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Who is Adversely Affected by Limiting the Tax Exclusion of Employment-Based Premiums?

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Abstract
Our analysis of the 2005 Tax Reform Panel's recommended cap on the employer exclusion predicts that the percentage of older workers, average wage, percent female, firm size, nonprofit status, and degree of worker unionization are important factors in determining who would be affected. In addition, in a static model, indexing the proposed cap by overall inflation results in more than doubling the number of enrolled employees with tax-preferred premiums in excess of the cap from the first to the 10th year.

1. Introduction

Employer contributions to health insurance premiums are untaxed, as are contributions by employees who work at firms with cafeteria plans. This tax subsidy to compensation paid in the form of health insurance encourages employers to offer health insurance and people to be insured. Nevertheless, it has long been recognized that limiting the tax exclusion would provide incentives for cost containment[1] and would raise revenue.

A growing number of economists and policy makers have asserted that the current tax exclusion of health insurance premiums provides benefits not commensurate with the foregone revenue. That contention is reflected in the numerous recent proposals to limit the tax exclusion advanced by presidential candidates (McCain's plan[2] replaces the exclusion with a flat tax credit and Clinton's plan[3] includes an income based cap on the exclusion) and key congressmen (e.g., Senator Wyden's plan[4] removes the exclusion). Limiting, rather than eliminating, the exclusion is an incremental approach that represents a smaller departure from current law. It begins to address two key problems with the current tax treatment: the incentive to purchase more expensive coverage at the margin and the larger value of the subsidy to higher-income individuals.

Empirical analyses of limiting the exclusion have primarily focused on the potential effects on coverage, medical demand, and revenue, while little is known regarding the population that actually enrolls in relatively costly employer plans. Our analysis attempts to fill this gap. We characterize the affected population for a recent, well-known proposal to cap the tax exclusion for employer-based insurance premiums, but our results could be extrapolated to a variety of proposals that set a fixed value limit on the tax preference such as a flat tax deduction or credit.[5] Because tax-preferred premium contributions differ across groups in ways that have not been well examined, our analysis informs the distributional consequences of these types of incremental reforms.

In November 2005, the President's Advisory Panel on Federal Tax Reform recommended several changes to the tax treatment of health insurance. The most prominent recommendation was to set a cap on the income and payroll tax exclusion for employer and employee contributions to health insurance premiums. Thus premiums in excess of the fixed dollar limit (which varies by type of coverage) would be included in taxable income and subject to payroll taxes. The Panel set the exclusion limit at the average cost of health coverage in 2006, indexed by the CPI-U. In 2006, the proposed maximum exclusion was $5,000 for individual plans and $11,500 for family plans including employee-plus-one plans. Using Medical Expenditure Panel Survey data, we estimate how many people would be directly affected by this proposal in the first year and over a 10-year horizon. Moreover, we examine the characteristics of the affected population by features of the establishment where they work.

2. Background

Employer sponsored health insurance is the predominant form of health insurance in the United States. Nearly 63% of Americans under 65 years old have employment-based coverage through the workplace either as an employee, dependent, or retiree. One reason that employment-based insurance is so appealing is that workplaces pool large groups of people along dimensions unrelated to health ensuring more predictable medical costs and allowing insurers to take advantage of the economies of scale. Legislative changes also have contributed to the dominance of the employment based system.

Group policies spread widely in response to tax changes in the 1940s and 1950s. An administrative tax ruling in 1943 and resulting Internal Revenue code clarifications in 1954 stated that an employer's contributions for their employees' group medical and hospitalization premiums be tax exempt. As a result, employers' contributions to health insurance premiums were excluded from individuals' income and payroll taxes. Furthermore, laws passed in late 1970s and 1980s denoted by Section 125 of the Internal Revenue code allows employee

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contributions to be excluded when their employer has a qualifying 125 plan (often called cafeteria plans). This combination of tax exemptions encourages the use of group policies through the employer.[6] Effectively a government subsidy, these laws reduce after-tax insurance premiums further, encouraging healthy employees to enroll and forming sustainable (stable) risk pools among employees and attracting insurance companies into the market.

