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The Effect of State Mandates on Health Insurance Premiums

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Abstract
Health insurance mandates require insurers to provide coverage for specific services, providers, or illnesses. This paper examines how state health insurance mandates influence premiums and enrollment in health insurance plans. Contrary to previous studies that compare premiums across states, we examine premiums for the same plans in cities that lie on state borders. By holding both plan and population characteristics constant, we isolate the impact of state mandates on insurance premiums. Some mandates increase premiums by 24 percent. These higher premiums reduce enrollment in health plans and may also affect the decision to become self-employed or to change jobs.

JEL Codes: I11, I18
Keywords: Health insurance; Mandates; Premiums

I. Introduction

State health insurance mandates require insurers to offer policy holders coverage for specified benefits, providers, or patient populations (Bunce, Wieske, and Prikazsky, 2004). Although some individuals may benefit from additional coverage, mandated benefits are not costless. The costs of mandates are borne by both the insurance companies and the insured, and these costs are reflected in insurance premiums. A better understanding of how mandates affect costs may lead to more informed policy decisions.

The recent availability of premium data from sources such as ehealthinsurance.com makes it easier to study the effects of state mandates on insurance premiums. For example, New (2006) uses data from ehealthinsurance.com to examine how various state laws affect premiums of identical health plans in 36 states. He finds that states with greater than 26 mandates have monthly premiums that are about $24 higher than states with fewer laws. However, if some mandates reduce premiums, a more appropriate measure would be the number of mandates that increase premiums. New also finds that direct access to specialists increases monthly premiums by $28.50.

Although other studies have examined the impact of state mandates on insurance premiums, New's study is the most comprehensive because he examines the same policies in 36 states. Congdon, Kowalski and Showlater (2005) use the ehealthinsurance.com data to examine the effect of the number of mandated benefits, any-willing-provider laws, community ratings, and guaranteed issue on premiums. They find that any-willing-provider laws increase premiums by about 1.5 percent. Community ratings increase individual premiums by 20.3 percent, and guaranteed issue increases premiums by 114.5 percent. Although the Congdon et al. study holds coinsurance rates and deductibles constant, it is not appropriate to compare different plans across states. A more appropriate method is to compare the same plan across states (New, 2006).

In this paper we estimate the effect of health insurance mandates on insurance premiums using a data set that compares paired differences in premiums in metropolitan and micropolitan statistical areas that border state lines. Our data set consists of all plans in each border city. This allows us to parse the data in a way similar to Congdon et al. (2005) and New (2006) so that a comparison of our results to theirs is possible. To be consistent with the methodology of Congdon et al. (2005), we compare all plans in the data set across states. New's (2006) methodology compares the same plans across states. Our methodology allows us to use differences in paired premiums to remove plan and population characteristics, leaving only differences in premiums arising from differences in state mandates. We also use our results to predict the effect of various mandates on the probability of being insured for self-insured individuals and single individuals working for small firms.

II. Literature Review

The impact of mandates on costs may be large, especially if secondary effects for the individual and the firm are considered. For example, insurance premiums have been found to be a significant determinant of whether an individual has insurance coverage

(Chernew, Cutler, and Keenan, 2005), the decision to remain on the job (Madrian, 1994), as well as the return to entrepreneurship (Hamilton, 2000). Additionally, small employers – those with fewer than 50 employees – are only half as likely as larger employers to offer insurance. One important distinction between large and small firms is that larger employers usually self-insure and therefore are not subject to state mandates. Smaller employers frequently purchase their insurance from private insurers. These insurers are subject to state regulations and mandates that do not apply to self-insured companies. As a result, the health insurance provided to small employers is subject to both state and federal mandates (United States GAO, 2003). If these mandates increase health insurance premiums, smaller employers may be less likely to offer health insurance or it may determine the type of employees they can hire.

