, in this environment, strikes allowed workers in highly unionized sectors to boost average worker pay in their sectors (Rubin 1986). Some studies indicate that this effect on wages also extended to fringe benefits (Freeman 1981). In a study of the printing industry, for example, Kalleberg, Wallace, and Raffalovich (1984) found a significant effect of strike activity on both wages and total compensation in benefits across the sector. Union decline has weakened the association between bargaining power, strikes, and compensation increases. In the current climate, in which unions do not possess the structural capacity to extend benefits, strikes are more likely to be defensive in nature. Indeed, as Rosenfeld (2014) suggested, today's strikes are more likely to be a result of the withdrawal of health care packages than the cause of increased coverage.

A second cause of health care offers is that unions may foster long-term commitment between employees and their employers, which leads to greater provision of health benefits.

Studies have repeatedly found that union members tend to have lower turnover rates than the nonunionized work-force when reporting similar or lower levels of job satisfaction (Bender and Sloane 1998; Borjas 1979; Bryson, Cappellari, and Lucifora 2004). Unionized workers also tend to participate more in workplace governance (Iverson and Currivan 2003) and are more likely to have high levels of commitment and loyalty to their companies during periods of organizational restructuring (Sverke and Hellgren 2001; Shaw et al. 1993). With long-term commitments from union employees, an investment in the health of the work-force, the most portable asset, could be beneficial to employers. Additionally, employers anticipating long-term employment relationships may find it useful to offer health care as a signal to attract high-quality employees who seek job security.[2]

Last, unions may play a specific role in promoting health care and employment-based health benefits. By organizing union hall meetings and training programs, union officers inform their members about positive health practices and the rights to health care. Harris et al. (2014) found this phenomenon to be common in small workplaces, where unions can reach all members. Unions also provide a channel through which workers may "voice" their concerns about health and related issues, which encourages workers not to leave employment to seek health care elsewhere (Artz 2011; Budd 2006). This is particularly salient among female-dominated workplaces. As Artz (2011) highlighted, unions are significantly more likely to bargain for family-friendly benefits in predominately female workplaces, forming a mechanism for female workers to add issues such as child care, flexible hours, and personal time to compensation packages. In addition, unions may create their own internal health care initiatives that cater to the needs of their workers and dovetail with health care awareness, such as promoting smoking cessation among blue-collar workers (Barbeau et al. 2006) or improving understanding of occupational hazards and safety issues (Harris et al. 2014).

In addition to the links between unions and the provision of health insurance, it should be noted that unionization provides the most benefit when it reaches formerly marginalized workers such as women, minorities, and less educated workers, who tend to have less individual bargaining power and therefore gain the most when unionized (Rosenfeld 2014). This point becomes particularly salient as deunionization falls upon marginalized workers first and thus limits the union gains associated with employer-sponsored health care to more advantaged workers. Furthermore, studies have shown that the presence of labor unions in the local labor market affects both unionized and nonunionized establishments. To compete for workers and prevent unionization in highly unionized states, nonunionized establishments are under pressure to provide similar compensation (Hirsch and Macpherson 2003; Schneider and Reich 2014). Even when nonunionized establishments do not compete directly with unionized establishments, labor unions tend to set the social norms regarding employment conditions (Western and Rosenfeld 2011).

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[2]There are other reasons health benefits are a desirable form of compensation for highly productive individuals. First, health benefits are a more efficient form of compensation because the premium per capita for a group of workers is significantly lower than the premium for individual policyholders. Second, the tax deductibility means that the more one earns, the more incentive there is to have part of one's compensation as health benefits. In other words, a mix of wages and health benefits would maximize utility more than wages alone, should workers place any value on health benefits.

Although organized labor played an important role in setting the compensation standards in the postwar era, its influence began to decline in the 1980s and the 1990s, when unions were challenged and undermined on multiple fronts. As unions weakened and the flexible employment model became the norm, the popularity of employment-based insurance also began to decline sharply. Health benefits became the privilege of workers with the most collective bargaining power. Using a survey of employers conducted by the Robert Wood Johnson Foundation in 1993, an early study estimated that declining unionization could account for 20 percent to 35 percent of the decrease in the offering of health plans between 1983 and 1997 (Buchmueller, DiNardo, and Valletta 2002). A similar conclusion about the generosity of health care plans was reached by Budd (2005) in a separate study using the Employer Costs for Employee Compensation survey.