In 2005, President Bush established a bipartisan panel to recommend reforms that would make the tax code "simpler, fairer, and more pro-growth." In its final report, the Tax Reform Panel recommended substantially changing the tax subsidy for employment-based health insurance by setting a limit on the premium amount that could be excluded from an individual's taxable income. The rationale behind including tax-preferred premium contributions in excess of the cap in taxable income was two-fold.

First, the current tax exclusion is expensive. The cost of the federal income tax exclusion for employer-provided health insurance was $126 billion in 2006, tripling in cost over the past 20 years. Second, the exclusion distorts choices. The panel argued that the "exclusion creates incentives that lead to inefficiencies in the market for health care."[7] The objective was to maintain the incentive for firms to still offer coverage, but reduce the incentive for them to purchase "Cadillac" plans, thereby lowering long-term health costs. Third, it provides a greater benefit to higher-income households because the value of a tax exclusion increases with marginal tax rates.[8]

A small empirical literature suggests that the benefits of the current tax treatment of health premiums favor higher income workers.[9] Additionally, Tom Selden and Bradley Gray estimate the average tax subsidy by establishment characteristics.[10] They find that the tax exclusion provides larger average subsidies to those in larger establishments and establishments with an older workforce. This paper adds to the literature by analyzing the affected population for a proposal which sets a fixed dollar limit on the tax exclusion.

3. Data and methods

The data for this analysis come from the Medical Expenditure Panel Survey Insurance Component (MEPS-IC) for 2004. The MEPS-IC is a survey of private and public sector employers that provides a wealth of information on their health insurance plans, notably, employee enrollment and employer and employee contributions to premiums by plan type, as well as crucial tax status information (presence of a cafeteria plan).[11] The survey also provides firm level information such as size, age, ownership, and industry as well as establishment-level information on union penetration, wages, location, percent part-time, percent older workers, and percent female.

In 2004, about 40,000 private establishments and 3,000 state and local governments were sampled. We limited our analysis to firms offering health insurance, and our unit of analysis is enrollees. In 2004, there were over 73 million enrollees—employees enrolled in employer-provided health insurance plans—either in private firms or state and local government.[12]

Our first goal is to estimate the number of employees enrolled in plans above and below the specified tax exclusion cap amount. First, we combine private sector and local and state government data on enrollees, treating single, plus one, and family plans separately. For each plan type, we construct a distribution of tax preferred premiums by presence of a 125 plan. For those in firms with 125 plans, the entire premium is tax preferred. For those in firms without such plans, only the employer contribution to premium is tax-preferred.

Each tax preferred premium interval has an associated average contribution and total number of enrollees. After inflating the 2004 premium by the average private insurance premium growth rate to reflect 2006 premiums,[13] we compute the number of enrollees and average tax-preferred premium values over the $5,000 cap for individuals and $11,500 cap for family and plus

one plans. Aggregating over 125 status and plan type, we calculate the share of employees above the cap and the mean dollars affected by the cap in the first year.

We project premium distributions and the affected population to 2016, holding constant employment, coverage, and plan choice. The 2006 estimated premiums are grown by an inflation factor using private health insurance expenditures and under-65 population growth from the National Health Expenditures.[14]

The second part of our analysis focuses on the characteristics of private establishments whose employees are more likely to be subject to the cap in 2006. The cross-tabulations and logit regression include all of the roughly 40,000 (un-weighted) private sector enrollees.

4. Results

A. Share of enrollees affected and mean newly taxable dollars

Our findings for 2006 indicate that the Tax Reform Panel's cap would directly affect 40% of employees in family, 9% in plus one, and 23% of single health insurance plans (Exhibit 1). Two factors cause the affected population to be less than half. First, the cap was chosen to be the mean premium (rather than the median) and the premium distribution is right-skewed. Second, only employees working at firms with a cafeteria plan can make pre-tax premium contributions.

The increase in taxable income caused by the cap is substantial. The average tax-preferred premium for single plans above the cap is $6,279, which translates into an average of $1,279 newly subject to income and payroll taxes. The tax panel recommended subjecting amounts in excess of the cap to both income and payroll taxes. For example, the newly taxable $1,279 increases tax liability by $289 for a taxpayer with a 15% marginal tax rate on income (over the range of the premium amount) and with earnings below the Social Security taxable maximum.