The number of mandates within states has grown dramatically. In 1970, the total number of mandates in all states was 35. The number of mandates increased to 860 by 1996 (Jenson and Morrisey, 1999) and exceeded 1,831 by 2006 (Bunce, Wieske, and Prikazsky, 2004).[1] Bunce, Wieske, and Prikazsky find that the number of mandates ranges from a low of 13 in Idaho to a high of 60 in Maryland. They estimate that the mandates for dentists and for in-vitro fertilization increase premiums by 3 to 5 percent. Prescription drugs and mental health parity mandates are estimated to increase premiums by between 5 and 10 percent. Vita (2001) examined any-willing-provider regulations, which require managed care companies to accept any qualified provider willing to accept the conditions of the contract into their networks. He finds that these laws increase expenditures by approximately $52 per capita and have a larger impact on expenditures for physicians relative to hospitals.

Often policies designed to decrease the number of uninsured have failed. For example, between 1990 and 1994, 16 states passed aggressive health insurance laws to increase access to health insurance for their uninsured citizens. These 16 states experienced a growth in the average annual uninsured population that was eight times higher than the growth rate for the other 34 states (Shriver and Arnett, 1998). This was in part due to increases in premiums.

Several studies have estimated the impact of higher premiums on the probability of purchasing insurance. Gruber and Porterba (1994)

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[1] For a discussion of the various mandates, see Kofman and Pollitz (2006).

estimate the elasticity of demand for health insurance to be 1.8 for self-employed individuals. In a study examining health insurance offerings for small businesses, Feldman et al. (1997) find that a one percent increase in health insurance premiums results in a 3.91 percent reduction in demand for health insurance for single employees and a 5.82 percent reduction in demand for health insurance by families.

III. The Effect of Mandates on Premiums

Individuals purchase health insurance to reduce their financial risk. More risk averse individuals will purchase more insurance (Friedman and Savage, 1948). As a result, individuals will choose to purchase health insurance plans that include coverage for those items they value (Jenson and Morrisey, 1999). In the free market, if an insurance company offers coverage for a certain item, consumers would indicate whether they want that coverage by voting with their dollars. Although some consumers may choose the coverage, others may opt for lower premiums without the additional coverage. As a result, insurance companies will provide the efficient level of coverage. If a mandated benefit increases premiums, those who previously chose not to be covered for this benefit are now required to take it if they choose to remain insured. This leads to inefficiencies in the market as consumers purchase a bundle of coverage that they would not have chosen under optimal conditions.

IV. Empirical Model

New (2006) and Congdon et al. (2005) estimate a model with the monthly insurance premium for males as the dependent variable. Their independent variables include dummy variables for the mandates, the number of mandates, and variables to account for insurance plan characteristics. These variables include the deductible, coinsurance amount, out-of-pocket cost for an office visit, a dummy variable indicating that the insured is responsible for the total cost of an office visit, and the percentage of the office visit that must be paid out-of-pocket after the deductible is met.

Their simple model is:

$$y_{ij} = \beta Z_{ij} + \mu_i + \varepsilon_{1i} \quad (1)$$

where y_{ij} is the health insurance premium and Z_{ij} represents the characteristics of plan i in city j. New's (2006) sample is more narrowly defined that Congdon et al. (2005). He limits his sample to only those insurance policies that are the same across states. Our data set includes all plans for consolidated metropolitan statistical areas (CMSAs) that cross state borders. By including all plans in this sample, our sample is similar to Congdon's. If we limit the data to only those plans that are the same over different states, then the sample is similar to New's. This allows us to replicate the results of both Congdon et al. (2005) and New (2006). We make these comparisons to show how different stratifications of the data alter the results.

Although both Congdon et al. and New hold plan characteristics such as deductibles constant, neither study is able to account for characteristics such as the panel of doctors, hospitals, and other aspects of the health plan which may vary from one metropolitan area to another. Further, they do not account for population, cost of living, and other geographic differences on premiums. This implies that their results may suffer from excluded variable bias and inefficiency. Our data includes paired insurance premiums for cities in consolidated metropolitan statistical areas that cross state borders. By using paired differences of premiums, we implicitly hold such characteristics constant. For example, an insurance plan in Louisville, KY, has the same panel of doctors and hospitals as does the identical plan across the state border in New Albany, IN. Population characteristics are also similar.