Some studies cast doubt on whether labor unions still play an important role in promoting employment conditions. Evidence suggests that strike activity by unions is no longer associated with rising wages or distribution of income toward labor (Rosenfeld 2006; Wallace, Leicht, and Raffalovich 1999). In addition, scholars have found zero or negative benefits associated with union certification elections and union bargaining in the United States (Frandsen 2013; Hirsch 2012). Furthermore, as unions decline, they may no longer be able to shape the employment conditions of nonunionized workplaces. The inability of unions to expand into new, nonunionized industries has stopped premiums from reaching the wider labor market, despite attempts by unions to diversify and adapt to new conditions. This pattern has been compounded by political weakness of unions, meaning that unions are increasingly unable to sway elections or mobilize private sector workers who might organize for more generous labor market policies (Rosenfeld 2014; Pontusson 2013).

Still, recent evidence points to the continuing importance of unions for generating direct improvements of well-being for union members, as well as for creating a "moral economy" around work that upholds regional- and industry-level wage equality. Wilmers (2017), for example, found a continuing firm-level effect of unions on wages using an instrumental variable analysis of union elections. VanHeuvelen (2018), meanwhile, used data from the Panel Study on Income Dynamics and the Current Population Survey (CPS) to find important within-group differences in wage inequality stemming from individual-level and regional-industry-level unionization. These studies suggest an important effect for union density at multiple levels of analysis. In health care, the question becomes whether unions can still influence general norms about health benefits.

This study advances the study on the provision of health benefits in two main ways. First, we update previous employer-level studies (Buchmueller et al. 2002; Budd 2005) by testing whether labor unions remain a critical force in sustaining employment-based health insurance in the twenty-first century. Second, we integrate the literature on rising health care costs with the literature on changing employment relationships. We hypothesize that independent of the premium costs, the establishments in which workers have greater collective bargaining capacity are more likely to provide health plans. Furthermore, we hypothesize that workers' collective bargaining power could moderate the adverse effects of premium costs, meaning that employers would be less cost sensitive when their workforces are more organized.

Study Data and Method

Data

Our primary data source is the restricted-use Medical Expenditures Panel Survey–Insurance Component (MEPS-IC) at the Federal Statistical Research Data Centers for 1999 to 2012.[3] The MEPS-IC provides information regarding employer-sponsored health insurance as well as financial and demographic characteristics for a nationally representative sample of private establishments. Specifically, it asks whether the establishment provides any health insurance and, if so, how much the employer contributes to the premium cost. Although it provides rich information about establishment characteristics, a main limitation of the MEPS-IC is that the sample is cross-sectional, which prevents us from identifying the causal relationship with repeated observations.

To reduce the potential omitted variable bias, we augment the MEPS-IC by matching the establishments to the Longitudinal Business Database and the Business Registrar, also provided by the U.S. Census Bureau. This allows us to gain additional establishment characteristics, as well as linking individual establishments to their parent firms. To assess the impacts of state-level factors, we also construct variables using the March CPS provided by the Integrated Public Use Microdata Series (King et al. 2010).

Measures

Our outcome of interest is whether the establishment provides any health plan, including single, plus-one, or family coverage. We test the importance of workers' collective bargaining capacity at both the establishment and state levels. Establishment-level union density is measured as the proportion of employees who are union members. State-level union density is measured as the proportion of workers who are union members or covered by union contracts. In addition, we include a dichotomous variable indicating whether the state has right-to-work legislation. Right-to-work laws, enabled by the 1947 Taft-Hartley Act, allow states to permit workers in unionized business to opt out of paying dues to their unions, known as agency fees, even if the workers receive benefits from the activities of the union and collective bargaining (Feigenbaum, Hertel-Fernandez, and Williamson 2018). The passage of right-to-work laws is generally associated with an immediate decline in the frequency and success of unionization drives, as well as with a decline in union spending on political campaigns for Democratic candidates (Feigenbaum et al. 2018; Moore 1998).

A main challenge of our analysis is that the potential costs of provision is unobserved among workplaces that do not provide any health benefits. If unionization reduces the cost of purchasing health insurance (Gabel et al. 2015), we would see a spurious association between unionization and the provision of health benefits when the premium cost is unaccounted. We address this challenge by matching providing and nonproviding establishments with the coarsened exact matching (CEM) technique (Iacus, King, and Porro 2008, 2012). Unlike propensity score matching, which groups observations with similar likelihood of receiving treatment, CEM is a nonparametric technique of processing data

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[3]In 2008, the MEPS-IC switched from a retrospective to a current-year survey. Therefore, our sample does not include data for 2007.

that accounts for confounding factors but does not make linear assumptions regarding the underlying functional forms.

