

Prevalence of Employer Self-Insured Health Benefits: National and State Variation

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Many large employers prefer to self-insure health plans offered to employees rather than purchase them from insurance companies to save costs and to avoid the burden of complying with varying state mandates. This concerns state governments because they cannot directly regulate self-insured plans. This article describes the prevalence of employer self-insurance for the nation and by state in 1993 and examines what factors, especially state policies, contribute to the national and state variation in the prevalence of self-insurance. Data from the National Employer Health Insurance Survey on 34,604 private sector establishments are analyzed. Variation in the prevalence of self-insurance was largely explained by the firm size of the establishments. After all other factors were examined, very little was added to predict the rate of self-insurance for each state. While state premium taxation and benefits mandates were not associated with self-insurance, small-group reforms were significantly and positively associated with the probability of self-insurance.

Employers play a major role in providing health care coverage to Americans under age 65 in this nation.¹ As such, their decisions on health benefits

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have far-reaching impacts on millions of individuals and on the health care industry. With the cost of health care soaring up throughout the 1970s and 1980s, it was inevitable that employers would look for ways to bring these costs down to keep their bottom line profitable. Self-insuring health plans, rather than purchasing them from insurance companies, was recognized as such an opportunity. It is because self-insurance afforded cost savings and flexibility in plan design to many employers (Grobman 1991; Scammon 1989). Self-insurance soon became an increasingly popular means of providing health benefits to employees in the 1980s. Recent studies report that the prevalence of self-insurance peaked in the mid-1990s but has reversed its course because of managed care expansion (Copeland and Pierron 1998; Fubini and Antonelli 1997; Liston and Patterson 1996; Marquis and Long 1999; Wojcik 1998). This article reports on the prevalence of employer self-insurance of health benefits in 1993 for the nation and each of the 50 states and the District of Columbia, and examines how much of the prevalence of self-insurance in each state is explained by the employer characteristics and state policies.

BACKGROUND

Self-insurance, also known as self-funding, refers to when an employer assumes all or part of the risks of insurance coverage. The employer puts money directly into a plan, which then pays for the covered benefits when claims are incurred rather than paying premiums to insurance companies. In addition to the distinct fiscal responsibility involved, significant differences exist between purchased (or fully insured) and self-insured health plans due to a federal law (Butler and Polzer 1996; Chirba-Martin and Brennan 1994; Copeland and Pierron 1998; General Accounting Office [GAO] 1995). The *Employer Retirement Income Security Act* (ERISA) of 1974 regulates employer-based pension and welfare benefit plans, including health plans. This law supersedes state laws that have traditionally governed the business of insurance. ERISA exempts self-insured plans from providing state-mandated benefits and from paying state premium taxes because the employers offering them are not considered to be in the business of insurance. The only exception occurs in Hawaii, where its employer mandate for health insurance provision preceded the passage of ERISA (GAO 1994).²

By not having to comply with varying state mandates that can be costly and cumbersome, employers with establishments in multiple states can design their own uniform health plan when they self-insure. Large firms may also have adequate financial reserves to take on the financial risk associated with self-insurance and prefer to retain the use of capital rather than accruing

returns for the insurance company (Scammon 1989). The stable claims experience from year to year, due to the large employment base, also enables large businesses to safely assume the financial risk (Jensen and Gabel 1988; McDonnell et al. 1986; Odynocki 1987; Restinas 1995; Schmidt, Mazo, and Ladenheim 1995).

While self-insurance offers such attractive features to employers, many state governments see it as a major hindrance to their efforts in bringing health care reforms to their states. ERISA preemption has effectively deterred states from implementing health reforms because they could not enforce insurance mandates on self-insured plans (Butler and Polzer 1996; Chirba-Martin and Brennan 1994; GAO 1995). Many states also assess taxes and fees on health plans to subsidize uncompensated care and medically high-risk pools. Due to increasing self-insurance, some states—including Minnesota, Mississippi, and Louisiana—have experienced decreasing pools of money available for the uninsured (Kenkel 1991). As a result, various states have attempted to bypass self-insurance exemptions but without success. The state of New York had a major breakthrough in 1995 when the Supreme Court overturned the lower courts' decision and granted the state the right to surcharge commercial health plans, including the self-insured for hospital care (Chirba-Martin and Brennan 1994; Copeland and Pierron 1998; GAO 1995; Schmidt, Mazo, and Ladenheim 1995; Voelker 1995). This came as the first signal that there are limits to ERISA's preemption clause. However, to date, there have not been any notable advances allowing states more flexibility around ERISA. Another concern with self-insurance stemming from the lack of regulation, as expressed by the National Association of Insurance Commissioners (NAIC), is the possibility that employees covered under self-insured health plans are vulnerable to plan mismanagement, abuse, and termination (GAO 1995). Insurance companies also complain of unfair treatments, leading to uneven competition between self-insured and purchased plans (Butler and Polzer 1996; Rublee 1986).