Family and plus one plans are treated equally under the tax reform panel's recommendations, each capped at $11,500. Therefore, it is not surprising that a smaller percentage of plus one plans would be affected. Thirty percent of employees with a non-single plan have tax-preferred premiums above the cap value, at an average of 2,690 new dollars affected. For a taxpayer with a 15% marginal tax rate, this translates into $206 new payroll tax contributions and $403 new income tax contributions for a total of $609 increase in total tax liability.

The panel recommended indexing the tax preferred premium amount by overall inflation (CPI-U), mimicking other inflation-adjustments in the tax code. Yet, historically, health insurance premiums have grown much faster than overall inflation. From 1998 to 2007, employer-provided health insurance premiums grew an average of 3.5 times faster than overall inflation.[15] Therefore, setting increases in cap values to overall inflation gradually increases the affected population each year.

Exhibit 2 displays the growth in percent of affected enrollees from 2006 to 2016 by plan type. Over the 10-year horizon, the share of enrollees with tax-preferred premiums in excess of the cap more than doubles in size from 23% to 68%. For example, CPI-U indexing results in an exclusion cap of $6,203 for single plans affecting 65% of enrollees. In addition, the 2016 family plan cap is $14,267 affecting 42.6% of enrollees in plus one plans and 83.3% of family plan enrollees.

We explore the effect of indexing on the share of enrollees with contributions exceeding the cap in the tenth year. We estimate that, if the cap were un-indexed then 85% of enrollees would be affected, as compared to 68% indexing to overall inflation and 58% if the cap were indexed to the overall inflation rate plus 1 percentage point.

Throughout our analysis, we have forced employment, offering and plan choice to be constant over time—not the pattern of insurance one would expect to evolve through 2016. Essentially we have estimated who would be affected in 2006 if we used future price parameters. While employers and employees will not immediately respond to the change in after-tax price,

over time, one would expect the reduction in the tax subsidy to reduce offering and shift some employees to the nongroup market or to being uninsured. Our time path and particularly our 2016 estimates of the affected population undoubtedly would be impacted by relaxing the behavioral constraint; therefore, our estimates should be considered merely illustrative of the effect of the indexing.

B. Establishment characteristics of those affected

Restricting our sample to employees working in the private sector, we examine the tax incidence by various establishment characteristics.[16] Among private establishments, 19.5% of single plan enrollees and 41.1% of family and plus one plan enrollees have tax-preferred contributions in excess of the cap (i.e., are affected). The first two columns in Exhibits 3 and 4 report the share of the affected population in each descriptive category. For example, 10.2% of affected employees with single plans are in establishments with less than 20% women. The second set of columns display the likelihood that employees within the establishment category would have tax-preferred premiums exceeding the cap. For example, an estimated 14.2% of employees with single plans in establishments with less than 20% women are affected by the cap.[17] The third set of columns report the mean tax-preferred contribution above the cap.

Establishments with a higher percentage of women and a higher percentage of older workers are more likely to have higher tax-preferred premiums. For example, enrollees working at establishments with 60% or more of their workers over age 50 are more than twice as likely to be affected by the cap as those in establishments with few older workers. While there's a greater likelihood of being affected, on average, fewer dollars are newly taxable ($529 vs. $777).

Enrollees at establishments with large (compared to small) shares of part-time workers are relatively more likely to have tax-preferred premiums above the cap, as are those in more (compared to less) unionized establishments. Across both single and family plans, the affected population is most likely to be found in establishments with average annual salaries exceeding $46,440 (high wage) as compared to low or middle wage. While the relationship is monotonic in salary among employees with single plans, establishments with salaries in the mid-range are less likely to have employees affected than those at the top and bottom of the distribution. Our general result that workers at higher wage firms have higher tax-preferred premiums is consistent with findings that the employer contribution to health premiums increases with an employee's earnings.[18]

Turning attention to Exhibit 4, we find that the fraction of employees with single and family plans that are affected varies widely by industry. Over 40% of workers with tax-preferred premium contributions in excess of the cap are in the professional services industry. Those in the wholesale and retail industry have the highest likelihood of being affected. In general, the groups with higher likelihoods of being affected have fewer average dollars newly taxable.