We match the establishments with factors that would influence insurance costs, including total number of employees, proportion of female employees, proportion of workers 50 years old or older, whether the parent firm has multiple establishments, and year and state fixed effects. These measures are consistent with the recent literature on premium costs (Vistnes, Selden, and Zawacki 2015). Our specification creates more than 14,000 cells in which providing and nonproviding establishments are matched on the basis of all the factors. After the matching, we drop the cells that do not have at least one offering establishment and at least one non-offering establishment. This leaves about 68 percent of the original sample. We then impute the potential cost per worker for nonproviding establishments using the average cost of the matched providing establishments.

Because we use an extensive number of variables to create these cells and to ensure that the establishments in each cell share very similar characteristics, some cells do not contain sufficient observations for us to examine within-cell variation. In other words, our CEM approach sacrifices uncertainty for precision. To address this issue, we also estimate a separate set of models using multiple imputation to obtain the potential cost of nonproviding establishments (i.e., treating the cost of nonproviding establishments as missing). The results, presented in the Appendix, are substantively similar to the findings using CEM.

Our regression analysis accounts for a series of other characteristics that are associated with the provision of health benefits and employment relationship. At the firm level, we account for the founding period of the firm, firm age, whether the firm has a multiunit operation, nonprofit status, and employment size. At the establishment level, we control for the average pay of employees and shares of workers who are part-time, are female, are 50 years old or older, or receive low wages.[4] At the state level, we control for unemployment and the proportion of population living under the poverty line to account for the statewide demand for labor. Table 1 presents the summary statistics and description of the variables used in our analysis.

Analytical Approach

We estimate the effects of employment relationship and premium cost on the provision of health insurance using a series of logistic regression models. Our fixed-effect model is specified as:

$$Log\left(\frac{P(Y=1)}{1 - P(y=1)}\right) = \alpha_s + \alpha_i + \alpha_y + \beta_1 U_{i,s,y} + \beta_2 C_{i,s,y} + \beta_3 U N_{s,y} + \beta_4 R_{s,y} + X_p \beta + \varepsilon_{i,s,y}$$

where Y indicates the provision of any health plan for an establishment. We absorb the effects of time-constant, unobserved state characteristics with α_s, industry-specific patterns with α_i,[5] and year-specific shocks such as recession with α_y. $U_{i,s,y}$ denotes the percentage

[4] The MEPS-IC adjusts the definition of low-wage workers across different survey years. In general, employees who receive at or below the 25th percentile for all hourly wages in the United States are classified as low-wage workers. In 1999, the cutoff was set at $6.50 and increased to $11.50 for 2012.

of workers who are unionized, and $C_{i,s,y}$ denotes the employer's contribution to premium cost per worker for establishment i in state s for year y. At the state level, $UN_{s,y}$ denotes the union density, and $R_{s,y}$ indicates whether there is right-to-work legislation in state s in year y. X_P includes all the control variables described previously. The coefficients of interest are β_1, β_2, β_3, and β_4. We expect establishment- and state-level union density to be positively associated with the provision of health plans, while premium cost and right-to-work legislation have adverse effects. All our estimates are weighted using sample weights provided by the MEPS-IC, which are adjusted for nonresponse and poststratification. Standard errors are clustered at the state level.

Results

Table 2 presents the coefficients and standard errors from our main models. Model 1 includes all variables except cost per worker. It shows that establishments with higher levels of unionized workers are more likely to provide health plans. Furthermore, the results indicate that the decision to provide is embedded in a wider context. Union density at the state level is positively associated with the provision of health plans, whereas right-to-work legislation is negatively associated with the provision of health plans. These results support our hypothesis that organized labor remains an important force in sustaining health plans.

Most coefficients behave in their expected manner. At the establishment level, higher compensation, a greater proportion of female workers, fewer part-time and low-wage workers, and nonprofit status are associated with greater likelihoods of providing any health plan. At the firm level, more established firms and a larger workforce are associated with higher likelihood of providing health benefits. At the state level, we do not see the demand for labor, measured by both unemployment and poverty rates, to have a significant impact on the decision of provision, though the coefficients are both negative.