Recognizing these concerns and problems with self-insurance, there are movements to amend ERISA or to pass federal regulations that will ameliorate some of the problems (Copeland and Pierron 1998). The *Health Insurance Portability and Accountability Act* is one such effort. However, the basic tenets of ERISA are not expected to be easily amended as long as employers play key roles in the provision of health benefits in this country. The business leaders argue that ERISA promotes voluntary and more effective provision of health benefits to millions of Americans by allowing the employers to effectively manage the cost and to design health plans that fit their employees' needs (GAO 1995).

To help address these difficult policy issues surrounding self-insurance, more data reflecting the experiences at the national and state level are warranted. The extent of self-insurance at the state level has important implications to state health reforms since state regulators have little control over these plans.

NEW CONTRIBUTION

Using data from the National Employer Health Insurance Survey (NEHIS) conducted by the National Center for Health Statistics, Centers for Disease Control and Prevention in 1994, this article reports on the prevalence of employer self-insured health benefits for individual states that have not been available before. State-level data on self-insured health plans and their characteristics will provide important information to state policy makers in assessing the impact of their health care policies. Building on the previous research, associations between self-insurance and various establishment, regulatory, and market characteristics are also investigated using multivariate regression analysis. This is the first study to also investigate the impact of small-group reform activity on the propensity of business establishments to self-insure. The results confirm that firm size is the strongest determinant for self-insurance, while state benefit mandates and premium tax rates have no significant roles. The findings also shed new light on the implications of state small-group reforms and managed care growth in relation to self-insurance.

CONCEPTUAL MODEL

Motives for self-insurance can be primarily two reasons: one is to reduce costs and the other is to avoid state mandates that, in turn, can also lead to further cost reduction. Establishment characteristics and the surrounding socio-economic, market, and regulatory conditions that influence health care costs may have bearings on an employer's decision to self-insure. States' small group reforms were intended to help small employers provide health care coverage to their employees. However, an unintended effect may be increased costs to insurers, which they in turn may pass on to large groups. Thus, it is hypothesized that any state regulation of health insurance, despite its intended effect on specific target groups, would have a far-reaching impact on all who are involved in the health care supply and demand cycle. The likelihood of an establishment to self-insure was modeled using a multivariate regression for all private sector establishments and separately for small and large employers.

DATA SOURCE AND METHODS

The main source of data for this study was the NEHIS, a probability sample survey of all employers in the United States. The sampling unit was the establishment rather than the firm (i.e., business organization or entity consisting of one or more establishment[s] under common ownership or control), mainly because establishments are confined within state borders and allow state-level estimates.³ Private sector establishments were sampled using the Dun's Market Identifiers (DMI) file as the sampling frame, first stratified by state and then by a cross-classification of firm size and establishment size.⁴ To allow statistically reliable national and state estimates, the sample was allocated as a compromise between equal allocation to each state and allocation proportional to the number of employees in the state.

Data were collected primarily through computer-assisted telephone interviews (CATI) conducted with respondents identified as the most knowledgeable about health benefits. Approximately 35,000 interviews were obtained from private-sector establishments at a response rate of 71 percent. Details on the survey design and procedures are described elsewhere (Marker, Bryant, and Moriarity 1994; Moss 1999). Data were collected using two different time references. Questions on employer and employee characteristics and the provision of health insurance were asked as of December 31, 1993. Information on health plans, however, was based on the 1993 plan year to collect information such as annual plan costs. This reference period was defined as the plan year ending between April 1, 1993, and March 31, 1994, during which the health plan was in effect. These plan data were limited to comprehensive medical plans as opposed to single service or special plans—such as dental plans or prescriptions plans. Therefore, all plan-related statistics presented in this article refer to comprehensive medical plans meeting this plan-year criterion.

Of the 34,604 responding private-sector establishments, 24,111 offered comprehensive medical plans for the 1993 plan year. The information on whether a self-insured health plan was offered was unknown for 1,386 establishments, making the analytic sample size 22,725. For analytic purposes, an establishment offering at least one self-insured comprehensive medical plan was considered "self-insured," including those reporting partial self-insurance (i.e., having stop-loss or reinsurance coverage on their self-insured health plan[s]) and those having minimum premium plans.

Since NEHIS data are based on a complex, multistage probability sample, it is necessary to account for the complex sample design in the derivation of statistical estimates. Sampled establishments have been weighted to account for different sampling probabilities and for nonresponse. Weights were further

ratio adjusted so that estimates of total employment agree with those provided by the Bureau of Labor Statistics (BLS). The weighted estimates and their standard error estimates were computed and regression analysis was carried out using SUDAAN (Shah, Barnwell, and Bieler 1996), software written explicitly for the analysis of complex survey data.