To estimate the difference in paired premiums, let y_{1ij} and y_{2ij} be insurance premiums for plan i in the bordering cities 1 and 2 in $CMSA_j$. As in the model above, let X_j represent the population characteristics of $CMSA_j$. These variables include population characteristics such as average age, racial makeup, employment, and education. Let Z_{ij} represent the characteristics of plan i in $CMSA_j$. These characteristics include the deductible, copay, panel of doctors and hospitals, etc. which are the same in both bordering cities. Let M_{hij} represent the mandates in effect in city (state) h (h=1,2), for plan i and $CMSA_j$. Finally, let u_i be unobservable components that vary across plans, v_j be unobservable components that vary across CMSA's, and ε_{1ij} and ε_{2ij} be the unobservable components that vary across the two cities within the CMSA. Insurance premiums can be estimated with the following equations:

$$y_{1ij} = \alpha X_j + \beta Z_{ij} + \gamma M_{1ij} + \mu_i + v_j + \varepsilon_{1ij} \qquad (2)$$

and

$$y_{2ij} = \alpha X_j + \beta Z_{ij} + \gamma M_{2ij} + \mu_i + v_j + \varepsilon_{2ij} \qquad (3)$$

By differencing (1) and (2), a fixed effects model can be estimated as:

$$y_{1i} - y_{2i} = \gamma(M_{1ij} - M_{2ij}) + \varepsilon_{1ij} - \varepsilon_{2ij} \qquad (4)$$

This model can be estimated with ordinary least squares. All estimated models adjust for heteroskedasticity in the standard errors using White's (1980) method for robust estimation.

The advantage of our model is that it allows us to difference out all characteristics of the plan and CMSA population so that any remaining difference in the paired premiums can be explained by the differences in mandates between the two bordering states. Geographic and population differences are likely to affect premiums across sates, but not within a metropolitan area. In particular, the health insurance premium within a metro area is fixed for the metro area if it does not cross state borders. However, in metro areas that cross state lines, the insurer may charge different premiums based on differing insurance risks of the populations in these border cities. These risk characteristics are not accounted for in this model so that we can compare our results to the methods of Congdon et al. and New. In a separate analysis, not included here, we used the difference in income as a covariate in the difference equation. The coefficient was not significant, and the results on the other coefficients were similar to those presented here.

V. Data

Monthly health insurance premium data were collected from ehealthisnurance.com for a single nonsmoking male at age 50. The data were collected for a coverage start date of October 1, 2006. Data were collected in pairs or triplets of cities in 50 CMSAs that shared a state border. Overall, the data set contains premium information for 108 cities in 35 states for a total of 7,842 premiums (excluded states are AK, AZ, CA, CO, CT, FL, HI, ME, MA, MT, NV, NH, NM, RI, VT, VA, WI). Premium information was not available for some states (primarily in the northeast), and other states were excluded because no border CMSA existed. The number of plans from the states ranged from 1 in New York to 1,126 in Illinois.

Several data sources exist for state regulations. Kofman and Pollitz (2006) document the type of community ratings and the rate bands for states. The Council for Affordable Health insurance documented the number and type of mandates for each state in 2004 (Bunce, Wieske, and Prikazsky 2004). The most current data for specific mandates relating to the 2006 premium data are available from the National Conference of State Legislatures web page: http://www.ncsl.org/programs/health/hmolaws.htm. This page is updated annually to indicate changes in legislation, so we use this data for the state mandates.

Table 1 shows the average difference in monthly premiums for each mandate using stratifications of the data similar to Congdon et al. (2005) and New (2006) as well as using paired premiums in the border cities. The first column shows the percentage of the 35 states in the sample that have the specific mandate. The second column shows the difference in means for all plans in the data set. These data are comparable to the data used by Congdon et al. (2005) and includes 7,843 premiums. The results show the difference between states with and without the mandate for all premiums. The number in parentheses represents the percentage of plans in the sample covered under the specific mandate. The results range from an increase in premiums of \$50.59 for mandated diabetes coverage to a decrease in benefits of \$168.58 for emergency prudent lay person rules. Note that only two states, NJ and WY, do not have the emergency prudent lay person mandate. The average premium in NJ is \$456, compared to an average premium in the full data set of \$212. This higher premium is driving this difference in means.