In model 2, we include the cost per worker to provide health plans as a determinant of provision. As expected, the higher the cost, the less likely the employer will provide the benefit. Furthermore, the inclusion of premium cost does not attenuate the association between workers' collective bargaining power and health benefits, suggesting that the effects of union and related legislation are robust even when the premium cost is considered. Because the actual cost of providing health insurance could be systematically higher for nonproviding establishments than for providing establishments because of unobserved characteristics, we reestimate model 2 two more times with a different assumption for each model. In models 3 and 4, we impute the cost for nonproviding establishments to be 10 percent or 20 percent higher than for providing establishments, conditional on observed characteristics. The results suggest that the impact of employment relationships remains substantial even with alternative cost measures.

To contrast the effect sizes of employment relationship and premium cost, in Figure 2, we compare the proportional changes in odds of providing health insurance per 1 standard deviation change for establishment and state-level union densities, right-to-work legislation

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[5]We define an establishment's industrial affiliation using the two-digit North American Industry Classification System.

(0 and 1), and premium cost. It shows that a 1 standard deviation increase in union density at the establishment and state levels is associated with about a 5 percent increase in the odds of offering. Right-to-work legislation suppresses the odds by 14.4 percent. Taken together, these effects (25 percent) rival the effect size of premium cost, which reduced the likelihood of offering by 30 percent per 1 standard deviation.

Discussion

In this study we examine how rising premium cost and employment relationships jointly shape the provision of health insurance in workplaces. We find that although premium cost is a clear deterrent to the offering of health plans, workers' collective bargaining power may remain an important determinant for the provision of health benefits in the twenty-first century. Evidence suggests that both establishment- and state-level union densities are associated with higher likelihood of employers' providing health plans, while right-to-work legislation is associated with lower provision.

A main limitation of our analysis is that we do not have repeated observations for each establishment and therefore cannot track what factors influence the provision of insurance over time. This also prevents us from ruling out time-constant unobserved characteristics that simultaneously associate with employment relationship and the availability of health benefits. We attempt to mitigate this issue by matching similar establishments and supplementing additional establishment characteristics. Nevertheless, factors such as the potential establishment growth and prior employment relationship remain unobserved and could produce a noncausal association between the presence of union and the provision of health benefits.

Much of the current discussion of employer-sponsored health care has been concentrated on the effect of the ACA on employer offers. New evidence indicates that coverage has not declined because of the ACA and that coverage may have modestly risen in advance of the employer mandate (Blavin et al. 2015). In the meantime, less attention is paid to how the prevalence of employer-sponsored insurance may affect the success of the ACA. Nationally, the ACA's exchanges are less likely to provide sufficient coverage in states where organized labor is weak and right-to-work laws are instituted (Cox and Semanskee 2016). This suggests that a more tenuous employment relationship could offload the burden of health expenses from employers to employees and indirectly undermine the exchanges.

Two policy recommendations can be made to strengthen labor bargaining power. If unions in small, low-wage workplaces are the carriers of increased health care coverage, it will be key to support the legal frameworks that facilitate these campaigns. Unions already face massive challenges in the current political climate. Sponsorship of the Employee Free Choice Act, which would enable unions to certify elections with signatures and increase responsibilities and penalties for not following through on arbitration, would be a powerful step in low-wage work-places. Next, it will be important to uphold the 2015 Browning-Ferris decision of the National Labor Relations Board, recently repealed and then reinstated, which establishes joint-employer status between contractors, franchises, and larger employers. Such a legal framework is crucial in large, franchised or subcontracted workplaces to enable divided,

precarious workers to organize across work units for health care. However, considering the recent ruling in *Janus v. AFSCME*, which extends right-to-work laws to public-sector workers across the United States, these policies are unlikely to be considered in the current political moment. Increasing minimum wage laws and encouraging the National Labor Relations Board to grant stricter penalties on interference with elections may be more viable first steps.

Conclusions

Although rising premium costs have been a main deterrent for employers to offer health plans, this study suggests that the decision to provide is also embedded in a wider social context. Employers are more likely to provide health plans when their workers are organized and when the establishment locates in a more labor-friendly state. Our results point out that, in addition to the employer mandate provision, policies that strengthen organized labor could promote the access to health care and lessen the burden of the ACA and its associated Medicaid expansion. Future research should consider organized labor as an important determinant of the provision of employment-based health insurance.