The analytic model uses logistic regression with four general groups of explanatory variables:

$$\text{Log}(p/(1-p)) = \alpha + \beta_1 \text{ESTAB} + \beta_2 \text{SOCIOECON} + \beta_3 \text{MARKET} + \beta_4 \text{POLICY} + \epsilon,$$

where p = probability of an establishment being self-insured when offering health insurance, ESTAB = establishment characteristics, SOCIOECON = socioeconomic conditions of the region, MARKET = health care market conditions, and POLICY = state health care regulations.

All of the establishment variables come from the NEHIS. Some are characteristics of the firm rather than that of the establishment—firm size, type of ownership, and number of years in existence. This is because insurance decisions for companies with multiple establishments are often made at the firm level or at an organizational level above individual establishments. Important explanatory variables missing from the model are employee demographics (such as age and gender) because they were not collected in the NEHIS.

Three county-level variables indicating socioeconomic conditions of the region were obtained from the 1993 Area Resource File. Percentage population below poverty rate serves as an indicator for economic conditions in the surrounding area, percentage population that is college educated was included since educational level of the people may also influence whether and how insurance should be provided, and the physician supply rate was also included because oversupply of physicians may be associated with lower average premiums (Marsteller et al. 1998).

Health Maintenance Organization (HMO) penetration, an important influence in the health care market, was measured at the metropolitan statistical area level. This information was obtained from the 1993 Interstudy data.

Information on state policies that were effective in 1993 (i.e., enacted by the end of 1992) were gathered from various sources. Many of the individual state policy variables created multicollinearity problems as measured by a collinearity diagnostic program developed for logistic regression models (Davis et al. 1986). Thus, summary variables that combine individual variables—either qualitatively or quantitatively—were often used in refining the regression models.

State benefit mandates were obtained from the *Mandated Benefits Manual* (1992).⁵ Five specific mandates, identified as high-cost mandates in previous studies on self-insurance (Gabel and Jensen 1989; Garfinkel 1995; Gruber 1994; Jensen, Cotter, and Morrissey 1995), were included in the analysis.⁶ These are mandates for alcohol treatment (ALC), drug abuse treatment (DRUG), mental health benefits (MHCARE), and coverage for chiropractors (CHIRO) and psychologists (PSYCH). A variable that summarizes the cost effect of the five benefits mandates (HICOSTMN) was created by multiplying the cost weight for each mandate:⁷

$$\text{HICOSTMN} = 5 \times \text{MHCARE} + 2 \times \text{ALC} + 2 \times \text{DRUG} + \text{CHIRO} + \text{PSYCH}.$$

State premium tax rates in 1993 for commercial health plans, Blue Cross and Blue Shield (BC/BS) plans, and HMOs, compiled by the NAIC, were obtained from a GAO report (1996). States' health insurance tax rates were summarized into a single variable as having the following values: *high* if a state imposed taxes on BC/BS plans and HMOs and if taxes on commercial health insurance were greater than 2 percent, *low* if a state imposed no taxes on BC/BS or HMO plans and the rate on commercial health plans was 2 percent or less, and *medium* for all other tax arrangements not falling into high or low categories.

Whether a state had any willing provider (AWP) and/or freedom of choice (FOC) laws, which reduce managed care plans' ability to select and control providers and thus are likely to increase the price of insurance, was obtained from Marsteller et al. (1997). Other state policy variables, including small group reforms, bare bones policy, and state-run high-risk pools were obtained from a proprietary source (Simon 1998).⁸ There are five areas of reform designed to help small groups access and retain health insurance: rating reforms, guaranteed issue, guaranteed renewal, preexisting conditions exclusion, and portability. Small group reform variables were combined, categorizing each state as having full reform (all five reforms enacted), partial reform (less than all five enacted), and no reform (none of the reforms enacted) in 1992.

After a model was developed at the national level, the predicted probability of self-insuring was computed for each establishment. Then the weighted mean of the predicted probability was computed for each state, which served as the expected rate of self-insurance in that state. Chi-square statistics were used to test the statistical significance of the observed to expected rates of self-insurance.

RESULTS

PREVALENCE AND DETERMINANTS OF SELF-INSURANCE

Among the 3.2 million private-sector establishments that offered health insurance to their employees in 1993 in the United States, 21 percent self-insured at least one health plan. However, because these self-insuring companies tended to be large employers, their employees accounted for half of the workforce employed by the companies that offered health insurance. Table 1 presents the prevalence of self-insurance according to selected establishment characteristics (or their parent company's characteristics as described earlier). Less than 5 percent of establishments that belong to firms with less than 50 employees self-insured, while 85 percent of establishments in firms with 1,000 or more employees did so. Other company characteristics that often accompany large firms also resulted in having higher proportions of establishments that self-insure than the national mean of 21 percent: corporations (24 percent), companies that existed for 25 years or more (33 percent), multistate firms (61 percent), and companies that have unionized employees (57 percent).