The size of a firm, the firm's age, and ownership type are also predictive of the likelihood that enrollees will have contributions exceeding the cap. For single plans, enrollees in the smallest firms have the greatest likelihood of contributions exceeding the cap; while for family plans, there is little variation by firm size. The share of enrollees in a firm affected by the cap monotonically increases with a firm's age and enrollees in nonprofit firms are much more likely to be affected by the cap than those in for-profit firms.

Next, using multivariate regression, we estimate the marginal effects of the previously described establishment characteristics on the likelihood that an enrolled employee has tax-preferred premiums subject to the 2006 recommended caps. The logit results in Exhibit 5 reinforce the unconditional relationships observed in the cross tabulations. The likelihood of being subject to the tax exclusion cap increases with firm age, union penetration, percent with older workers, percent female, and a higher average wage rate. Enrollees in single plans in firms with fewer than 10 workers are more likely to have contributions that exceed the cap than are those working at large firms. Employees in non-profit firms are more likely to be above the cap

than employees in for-profit incorporated and unincorporated firms. Percent of workforce above age 50 has the most striking increase in the likelihood of tax-preferred premiums exceeding the cap.

As compared to financial services (the baseline group), professional and other services are more likely to have employees affected by the cap. Employees in construction, mining/manufacturing, utilities, and agriculture are less likely to be affected by the cap.

In order to streamline our regression results, state effects are not displayed in Exhibit 5, though state indicators were included. Summarizing the geographic effects is difficult because many states have statistically significant effects of different signs in the plan type regressions.

The magnitudes of the logit model marginal effects are easiest to interpret if we define a prototypical establishment. Our prototypical establishment is a professional services, incorporated for-profit firm in California with at least 1,000 employees and a union penetration of less than 20%, in existence at least 20 years, less than 20% of their workforce over age 50 and less than 20% part-time, 20-39% of the workforce female, and with an average wage rate of $37,000.

An enrollee at the prototypical establishment has a 9% chance his single plan tax-preferred premium contributions exceed the cap amount in 2006. The likelihood of exceeding the cap increases by 6 percentage points were he to work in a high average wage establishment, increases by 13 percentage points were he to work in an establishment with 60% or more of the workforce over age 50, and increases by 10 percentage points were he to work in a firm with fewer than 10 employees. Compared to age, union penetration has a negligible effect on the likelihood of exceeding the cap. For example, increasing union penetration for our prototypical establishment to the 20-39% category decreases the likelihood by 2 percentage points, while moving it up to the highest category (60%+) increases the likelihood by only 5 percentage points.

The results for employees with family plans are fairly consistent with those enrolled in single plans although the relationships are not as strong. This is not surprising as family member characteristics are somewhat less represented by the characteristics of the establishment where the policy-holder works.

Next we test the sensitivity of our results to controlling for plan characteristics and changes to the cap amount. Enrollees have high tax-preferred premium contributions for reasons directly related to firm characteristics (e.g., high administrative costs, coworkers with expensive health conditions) as well as reasons only indirectly related (e.g., insurance plan generosity and the individual's tax benefit from purchasing insurance). Given that the MEPS-IC does not include individual information, it is impossible to disentangle the independent effect of each contributing factor. Instead, we explore whether the marginal effect of establishment characteristics on the likelihood of exceeding the exclusion cap is affected by controlling for insurance plan generosity.

Plan characteristics generally had small marginal effects on the likelihood of exceeding the cap. Neither statistical significance nor magnitude of the logit coefficients on establishment or firm characteristics is substantially affected by controlling for plan type (HMO, PPO, and indemnity) and the plan's annual deductible. Redefining the prototypical establishment to also offer a PPO plan with the median annual deductible, the estimated difference in likelihoods of exceeding the cap changes by no more than one percentage point for changes to average wage, workforce age, or firm size. Adding additional variables to control for coinsurance rate and physician and hospital care coverage also did not substantially change our results.