The third column shows the difference in premiums for the sample of insurance plans that are the identical between states. For example, if Blue Cross has a plan with the same name, deductible, copay, etc., then the premium for that plan in states with the mandate is compared to the premium in states without the mandate. This stratification of the data is similar to New's (2006) and includes 5,745 insurance premiums. The differences range from \$44 for comprehensive consumer rights laws to -\$19.27 for a ban on gag clauses.

Table 1: Comparison of the Effect of Mandates on Monthly Premiums for Different Samples of Plans: All Plans in the Sample (Congdon et al., 2005), All Plans That Are the Same Between States (New, 2006) and Differences in Pairs of Plans in CMSAs that Cross State Borders (108 Cities, 50 MSAs, 35 States)

	Pct of States with Man-date	All Plans	Same plans	Difference in paired premiums
Comprehensive Consumer Rights	91%	46.83**a** (96%)	44.00**a** (96%)	37.71**a** (9%)
Liability: Provider Contracts	44%	15.20**a** (49%)	18.67**a** (49%)	25.42**a** (48%)
Specialist as PCP	24%	33.46**a** (28%)	31.20**a** (30%)	22.41**a** (39%)
Point of Service	47%	18.47**a** (58%)	17.31**a** (53%)	18.33**a** (56%)
Any-willing-provider	53%	13.09**a** (58%)	12.93**a** (55%)	17.34**a** (43%)
Direct Access OB/GYN	82%	42.72**a** (92%)	37.25**a** (90%)	16.31**a** (19%)
Medical Director Requirements*	46%	14.20**a** (57%)	10.63**a** (55%)	15.60**a** (43%)
Minimum Stay after Childbirth*	84%	1.05 (84%)	3.94 (83%)	15.63**a** (20%)
Emergency Care Coverage	71%	12.65**a** (61%)	14.57**a** (59%)	9.95**a** (26%)
Liability Financial: Enrollee	35%	3.92**c** (31%)	10.49**a** (43%)	8.80**a** (53%)
Diabetes	88%	50.59**a** (15%)	36.25**a** (91%)	8.79**a** (18%)
Ban on Financial Incentives	53%	2.13 (57%)	-5.80**c** (56%)	6.42**a** (37%)
Post-Mastectomy Breast Reconstruction	65%	10.40**a** (72%)	5.21**b** (72%)	4.91**b** (49%)
Direct Access Other	38%	8.47**a** (35%)	15.47**a** (37%)	3.96**a** (48%)
Emergency Prudent Lay Person	94%	-168.6**a** (99%)	31.43**c** (99%)	0.03 (0.3%)
Continuity of Care	74%	19.39**a** (83%)	15.86**a** (83%)	-0.54 (30%)
Off-label Prescription Drugs	74%	6.25**a** (76%)	-0.94 (75%)	-3.09 (30%)
Insurer Liability	29%	23.79**a** (18%)	11.23**a** (16%)	-3.70 (31%)

Table 1 (continued)

	Pct of States with Man-date	All Plans	Same plans	Difference in paired premiums
Ban on Gag Clauses	91%	-27.41**a**	-19.3**a**	-4.95
		(96%)	(95%)	(8%)
Emergency Room	15%	-3.94	-3.99**c**	-5.03**b**
		(29%)	(30%)	(45%)
Standing Ref To Specialist	59%	-2.25	-0.91	-7.09**a**
		(72%)	(72%)	(39%)
Freedom-of-choice	53%	12.19**a**	10.70**a**	-8.23**a**
		(37%)	(36%)	(34%)
Review of Denials	79%	16.74**a**	14.07**a**	-9.42**a**
		(92%)	(93%)	(12%)
Inpatient Care - Mastectomy	32%	-0.58	-2.69	-10.26**a**
		(42%)	(43%)	(59%)
Report Cards	44%	14.87**a**	5.48**b**	-22.92**a**
		(41%)	(39%)	(52%)
Ombudsman	35%	6.65**a**	-0.56	-23.95**a**
		(52%)	(48%)	(50%)
Ban on All Products Clause	9%	-4.60	-4.60	-38.75**a**
		(15%)	(13%)	(22%)
Sample Size		7,843	5,745	1,580

a p-value<0.01; **b** p-value<0.05; **c** p-value<0.10. p-values are for two tailed tests of differences in means. (Percent of plans in the particular sample covered by the mandate and for the paired sample percent of pairs with differences in mandates). *Information for this mandate was not available for all states, and the variable was dropped from the regression equation.