Multivariate logistic regression results are shown for all establishments and for small and large firms separately (see Table 2). The results are expressed as odds ratios (OR)—the odds of self-insuring given characteristic x in comparison to the odds of self-insuring in the absence of characteristic x . For establishments in small firms, the only significant findings were a decreased likelihood of self-insurance in the transportation, communication, and utilities industry but an increased likelihood of self-insurance among nonprofit organizations, companies that existed for 25 or more years, establishments with unionized workers, and establishments whose status on the pooled purchasing of health insurance was unknown. For establishments in large firms, in addition to a number of establishment characteristics, two exogenous variables had significant associations with being self-insured. Establishments were less likely to self-insure in areas where HMO penetration was high and were more likely to self-insure in states that had full small-group reforms.

STATE PREVALENCE OF SELF-INSURANCE

Table 3 shows for each state the percentage of establishments that self-insured when offering health plan(s) and the percentage of employees

TABLE 1 Prevalence of Self-Insurance among Private Sector Establishments that Offer Health Insurance According to Selected Establishment Characteristics: United States, 1993

<i>Characteristic</i>	<i>Establishments that Self-Insured</i>		<i>Employees Working in Establishments that Self-Insured</i>	
	<i>%</i>	<i>SE</i>	<i>%</i>	<i>SE</i>
All	20.9	0.4	49.1	0.6
Firm size (employees)				
Less than 50	4.5	0.3	5.4	0.4
50 to 249	24.1	1.1	25.5	1.3
250 to 999	48.3	1.9	50.7	2.1
More than 1,000	85.2	0.8	85.2	1.0
Industry type				
Agriculture, forestry, and fishing	6.5	1.6	17.5	4.7
Mining	33.2	5.8	68.9	5.4
Construction	8.6	1.3	19.4	2.1
Manufacturing	23.5	1.1	64.4	1.3
Transportation, communication, and utilities	31.2	2.0	65.7	2.3
Wholesale trade	21.9	1.2	42.0	2.3
Retail trade	30.0	0.9	45.3	1.3
Finance, insurance, and real estate	29.6	1.3	49.5	2.4
Services	14.0	1.0	37.3	2.4
Type of ownership				
Incorporated	24.3	0.4	51.7	0.7
Nonprofit	18.5	1.1	46.8	1.8
Other	27.6	2.3	49.6	3.6
Unincorporated	7.5	0.7	29.1	3.1
Years in existence				
Less than 25	10.6	0.4	28.3	0.8
25 or more	33.2	0.6	60.6	0.9
Type of firm belongs to				
Multistate	60.9	0.9	76.2	0.9
Single state	16.0	0.9	37.1	1.8
Presence of union workers				
Union employees	56.5	1.8	74.6	1.4
No union employees	18.0	0.4	41.5	0.7
Full-time workers				
Less than 50%	25.9	1.1	38.2	1.8
50% or more	20.2	0.4	50.6	0.7

Source: National Employer Health Insurance Survey (NEHIS) conducted by the National Center for Health Statistics, Centers for Disease Control and Prevention in 1994.

Note: The percentages and standard errors are weighted national estimates.

TABLE 2 Multivariate Logistic Regression Results: Likelihood of Private Establishments Self-Insuring When Health Plans Were Offered: United States, 1993

<i>Variable</i>	<i>All Establishments</i>	<i>Establishments in Firms with 50 or Less Employees</i>	<i>Establishments in Firms with 51 or More Employees</i>
<i>Establishment characteristics</i>			
Log of firm size (number of employees)	1.86***	1.15	1.91***
<i>Industry type</i>			
Agriculture, forestry, and fishing	1.21	0.98	2.22
Mining	1.97	3.88	1.24
Construction	1.17	0.95	1.57
Manufacturing	1.46**	1.37	1.56**
Transportation, communication, and utilities	1.29	0.47*	1.92**
Wholesale trade	1.36*	0.94	1.84***
Retail trade	1.09	0.96	1.19
Finance, insurance, and real estate Services	1.33*	1.24	1.31
1.00	1.00	1.00	
<i>Type of ownership</i>			
Incorporated	1.01	1.00	1.28
Nonprofit	1.06	1.83*	0.88
Other	0.83	1.31	0.89
Unincorporated	1.00	1.00	1.00
Company existed for 25 years or more (1, 0)	1.38***	1.44*	1.28*
Belongs to multistate firm (1, 0)	1.67***	1.38	1.41**
50% or more of employees work full-time (1, 0)	1.43**	0.95	1.82***
Have workers who belong to union (1, 0)	1.36*	2.33**	1.03
<i>Participates in pooled purchasing</i>			
Unknown	1.07	1.72*	0.40
Yes	0.68*	0.98	0.43***
No	1.00	1.00	1.00
<i>Employees earning low wage (%)^a</i>			
Unknown	1.53	0.95	1.59**
50% or more	0.86***	0.88	0.79
Less than 50%	1.00	1.00	1.00