Our results are robust to small changes in the cap amount. Coefficient sign and statistical significance were unaffected by a 10 percent change in cap amount. Except for firm size which was virtually unaffected, the difference in likelihood of exceeding the cap for changes to establishment characteristics generally increased when the cap was lower and decreased when the cap was higher. For example, when the cap is 10% lower than that proposed by the Tax Reform Panel, an enrollee at the prototypical firm has a 15% (rather than 9%) chance his contributions exceed the cap, but a 32% (rather than 23%) chance were he to work in an establishment with 60% or more of the workforce over age 50. The difference in likelihood was 14 percentage points

for the Reform Panel's cap amount and was 17 percentage points for a 10% lower cap, after controlling for plan characteristics.

5. Conclusions

This study has found that the beneficiaries of the unlimited exclusion for employer-sponsored insurance include many older workers as well as employees of small businesses. Establishment characteristics significantly and substantially impact the likelihood a worker enrolled in employer-sponsored insurance has high tax-preferred premium contributions. Even after controlling for insurance plan generosity, enrollees at establishments with high average wages or an older or more unionized workforce are more likely to have high tax-preferred premium contributions. Tax-preferred premiums are also more likely to be high for enrollees at very small or older firms, as well as nonprofits. These findings are consistent with those in the literature, which find large variations in the incidence of the tax benefit across workers and establishments.

The marginal effects of workforce age and firm size on the likelihood are strikingly large. Thus, our results suggest that the health risks associated with a firm's workforce and a small firm's higher administrative costs and inability to effectively pool risks may play an important role in determining who benefits from an unlimited tax exclusion for employer sponsored insurance.

Tax proposals that raise revenue are bound to adversely affect some taxpayers. While our analysis focused on one specific proposal, it helps identify the potential losers for a variety of proposals that limit the tax subsidy for health insurance. For example, flat tax deductions such as the president's 2008 budget proposal to create a standard deduction for health insurance will raise the tax subsidy for those with low tax-preferred premiums while increasing the tax liability of taxpayers with relatively high tax-preferred premiums. Our analysis informs who may be adversely affected by establishing which establishment characteristics are associated with high tax-preferred premium contributions.

Exhibit 1. Percent of employees and mean dollars affected by plan type, 2006

	Single Plans	Non-Single Plans	Family Plans	Plus one plans
Cap amount	5,000	11,500	11,500	11,500
Percent of enrolled employees affected	23.3%	30.0%	40.4%	8.2%
Mean dollars affected	1,279	2,690	2,750	2,071

Source: Authors' calculations using tabulations provided by the Agency for Healthcare Research and Quality using data from the Medical Expenditure Panel

Exhibit 2. Projected Percent of Enrolled Employees Affected, 2006-2016

Legend:
— Single Plans
- - - Plus one plans
— Family Plans (excluding plus one plans)

Data labels: 40.4% (2006, Family), 23.3% (2006, Single), 8.2% (2006, Plus one), 83.3% (2016, Family), 65.0% (2016, Single), 42.6% (2016, Plus one)

Source: Authors' calculations using tabluations provided by the Agency for Healthcare Research and Quality using data from the Medical Expenditure Panel Survey Insurance Component.

Exhibit 3. Characterizing employees with tax preferred contribution in excess of the cap by selected worker characteristics and plan type, 2006