The fourth column uses information from the border city pairs of premiums. Differences in the pairs of premiums are compared based upon whether the two states have a difference in their mandate (1,580 pairs). Thus, the difference in premiums compares states that differ in the particular mandate with states that do not. For example, if two states require coverage for diabetes, the difference in the paired premiums should be similar to two states without such a mandate. The average for these two possible pairs of differences is compared with the average of the difference in premiums for pairs of cities in which only one state has such a mandate. The difference in differences of the paired premiums ranges from a high of $37.71 for comprehensive consumer rights laws to a low of -$38.75 for a ban on all product clauses. Comprehensive consumer rights laws cover a variety of situations and are defined as: "These multi-purpose laws, often 20 to 50 pages in length, generally are designed to define and protect the rights of health care consumers enrolled in managed care. Often they are termed 'patient protection' or 'consumer rights' laws" (National Conference of State Legislatures, 2007).

Although most of the differences in means are statistically significant, the magnitudes of the differences vary by the way the data are stratified. The results in column 3 reflect constant observable plan characteristics such as the deductible and copay, while the results in column 4 are obtained by holding constant these observable plan characteristics as well as CMSA specific plan offerings and population characteristics.

Table 2: Premium Regression Analysis Using Mandates with Significant Increases in Premiums for the Difference in Paired Premiums Sample for Different Samples of Plans: All Plans in the Sample (Congdon et al., 2005), All Plans That Are the Same Between States (New, 2006) and Differences in Pairs of Plans in CMSAs that Cross State Borders (108 cities, 50 MSAs, 35 states)

	All plans	**Same plans**	**Difference in paired premiums**
Liability: Provider Contracts	-18.58**b**	24.62**a**	26.71**a**
Specialist as PCP	10.89**a**	29.25**a**	27.83**a**
Point of Service	32.07**a**	2.82	19.90**a**
Any-willing-provider	49.35**a**	28.21**a**	21.30**a**
Direct Access OB/GYN	45.01**a**	71.95**a**	6.39
Emergency Care Coverage	78.62**a**	25.31**a**	15.71**a**
Liability Financial: Enrollee	-12.24**b**	0.64	6.20**c**
Diabetes	-27.01**a**	45.17**a**	19.93**a**
Ban on Financial Incentives	13.19**a**	7.99	18.59**a**
Post-Mastectomy Breast Reconstruction	-24.68**a**	-35.87**a**	20.51**a**
Direct Access Other	-2.60	16.46**a**	15.50**a**
Emergency Room	-7.43	3.52	16.19**a**
Standing Ref To Specialist	-60.29**a**	-2.25	27.14**a**

VI. Regression Results

Ideally, a regression model would include all mandates. However, such a model resulted in perfect multicollinearity for some of the mandates, so these mandates have been excluded from the model. When we use the data for all plans in the sample (Congdon et al.) and only those plans that are the same across states (New), we include additional plan variables, such as the deductible, which are differenced out in the paired premium regression.