(continued)

TABLE 2 Continued

<i>Variable</i>	<i>All Establishments</i>	<i>Establishments in Firms with 50 or Less Employees</i>	<i>Establishments in Firms with 51 or More Employees</i>
Market and state policy variables			
HMO penetration rate (MSA level)			
25% or more	0.82	1.07	0.69*
10% to less than 25%	0.91	1.09	0.82*
Less than 10%	1.00	1.00	1.00
Population below poverty (% county)	0.99	0.99	0.99
Population college educated (% county)	1.01	1.01	1.01
Physicians per 1,000 people (<i>N</i> county)	0.99	1.00	0.99
High cost benefits mandates ^b	1.00	1.02	0.99
Bare bones policy (1, 0)	0.87	0.85	0.91
High-risk pool (1, 0)	1.06	0.95	1.14
Any willing provider/freedom of choice laws (1, 0)	1.11	1.21	1.06
Small-group reform in effect in 1993			
Full reform	1.50***	1.25	1.76***
Partial reform	1.21*	0.95	1.39**
No reform	1.00	1.00	1.00
Health insurance premium tax rate			
High	1.07	1.52	0.87
Medium	1.02	1.14	0.94
Low	1.00	1.00	1.00
Observations analyzed (<i>n</i>)	21,608	8,121	13,487
Proportion of log-likelihood explained by the model	0.352	0.012	0.343

Note: HMO = Health Maintenance Organization.

a. Low wage is defined as less than \$5 per hour or less than \$10,000 per year.

b. Cost weighted value for the presence of mandates for mental health care, alcohol treatment, and substance abuse treatment and coverage for chiropractic and psychologist care.

* $p < .05$. ** $p < .005$. *** $p < .0005$.

working in these establishments. In terms of establishments, the percentage self-insured ranged from 7 percent in Hawaii to 34 percent in Louisiana. Expressed in terms of employees working in establishments that self-insured,

TABLE 3 Percentage of Private Establishments with Health Insurance that Self-Insured and Percentage of Workers in These Establishments by State: United States, 1993

	<i>Establishments that Self-Insured</i>		<i>Employees Working in Establishments that Self-Insured</i>	
	%	SE	%	SE
United States	20.9	0.4	49.1	0.6
New England	16.6	0.8	44.1	1.9
Maine	13.2	1.4	43.4	3.1
New Hampshire	20.6	2.2	50.7	3.0
Vermont	16.8	1.9	42.4	4.1
Massachusetts	17.5	1.6	43.3	3.4
Rhode Island	12.0	1.7	28.6	3.0
Connecticut	16.4	1.5	48.5	3.5
Middle Atlantic	16.6	0.9	43.3	1.9
New York	14.5	1.4	38.1	3.2
New Jersey	23.2	2.0	52.9	2.8
Pennsylvania	15.7	1.2	44.7	2.9
East North Central	22.9	0.8	55.8	1.4
Ohio	25.7	1.8	57.1	2.8
Indiana	27.8	2.1	60.8	2.5
Illinois	20.5	1.7	54.7	3.2
Michigan	20.5	1.6	54.4	3.6
Wisconsin	20.7	1.8	52.1	2.8
West North Central	21.2	0.9	50.0	1.5
Minnesota	20.8	2.0	53.3	3.4
Iowa	24.0	2.4	52.8	3.0
Missouri	18.6	1.9	46.2	3.0
North Dakota	19.9	2.4	34.8	3.5
South Dakota	17.3	2.4	40.3	3.4
Kansas	24.4	2.2	54.7	3.1
South Atlantic	23.0	0.8	53.8	1.2
Delaware	22.5	2.6	57.2	3.5
Maryland	20.2	1.9	49.1	3.1
District of Columbia	15.6	2.2	39.5	4.3
Virginia	20.7	1.6	47.6	2.8
West Virginia	24.0	2.4	52.1	3.0
North Carolina	20.9	1.6	56.9	2.5
South Carolina	25.6	1.9	61.8	2.3
Georgia	28.8	2.1	58.6	3.0
Florida	23.1	1.9	52.8	3.1

(continued)