	Distribution of affected population		Likelihood of being affected		Affected population's average tax-preferred premium contribution above the cap	
	Single	Family	Single	Family	Single	Family
Establishment share of women						
0-19%	10.2%	13.2%	14.2%	33.9%	$ 856	$ 2,790
20-39	9.6%	11.5%	15.3%	33.0%	$ 639	$ 2,861
40-59	19.3%	13.1%	24.2%	36.1%	$ 682	$ 2,502
60+	36.9%	23.4%	24.5%	46.9%	$ 769	$ 3,257
Missing	23.9%	38.8%	16.0%	46.7%	$ 967	$ 2,789
Total	100.0%	100.0%	19.5%	41.1%	$ 796	$ 2,868
Establishment share of workers over 50						
0-19%	24.5%	18.4%	16.0%	31.3%	$ 777	$ 3,249
20-39	28.5%	25.6%	20.9%	40.3%	$ 738	$ 2,794
40-59	12.2%	9.1%	29.9%	45.2%	$ 648	$ 2,674
60+	5.1%	2.6%	41.2%	45.8%	$ 529	$ 2,741
Missing	29.7%	44.3%	17.3%	46.6%	$ 973	$ 2,808
Total	100.0%	100.0%	19.5%	41.1%	$ 796	$ 2,868
Part-time employed						
0-19%	73.0%	80.4%	18.6%	41.0%	$ 800	$ 2,832
20-39	14.5%	11.1%	21.4%	41.3%	$ 766	$ 3,228
40-59	8.0%	5.1%	24.5%	44.5%	$ 751	$ 3,094
60+	4.5%	3.4%	21.0%	40.0%	$ 900	$ 2,151
Total	100.0%	100.0%	19.5%	41.1%	$ 796	$ 2,868
Unionized						
0-19%	76.9%	67.2%	19.2%	39.6%	$ 825	$ 3,123
20-39	1.8%	3.5%	13.9%	37.9%	$ 587	$ 2,785
40-59	2.4%	4.0%	20.4%	50.2%	--	$ 1,355
60+	8.5%	10.6%	27.9%	43.7%	$ 568	$ 1,686
Missing	10.4%	14.7%	17.7%	46.2%	$ 922	$ 2,930
Total	100.0%	100.0%	19.5%	41.1%	$ 796	$ 2,868
Average Annual salary						
0-$16,956	11.8%	11.4%	15.7%	38.5%	$ 846	$ 2,826
$16,957-$29,309	20.5%	15.2%	16.2%	32.6%	$ 993	$ 3,512
$29,310-$46,439	31.4%	30.8%	20.3%	40.7%	$ 707	$ 2,963
$46,440+	36.2%	42.5%	23.1%	46.8%	$ 746	$ 2,598
Total	100.0%	100.0%	19.5%	41.1%	$ 796	$ 2,868

Source: Calculations provided by the Agency for Healthcare Research and Quality using data from the Medical Expenditure Panel Survey Insurance Component.
Note: Slashes denote cells for which sample sizes are insufficient for analysis.

Exhibit 4. Characterizing employees with tax preferred contribution in excess of the cap by selected firm characteristics and plan type, 2006

	Distribution of affected population		Likelihood of being affected		Affected population's average tax-preferred premium contribution above the cap	
	Single	Family	Single	Family	Single	Family
Industry						
Agriculture, forestry, fishing	0.4%	0.6%	8.0%	28.8%	--	--
Construction	3.5%	5.0%	14.0%	37.0%	$ 650	$ 2,618
Financial services, real estate	12.8%	14.7%	19.8%	44.7%	$ 747	$ 2,924
Mining, manufacturing	10.5%	15.7%	13.8%	32.9%	$ 794	$ 2,288
Professional services	41.3%	32.7%	18.0%	41.1%	$ 756	$ 3,058
Retail	8.6%	5.4%	28.0%	51.4%	$ 950	$ 3,953
Utilities, transportation	3.3%	6.9%	14.3%	25.4%	$ 1,191	$ 2,622
Wholesale	5.4%	6.9%	41.2%	42.7%	$ 778	$ 2,846
Other services	14.0%	12.0%	13.1%	42.8%	$ 831	$ 2,919
Unknown	0.1%	0.0%	17.1%	41.8%	--	$ 6,369
Total	100.0%	100.0%	19.5%	41.1%	$ 796	$ 2,868
Firm size						
<10 employees	14.7%	7.4%	29.7%	39.5%	$ 340	$ 1,883
10-24	7.8%	4.5%	19.2%	31.1%	$ 585	$ 3,279
25-49	6.5%	5.2%	16.6%	37.7%	$ 892	$ 3,561
50-99	7.0%	5.3%	19.2%	39.3%	$ 776	$ 3,339
100-499	14.0%	11.6%	19.4%	39.7%	$ 928	$ 3,592
500-999	6.4%	5.0%	24.0%	37.2%	$ 960	$ 3,347
1000+	43.6%	61.1%	17.4%	43.6%	$ 961	$ 2,683
Total	100.0%	100.0%	19.5%	41.1%	$ 796	$ 2,868
Firm age						
<5 years	2.2%	1.7%	14.6%	31.7%	$ 965	$ 3,764
5-19	16.2%	12.4%	17.2%	35.3%	$ 795	$ 3,365
20+	63.4%	55.7%	21.5%	40.3%	$ 737	$ 2,784
Missing	18.2%	30.2%	16.6%	46.9%	$ 980	$ 2,780
Total	100.0%	100.0%	19.5%	41.1%	$ 796	$ 2,868
Ownership type						
Nonprofit	26.3%	19.3%	33.2%	58.7%	$ 743	$ 2,810
For-profit incorporated	61.7%	67.8%	16.8%	37.6%	$ 577	$ 2,858
For-profit unincorporated	9.8%	11.8%	16.4%	44.6%	$ 808	$ 2,920
Unknown	2.3%	1.1%	27.0%	30.7%	--	$ 3,880
Total	100.0%	100.0%	19.5%	41.1%	$ 796	$ 2,868