Acknowledgments

Biographies

Ken-Hou Lin is an associate professor of sociology at the University of Texas at Austin. His primary research examines how economic and demographic changes in the past four decades have shaped the distribution of resources in the United States.

Samuel Bondurant is an economist at the Census Bureau and received his PhD from Texas A&M University. He specializes in causal inference and administrative data. His areas of interest include health, crime, and child abuse.

Andrew Messamore is a PhD student in the Department of Sociology at the University of Texas at Austin. His current research areas focus on labor unions, civic associations, and how political dynamics shape inequalities.

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Appendix

Table A1.

Logistic Regression Using Multiple Imputation for Premium Costs.

	Model 2		Model 3		Model 4	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Workers' bargaining power						
Percentage union (establishment level)	0.4208***	0.0965	0.4322***	0.0967	0.4454***	0.097
Percentage union (state level)	0.7729**	0.3042	0.7793**	0.3085	0.7845**	0.3132
Right to work	−0.1179**	0.0479	−0.1169**	0.049	−0.1160**	0.0501
Financial factors						
Cost per worker × 100 percent	−0.3154***	0.0055				
Cost per worker × 110 percent			−0.3495***	0.0058		
Cost per worker × 120 percent					−0.3833***	0.0061
Firm characteristics						
Founding period						
1981–1990	0.0717*	0.043	0.0731*	0.0433	0.0746*	0.0435
1991–2000	0.2424***	0.0694	0.2449***	0.0697	0.2474***	0.0701
2001 or after	0.2084***	0.0797	0.2118***	0.0801	0.2153***	0.0806
Firm age	0.0593***	0.0039	0.0595***	0.0039	0.0597***	0.0039
Firm age squared	−0.0005***	0.0001	−0.0005***	0.0001	−0.0005***	0.0001
Number of employees (20–99)	1.462***	0.0215	1.450***	0.0216	1.438***	0.0217
Number of employees (100–999)	2.659***	0.0479	2.646***	0.0486	2.633***	0.0493
Number of employees (1,000–9,999)	2.373***	0.1722	2.372***	0.172	2.371***	0.1718
Number of employees (≥ 10,000)	3.849***	0.4156	3.853***	0.4171	3.857***	0.4186
Multiunit firm	0.1082	0.0719	0.1115	0.0722	0.1155	0.0724
Establishment characteristics						
Ln(pay per worker)	0.6061***	0.0145	0.6113***	0.0146	0.6162***	0.0147
Percentage part-time	−1.634***	0.0496	−1.667***	0.0497	−1.700***	0.0499
Percentage female	0.3340***	0.0314	0.3281***	0.0316	0.3223***	0.0318
Percentage aged ≥ 50 years	−0.1889***	0.0301	−0.1701***	0.0305	−0.1512***	0.0308
Percentage low wage	−1.139***	0.0448	−1.161***	0.0455	−1.183***	0.0462
Nonprofit	0.7502***	0.0322	0.7620***	0.0325	0.7735***	0.0328
State characteristics						
Percentage unemployment	−0.5103	1.205	−0.4818	1.221	−0.4556	1.238
Percentage below poverty	−1.082	0.8806	−1.066	0.887	−1.05	0.8935
Constant	−5.043***	0.1627	−4.824***	0.1659	−4.600***	0.1694
State and year fixed effects	Yes		Yes		Yes	

Note: Total observations for each regression are 240,000 (rounded because of data restriction). We use 30 imputations when imputing unobserved premium costs. Standard errors are clustered at the state level. The regressions are weighted using the sample weights provided by the Medical Expenditure Panel Survey–Insurance Component, which are adjusted for nonresponse and poststratification.

*
 $p < .05$.