TABLE 3 Continued

	<i>Establishments that Self-Insured</i>		<i>Employees Working in Establishments that Self-Insured</i>	
	%	SE	%	SE
East South Central	24.0	1.0	54.1	1.6
Kentucky	20.0	1.8	41.5	3.1
Tennessee	26.0	2.0	62.7	2.5
Alabama	23.7	2.0	48.3	3.3
Mississippi	27.1	2.5	63.2	2.8
West South Central	26.8	1.4	51.1	2.3
Arkansas	19.4	2.1	56.1	3.2
Louisiana	34.3	2.8	56.3	3.3
Oklahoma	24.1	2.5	47.3	3.4
Texas	26.7	2.1	50.0	3.2
Mountain	21.6	0.9	49.5	1.4
Montana	19.3	2.4	42.8	4.3
Idaho	17.0	2.1	33.9	4.5
Wyoming	23.9	2.7	40.6	3.9
Colorado	23.4	2.1	50.5	2.9
New Mexico	21.8	2.4	43.7	4.0
Arizona	21.9	2.2	52.1	3.4
Utah	20.6	2.0	47.7	3.2
Nevada	21.2	2.5	60.2	2.8
Pacific	17.4	1.1	38.8	2.2
Washington	12.7	1.3	32.8	3.0
Oregon	17.5	1.9	35.9	2.9
California	19.0	1.6	41.2	2.9
Alaska	25.2	3.2	44.3	4.6
Hawaii	6.7	1.3	17.1	2.3

Source: National Employer Health Insurance Survey (NEHIS) conducted by the National Center for Health Statistics, Centers for Disease Control and Prevention in 1994.

Note: The percentages and standard errors are weighted estimates.

the percentage ranged from 17 percent in Hawaii to 63 percent in Mississippi. The self-insurance rates were generally higher in southern states in comparison to the rest of the nation.

To show how well the regression model in Table 2 (for all establishments offering health insurance) predicted the prevalence of self-insurance at the state level, the observed to expected ratios (O/E) of self-insurance are

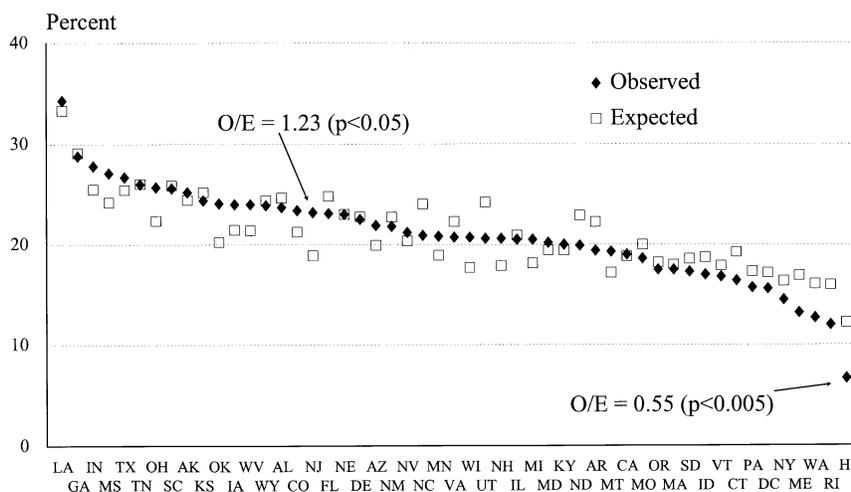


FIGURE 1 Observed and Expected Percentage of Establishments that Self-Insure When Health Plans Are Offered: 1993

Source: National Employer Health Insurance Survey (NEHIS) conducted by the National Center for Health Statistics, Centers for Disease Control and Prevention in 1994.

Note: Expected rates were computed using the regression model in Table 2. Observed to expected ratios (O/E) for all states other than New Jersey and Hawaii are not statistically significant.

displayed in Figure 1. It shows that except for two states, the regression model predicted the state prevalence of self-insurance well. The observed rate of self-insurance was significantly lower than expected in Hawaii (O/E = 0.55) and was significantly higher than expected in New Jersey (O/E = 1.23). For all other states, the observed rate of employer self-insurance was not significantly different from the rate predicted by the regression model.

DISCUSSION

Although comprehensive health care reform has not occurred at the federal level, state governments have been active in bringing reforms in their own states. Among many health care coverage issues that this nation faces, the role of ERISA and its implications regarding employer self-insured plans leave many health policy makers baffled. On one hand, self-insurance provides an effective mechanism by which large employers provide health care coverage

to their employees. On the other hand, there is a growing concern with incidents of liability cases involving denial or changing coverage of certain benefits because self-insured plans are not subject to state benefits mandates (Butler and Polzer 1996; Chirba-Martin and Brennan 1994). Because ERISA contains no financial standards for health plans, insolvency of self-insured plans leaving beneficiaries with terminated coverage or unpaid claims is another concern (Polzer and Butler 1997). Furthermore, state governments are vexed as they realize that their reform efforts cannot have the intended state-wide effects due to self-insured plans.