A comparison of the three different stratifications of the data, as shown in Table 2, yields quite different results. For example, post-mastectomy breast reconstruction is predicted to reduce monthly premiums by $24.68 using the Congdon stratification, reduce by $35.87 using New's stratification, and increase premiums by $20.51 using the paired premiums. Since the results for the paired premiums are less likely to suffer from inefficiency and omitted variables bias, we focus on the results in column 4 in our discussion. These results

Table 2 (continued)

Freedom-of-choice	-32.77**a**	17.69**a**	50.10**a**
Review of Denials	-20.47**a**	14.87**c**	28.17**a**
Inpatient Care - Mastectomy	81.22**a**	50.38**a**	-2.04
Report Cards	95.03**a**	40.51**a**	-20.98**a**
Ombudsman	10.00**b**	-34.03**a**	-15.16**a**
Ban on All Products Clause	-59.16**a**	-35.53**a**	-24.02**a**
Deductible	-0.03**a**	-0.04**a**	
Coinsurance percentage	-1.33**a**	-1.46**a**	
Visit price	0.63**a**	0.40**a**	
Visit not covered	-52.72**a**	-51.01**a**	
Visit percentage after deductible	-0.59**a**	-0.88**a**	
Number of Mandates	-2.34	-6.46**a**	-9.44**a**
Intercept	267.89**a**	249.51**a**	9.48**a**
R- Square	0.57	0.62	0.52
Sample size	7,843	5,745	1,580

a p-value<0.01; **b** p-value<0.05; **c** p-value<0.10. Dummy variables were included for fixed effects by state for columns 1 and 2. Several mandates were dropped due to multicollinearity.

show that all but four of the mandates increase premiums. The increase in premiums ranges from $6.20 for enrollee financial liability to $50.10 for freedom of choice mandates. The three mandates with a negative significant coefficient are report cards, ombudsman, and a ban on all products clauses. These clauses require providers to contract for "all products" that are offered by the managed care company. A state with all 19 of these mandates would experience premiums almost $79 higher than a state without any of these mandates.

Our results can be used to determine how mandates affect the probability of obtaining insurance using the elasticity estimates cited earlier. Recall that the elasticity for the probability of obtaining health insurance was estimated to be 1.8 for self-employed individuals (Gruber and Poterba, 1994) and 3.91 for single individuals working for small firms (Feldman et al., 1994). Applying these elasticities to the estimated percentage change in the premium resulting from each mandate for the paired data indicates how the probability of obtaining insurance is affected by each mandate.

The average premium is $209.16. Thus, an increase in premiums by $26.71 from the provider contract liability mandate results in a 12.77 percent increase in premiums. Table 3 shows the percentage change in premiums resulting from each mandate along with the estimated percentage change in the probability of obtaining health insurance for self-employed and single individuals.

The probability of obtaining health insurance is reduced by all but four of the mandates. The freedom of choice mandate has the largest impact and reduces the probability of obtaining insurance by 43 percent for the self-employed and 94 percent for single individuals. Six of the mandates increase premiums by more than 10 percent, leading to reductions in the probability of obtaining insurance for the self-employed of more than 18 percent and for single individuals more than 39 percent.

VII. Discussion and Conclusion

Our results show that the method one uses to compare health insurance premiums has a major impact on the predicted size of the effect of mandates on premiums. Papers that examine a cross section of premiums are likely to find much different magnitudes arising from the effects of mandates. Using the same plan for cities that border a state line leads to more efficient results.

Table 3: Estimated Change in the Probability of Obtaining Health Insurance for Mandates

		Change in probability	
	Pct change in Premium	**Self-employed**	**Single**
Liability: Provider Contracts	12.77	-23.0	-49.9
Specialist as PCP	13.30	-23.9	-52.0
Point of Service	9.51	-17.1	-37.2
Any-willing-provider	10.18	-18.3	-39.8
Direct Access OB/GYN	3.06	-5.5	-11.9
Emergency Care Coverage	7.51	-13.5	-29.4
Liability Financial: Enrollee	2.96	-5.3	-11.6
Diabetes	9.53	-17.1	-37.3
Ban on Financial Incentives	8.89	-16.0	-34.7
Post-Mastectomy Breast Reconstruction	9.81	-17.7	-38.3
Direct Access Other	7.41	-13.3	-29.0
Emergency Room	7.74	-13.9	-30.3
Standing Ref To Specialist	12.97	-23.4	-50.7
Freedom-of-choice	23.95	-43.1	-93.7
Review of Denials	13.47	-24.2	-52.7
Inpatient Care - Mastectomy	-0.98	1.8	3.8
Report Cards	-10.03	18.1	39.2
Ombudsman	-7.25	13.0	28.3
Ban on All Products Clause	-11.48	20.7	44.9

Percent change in premium calculated using coefficients from Table 2 column 4 based on initial premium of $209.16. Self-employed elasticity is -1.8 and the single elasticity is -3.91.