**
 $p < .01$.

***
 $p < .001$.

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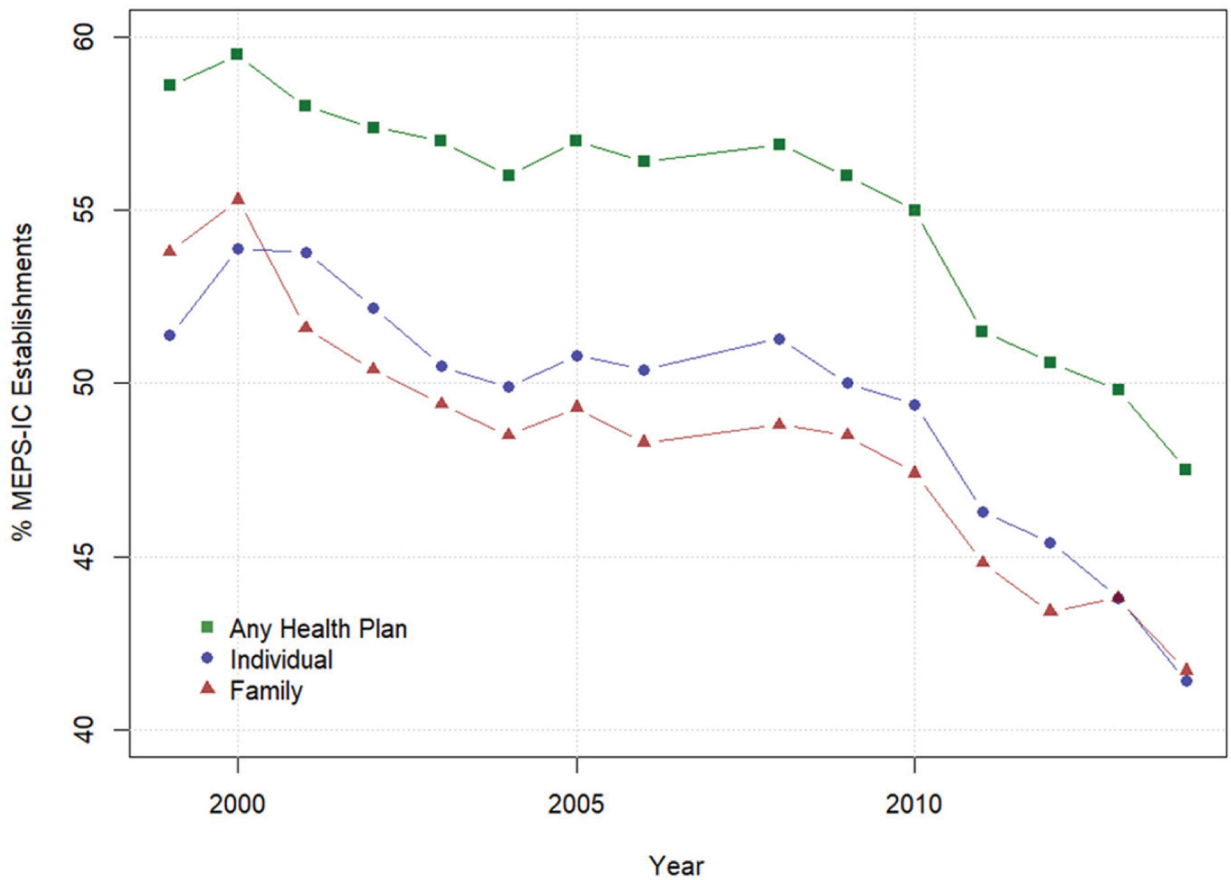
Figure 1.

The declining provision of health plan among U.S. private establishments, 1999 to 2014.

Note: The Medical Expenditure Panel Survey–Insurance Component (MEPS-IC) shifted from a retrospective survey that collected data about the previous year to a current survey that asked questions about current health plans. As such, we do not have any observations for 2007.

Figure 2.
Proportional changes in the odds of providing health insurance per 1 standard deviation increase.

Note: The estimates are based on model 2 in Table 2. The effect of right-to-work legislation is the difference between the presence and the absence of such laws.

Table 1.