However, given such important and challenging issues surrounding self-insurance, reliable data on the extent and nature of self-insurance are insufficient at the state level. The GAO (1995) attributed this to the limited effort at the federal level to collect self-insurance data. The NEHIS is the first federally sponsored survey designed to produce state estimates of employer-sponsored health insurance. It has several unique features. First, its sample is large enough and designed to produce reliable estimates at the national and state levels. Second, establishments and their health plans were selected scientifically to allow representativeness, limiting biases. Third, the response rate at 71 percent is relatively high for an establishment survey. Fourth, both establishment and employee estimates are possible.

Some caveats and limitations of the NEHIS and the current analysis should also be noted. The analysis is based on cross-sectional data limiting the interpretation of findings as to the cause-and-effect relationship. There is also a question of how good the DMI file is as a sampling frame. The farm sector, new establishments, and very small establishments are thought to be undercovered by the DMI file (Marker, Bryant, and Moriarity 1994). However, since self-insurance is concentrated in large firms, the possible undercoverage of these small establishments would only minimally affect the regression results. Like any survey, potential sources of nonsampling errors include inability to identify all cases in the target population, definition and classification difficulties, differences in the interpretation of questions, errors in data entry, and biases due to nonresponse or incomplete responses.

It is possible that there are specification errors on the outcome measure, as reporting of self-insurance can be subject to respondent error. The definition of self-insurance and the term itself are subject to debate in the field of health insurance. Self-insurance runs the gamut of a variety of funding and administration arrangements. These include stop-loss coverage to mitigate the employer's risk and alternative arrangements with managed care plans that spread risk across the plan, providers, and the employer (GAO 1995; Polzer

and Butler 1997). In the NEHIS, all “less than fully insured” plans were captured as self-insurance if reported as such by respondents.⁹

There are also limitations on how state policy variables are specified. Each of these policy variables measure only the gross level or the presence/absence of state mandates. However, many variations exist in the content of these laws, target groups for which the laws apply, and how well they are enforced. Thus, a certain mandate may not mean the same thing or have the same effects on businesses in all the states with that mandate. Despite these limitations, the current analysis provides an overall and comprehensive picture on what factors are associated with self-insurance. The study also suggests that these factors explain much of the observed prevalence of self-insurance among private establishments at the state level since the predicted rates do not significantly depart from the observed rates in all but two states.

To date, all research on the characteristics of employers that self-insure unequivocally report that firm size (or its surrogate measure—number of subscribers in the plan) is the strongest determinant of a company’s propensity to self-insure (Acs et al. 1996; Garfinkel 1995; Jensen and Gabel 1988; Jensen, Cotter, and Morrisey 1995; McDonnell et al. 1986). This was confirmed by the NEHIS data. The large employee size not only creates stable claims experience from year to year but also is probably linked with a larger economic base to take on the risk and enjoy the cost-savings of self-insurance. Because larger employers were more likely to self-insure than small employers, other company characteristics associated with larger employers also correlated with higher rates of self-insurance.

Aside from the size of the firm, which is a strong determinant for a company to self-insure, the question of what other factors trigger a company to self-insure has been of interest to many researchers and policy makers. Of particular interest to state policy makers is the question of whether a state’s health insurance regulation affects an employer’s decision to self-insure. Studying such effects, however, has been difficult due to other peculiarities in individual states that could also affect self-insurance rates (Short 1995) and due to the lack of state-level data. Several studies examined the effects of state benefits mandates and tax rates on an employer’s decision to self-insure (Gabel and Jensen 1989; Garfinkel 1995; Jensen, Cotter, and Morrisey 1995; Uccello 1996). Modeling on individual benefit mandates, these studies report conflicting findings. In fact, Garfinkel (1995) notes that these inconsistencies may be due to the differences in survey design and to the fact that the relationship between state mandates and self-insurance is sensitive to the way mandates are specified in the model.

The current analysis found that individual state mandate variables were sensitive to modeling due to multicollinearity among these variables. Thus, including these correlated variables simultaneously into a regression model can produce misleading results. When these benefits mandates and their cost effects were summarized into a single variable, there was no significant resulting effect. This finding refutes the speculation that these high-cost benefits mandates would drive companies to self-insure to avoid providing these benefits. Although the impact on self-insurance was not studied, Gruber (1994) had reported that the combined and cost-weighted benefits mandates had no significant effect on health insurance coverage among small firms. The total number of state mandates also did not have any effect on the employers' propensity to self-insure in this study, as was reported by Garfinkel (1995).