These results have important implications. For example, most mandates increase premiums, thereby reducing the probability that self-employed and single individuals will be insured. Since entrepreneurs are self-employed, an increase in the cost of health insurance may reduce the probability that an individual will choose to become an entrepreneur. This may lead to slower growth in entrepreneurship within states characterized by more health insurance mandates.

One limitation of this study is that it is based on data for a select group of border cities. These CMSA cities may not necessarily be representative of the other cities within their states in terms of their premiums. Also, the mandates used in this study are not all inclusive. For example, we did not use the mandates listed in Kofman and Pollitz (2006) and Bunce, Wieske and Prikazsky (2004) because they were not current.

Policy-makers should consider the secondary effects of these mandates on the likelihood that individuals will become uninsured as well as the potential reduction in self-employment and entrepreneurial activities. Although the immediate effects of mandates, such as requiring the choice of a specialist for primary care physician, may be perceived as a positive for consumers, the consequences can be large reductions in the probability of being insured, as we observed.

References

Bunce, Victoria C., J. P. Wieske, and Vlasta Prikazsky. 2004. "Health Insurance Mandates in the States, 2004." Council for Affordable Health Insurance.

Chernew, Michael, David M. Cutler, and Patricia S. Keenan. 2005. "Increasing Health Insurance Costs and the Decline in Insurance Coverage." *Health Services Research,* 40(4): 1021–1039.

Congdon, William. J., Amanda Kowalski, and Mark. H. Showalter. 2005. "State Health Insurance Regulations and the Price of High-Deductible Policies." http://www.me-ri.org/Showalter%20Study.pdf.

Feldman, Roger, Brian Dowd, Scott Leitz, and Lynn A. Blewett. 1997. "The Effect of Premiums on the Small Firm's Decision to Offer Health Insurance." *The Journal of Human Resources,* 32(4): 635–658.

Friedman, Milton, and L.J. Savage. 1948. "The Utility Analysis of Choices Involving Risk." *The Journal of Political Economy*, 56(4): 279.

Gruber, Jonathan, and James Poterba. 1994. "Tax Incentives and the Decision to Purchase Health Insurance: Evidence from the Self-Employed." *The Quarterly Journal of Economics*, 109(3): 701–733.

Hamilton, Barton H. 2000. "Does Entrepreneurship Pay? An Empirical Analysis of the Returns to Self-Employment." *Journal of Political Economy*, 108(3): 604–631.

Jenson, Gail A., and Michael A. Morrisey. 1999. "Employer Sponsored Health Insurance and Mandated Benefit Laws." *The Milbank Quarterly*, 77(4): 425–459.

Kofman, Mila, and Karen Pollitz. 2006. "Health Insurance Regulation by States and the Federal Government: A Review of Current Approaches and Proposals for Change." Georgetown University, Health Policy Institute.

Madrian, Brigitte C. 1994. "Employment-Based Health Insurance and Job Mobility: Is There Evidence of Job Lock." *The Quarterly Journal of Economics*, 109(1): 27–54.

New, Michael J. 2006. "The Effect of State Regulations on Health Insurance: A Revised Analysis." Center for Data Analysis Report 06-04.

Shriver, Melinda L., and Grace-Marie Arnett. 1998. "Uninsured Rates Rise Dramatically in States with Strictest Health Insurance Regulations." Heritage Foundation Backgrounder No. 1211.

United States GAO. 2003. "Small Business Health Coverage Requirements." General Accounting Office GAO-03-1133.

Vita, Michael. 2001. "Regulatory Restrictions on Selective Contracting: An Empirical Analysis of 'Any Willing Provider' Regulations." *Journal of Health Economics,* 20(3): 955–956.

White, Halbert. 1980. "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity." *Econometrica,* 48(4): 817–838.