Summary Statistics of the Matched Sample.
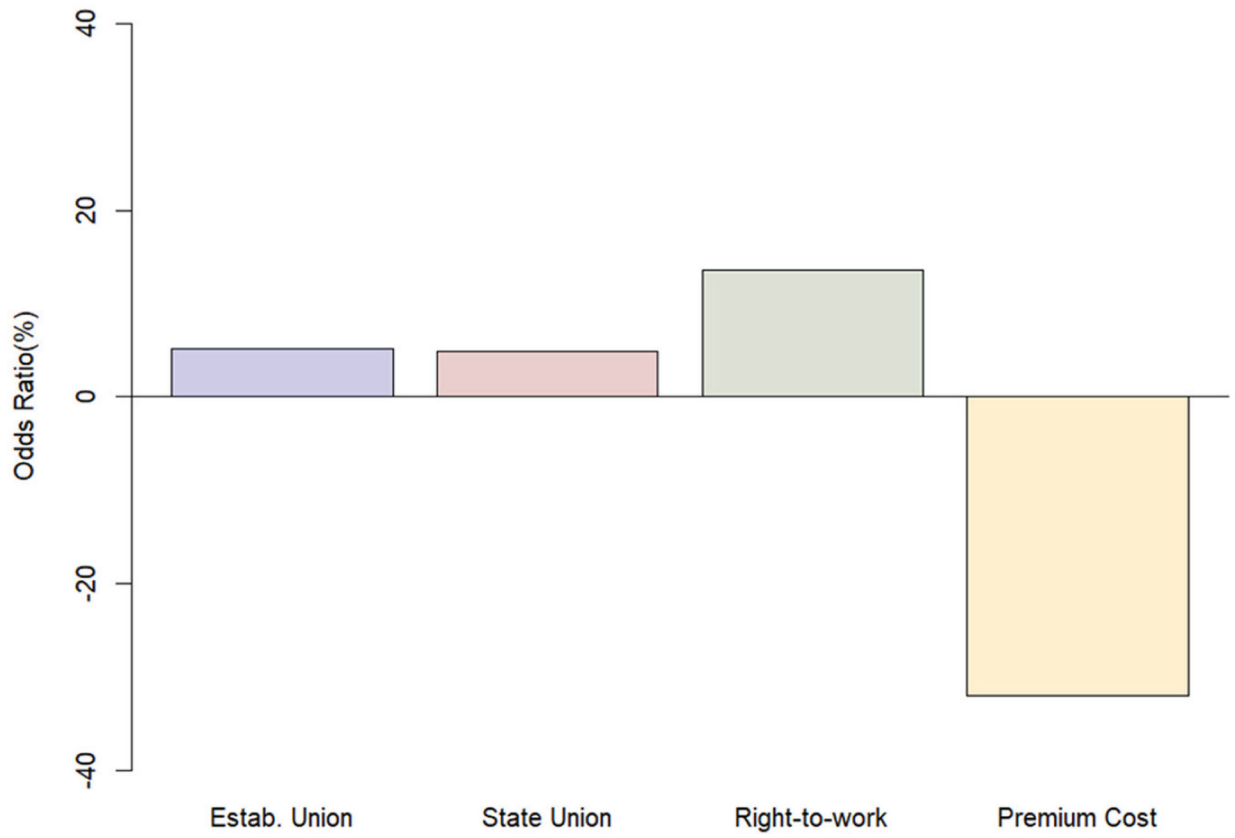
Variable	Mean	SD	Note	Source
Outcome variable				
Health plan	0.45	0.5	1 = providing any health insurance, 0 otherwise	MEPS-IC
Workers' bargaining power				
Union (establishment level)	0.02	0.12	Share of employees at the establishment who are union members	MEPS-IC
Union (state level)	0.14	0.07	Share of employees in the state who are members of unions or covered by unions	CPS
Right to work	0.38	0.49	1 = presence of right-to-work laws, 0 otherwise	Public
Premium cost				
Cost per worker	$6,431	$17,160	Total establishment contribution to all health plans divided by the number of employees at each establishment	MEPS-IC, LBD
Firm characteristics				
Founding period				
1980 or before	0.18	0.38	We use the earliest reported year for a	MEPS-IC, LBD, BR
1981–1990	0.2	0.4	firm among the MEPS-IC, LBD, and BR	
1991–2000	0.37	0.48	and difference that into the survey year	
2001 or after	0.25	0.43		
Firm age	13.33	10.1		MEPS-IC, LBD, BR
Number of employees (1–19)	0.8762	0.3294	Total number of employees in the firm	MEPS-IC
Number of employees (20–99)	0.0836	0.2768		
Number of employees (100–999)	0.0356	0.1853		
Number of employees (1,000–9,999)	0.0032	0.0561		
Number of employees (≥ 10,000)	0.0015	0.0381		
Multiunit firm	0.06	0.24	1 = the firm has more than one establishment, 0 otherwise	MEPS-IC
Establishment characteristics				
Pay per worker	$3,363	$79,660	Total salaries paid divided by the number of workers	LBD
Part-time	0.28	0.36	Share of employees working part-time	MEPS-IC
Female	0.45	0.37	Share of employees who are women	MEPS-IC
Age ≥ 50 years	0.28	0.33	Share of employees aged 50 and older	MEPS-IC
Low wage	0.32	0.39	Share of employees earning at or below the 25th percentile	MEPS-IC
Nonprofit	0.09	0.28	1 = nonprofit, 0 otherwise	

Variable	Mean	SD	Note	Source
State characteristics				
Unemployment	0.08	0.02	Share of the state population that is unemployed	CPS
Below poverty	0.13	0.04	Share of the state population under the federal poverty line	CPS

Note: Statistics are based on 240,000 establishment-year observations for all variables except for costs per worker, which are based on 120,000 establishment-year observations. BR = Business Registrar; CPS = Current Population Survey; LBD = Longitudinal Business Database; MEPS-IC = Medical Expenditure Panel Survey–Insurance Component.