The only market or regulatory variables that were significantly related to self-insurance were HMO penetration (among large but not small firms) and small-group reforms. The inverse relationship between the rate of self-insurance and HMO penetration rates is expected. In 1993, HMO plans were often priced lower than indemnity or Preferred Provider Organization (PPO) plans and were usually only offered as fully insured products. Thus, in areas where HMOs are widely available, employers would have preferred to offer HMO plans as a way of saving costs rather than having the added complexity of self-insuring. On the other hand, employers in areas with no or little HMO presence could only offer indemnity or PPO plans and thus were inclined to self-insure to keep health coverage costs down. With regard to small-group reforms, the more reforms were enacted in a state, employers were more likely to self-insure. It can be speculated that small-group reforms that were designed to benefit small employers actually "hurt" large employers. To make health insurance more affordable and accessible to small groups, insurance companies can pass on the costs to larger groups. Because the current analysis is based on single-year cross-sectional data, however, it is difficult to draw conclusions on such a cause-and-effect relationship. More research is needed on whether small-group reforms are driving businesses to self-insure their health benefits.

An examination of the prevalence of self-insurance at the state level revealed that the rates were higher in southern states, which has been reported by previous studies (Acs et al. 1996; Jensen and Gabel 1988). The southern states have also been reported to have lower rates of health insurance coverage (Marsteller et al. 1998; National Center for Health Statistics 1997). Thus, it appears that the employers in southern states, which also rank low in socioeconomic conditions, are less likely to offer health coverage and when they do they tend to self-insure to save costs. The comparison of the observed and

expected rates of self-insurance at the state level showed that all but two states had rates that can be accounted for by the explanatory variables explored in this article. The significantly lower rate of self-insurance than expected in Hawaii is explained by the fact that it has an employer mandate for health care coverage that preceded the passage of ERISA. This makes Hawaii the only state not subject to ERISA preemption (Burke 1992; GAO 1994); consequently, the ERISA preemption of state laws does not apply in Hawaii. For New Jersey, there may be other factors not explored in this article that may attribute to the significantly elevated prevalence of self-insurance than expected. Another reason may be that the regression model developed at the national level does not predict adequately the prevalence of self-insurance observed in New Jersey.

CONCLUSION

The large database from the NEHIS enabled a robust regression analysis probing various determinants of self-insurance and assessing state variation in the prevalence of self-insurance among private establishments in the United States. Firm size of the establishment, measured as the number of employees at the firm level, was an overwhelmingly strong predictor for the establishment's probability of having a self-insured plan. Other establishment characteristics that are correlated with large firm size were also significantly and independently associated with the employer's propensity to self-insure. State benefits mandates and premium tax rates were not associated with the likelihood of self-insurance. Surprisingly, however, the state small-group reforms were related to self-insurance. The more reforms that were enacted in a state, the more likely establishments were to self-insure, controlling for all other confounders. This is surprising because small-group reforms are aimed at small employers, but self-insurance is used mainly by large employers. Thus, this finding suggests the hypothesis that insurers are experiencing increased costs from small-group reforms and passing them on to large groups, which encourages large groups to self-insure to avoid the cost shift. For establishments with more than 50 employees in the firm, the higher the HMO penetration in the surrounding area, the less likely establishments were to self-insure. The regression model developed using the national data predicted the rates of self-insurance fairly well for all states but Hawaii and New Jersey. Future research efforts should be directed at looking at the trend of self-insurance in terms of employer decision to self-insure and employee enrollment in self-insured plans at the national and state level. The trend analysis should also allow a better investigation into the effects of state regulations

and other market forces on employers' decision to self-insure. Given the current contentious discussions surrounding ERISA and movements to amend it, careful analyses of pros and cons of self-insured plans should also be made.

NOTES

1. Sixty-one percent of nonelderly Americans obtained health insurance coverage through employers in 1993 according to the March 1994 Current Population Survey.
2. Through the 1974 *Prepaid Health Care Act*, Hawaii requires employers to provide a minimum level of health care benefits to their full-time workers.
3. The establishment is an economic unit, generally at a single physical location, where business is conducted or where services or industrial operations are performed (Office of Management and Budget 1988).
4. A national database of employment establishments maintained from a variety of sources by Dun and Bradstreet.
5. Only the mandates that required plan coverage, not the ones that mandated insurance companies to offer, were retrieved. The *Mandated Benefits Manual* (1992) is a definitive list of state benefit mandates compiled from various sources including the Blue Cross/Blue Shield Association, commercial insurance companies, trade and professional associations, and legislative tracking services.
6. Mandates on continuation of coverage for terminated employees was not included in the analysis because all firms with 20 or more workers were subject to such requirements since the enactment of the 1985 *Consolidated Omnibus Budget Reconciliation Act* (Gruber 1994; Jensen 1992).
7. The cost weight for each of the five benefits was based on the average claim cost for mandates in Virginia, published in a General Accounting Office report (GAO 1996).
8. *State Profiles of Small Group Health Insurance Reform: 1990-1996* was compiled by Kosali I. Simon (1998), a doctoral student at the University of Maryland, as part of her dissertation. The compilation is based on review of about 20 published data sources and telephone interviews with state officials to adjudicate discrepancies in the published data.
9. A term suggested by GAO, as more accurate but too awkward, to describe all forms of self-insurance (GAO 1995).

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