Table 2.

Additive Logistic Regression Predicting the Provision of Health Insurance.

	Model 1		Model 2		Model 4		Model 4	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Workers' bargaining power								
Union (establishment level)	0.4480 ***	0.102	0.4244 ***	0.101	0.4132 ***	0.101	0.4036 ***	0.101
Union (state level)	0.6656 *	0.284	0.6859 *	0.285	0.6966 **	0.286	0.7065 **	0.287
Right to work	−0.1243 **	0.043	−0.1280 **	0.045	−0.1300 ***	0.046	−0.1318 ***	0.048
Financial factors								
Cost per worker × 100 percent			−0.0395 ***	0.002				
Cost per worker × 110 percent					−0.0605 ***	0.002		
Cost per worker × 120 percent							−0.0797 ***	0.002
Firm characteristics								
Founding period								
1981–1990	0.0625	0.040	0.0644	0.040	0.0653	0.040	0.0661	0.040
1991–2000	0.2250 ***	0.064	0.2278 ***	0.065	0.2292 ***	0.065	0.2305 ***	0.066
2001 or after	0.1840 *	0.074	0.1869 *	0.075	0.1884 *	0.075	0.1897 *	0.076
Firm age	0.0572 ***	0.004	0.0576 ***	0.004	0.0577 ***	0.004	0.0579 ***	0.004
Firm age squared	−0.0006 ***	0.000	−0.0006 ***	0.000	−0.0006 ***	0.000	−0.0006 ***	0.000
Number of employees (20–99)	1.536 ***	0.021	1.536 ***	0.020	1.535 ***	0.020	1.534 ***	0.020
Number of employees (100–999)	2.757 ***	0.045	2.742 ***	0.045	2.734 ***	0.045	2.726 ***	0.045
Number of employees (1,000–9,999)	2.315 ***	0.176	2.321 ***	0.176	2.323 ***	0.175	2.325 ***	0.175
Number of employees (≥ 10,000)	3.785 ***	0.391	3.780 ***	0.395	3.778 ***	0.397	3.777 ***	0.398
Multiunit firm	0.1194	0.069	0.1061	0.070	0.0995	0.070	0.0937	0.070
Establishment characteristics								
Ln(pay per worker)	0.5476 ***	0.014	0.5541 ***	0.014	0.5576 ***	0.014	0.5608 ***	0.014
Part-time	−1.338 ***	0.052	−1.351 ***	0.051	−1.357 ***	0.051	−1.363 ***	0.051
Female	0.3828 ***	0.030	0.3739 ***	0.031	0.3691 ***	0.031	0.3647 ***	0.031

	Model 1		Model 2		Model 4		Model 4	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Age ≥ 50 years	−0.3524 ***	0.027	−0.3382 ***	0.028	−0.3310 ***	0.028	−0.3246 ***	0.028
Low wage	−0.9363 ***	0.041	−0.9442 ***	0.041	−0.9482 ***	0.041	−0.9519 ***	0.042
Nonprofit	0.6389 ***	0.030	0.6468 ***	0.030	0.6509 ***	0.030	0.6547 ***	0.030
State characteristics								
Unemployment	−0.9289	1.08	−0.8597	1.10	−0.8235	1.11	−0.7907	1.115
Below poverty	−1.213	0.83	−1.192	0.84	−1.181	0.84	−1.17	0.842
Constant	−6.739 ***	0.14	−6.544 ***	0.15	−6.439 ***	0.15	−6.339 ***	0.153
State and year fixed effects	Yes		Yes		Yes		Yes	

Note: Total observations for each regression are 240,000 (rounded because of data restriction). Standard errors are clustered at the state level. The regressions are weighted using the sample weights provided by the Medical Expenditure Panel Survey–Insurance Component, which are adjusted for nonresponse and poststratification.

*
$p < .05$.

**
$p < .01$.

***
$p < .001$.