Source: Calculations provided by the Agency for Healthcare Research and Quality using data from the Medical Expenditure Panel Survey Insurance Component.
Note: Slashes denote cells for which sample sizes are insufficient for analysis.

Exhibit 5. Logit Estimates of the Likelihood of Tax Preferred Premiums In Excess of Exclusion Cap, 2006

	Single Plans		Family Plans	
	Coefficient	Standard Errors	Coefficient	Standard Errors
Intercept	-1.575	(0.149) ***	-0.532	(0.101) ***
Industry (reference = fin serv, real estate)				
Agriculture,forestry,fishing	-0.664	(0.222) ***	-0.183	(0.143)
Construction	-0.179	(0.094)	0.058	(0.080)
Mining, manufacturing	-0.191	(0.072) ***	-0.268	(0.067) ***
Professional Services	0.382	(0.065) ***	0.141	(0.066) **
Retail	0.018	(0.075)	-0.520	(0.074) ***
Utilities, transportation	-0.312	(0.094) ***	0.093	(0.075)
Wholesale	0.066	(0.082)	0.149	(0.074) **
Other Services	0.140	(0.070) **	0.005	(0.069)
Unknown	0.649	(0.446)	0.504	(0.511)
Firm Size (reference = 100-499)				
<10	0.613	(0.045) ***	0.061	(0.045)
10-24	0.052	(0.052)	-0.214	(0.050) ***
25-49	-0.143	(0.055) ***	0.095	(0.049) *
50-99	-0.065	(0.053)	0.090	(0.049) *
500-999	0.037	(0.058)	-0.119	(0.051) **
1000+	-0.288	(0.036) ***	0.015	(0.030)
Firm Age (reference = 5-19 years)				
<5	-0.372	(0.081) ***	-0.249	(0.070) ***
20+	0.144	(0.036) ***	0.065	(0.030) **
Missing	0.337	(0.059) ***	0.182	(0.045) ***
Ownership (reference = For-profit Uninc)				
Nonprofit	0.361	(0.043) ***	0.479	(0.042) ***
For-profit Incorprated	-0.220	(0.037) ***	-0.133	(0.034) ***
Unknown	0.178	(0.084) **	-0.547	(0.082) ***
Unionization (reference = 40-59 percent)				
0-19%	-0.083	(0.040) **	-0.016	(0.027)
20-39%	-0.424	(0.093) ***	-0.258	(0.056) ***
60+%	0.465	(0.057) ***	-0.006	(0.040)
Missing	0.158	(0.055) ***	0.045	(0.038)
Percent Part-Time (reference = 40-59%)				
0-19	-0.141	(0.033) ***	0.009	(0.030)
20-39	-0.142	(0.041) ***	-0.075	(0.038) **
60+	0.074	(0.063)	-0.083	(0.058)
Percent 50 Years Plus (reference = 40-59%)				
0-19	-0.458	(0.035) ***	-0.353	(0.032) ***
20-39	-0.255	(0.034) ***	-0.035	(0.030)
60+	0.589	(0.069) ***	0.146	(0.067) **
Missing	-0.029	(0.057)	0.037	(0.048)
Percent Women (reference = 40-59%)				
0-19	-0.132	(0.048) ***	-0.068	(0.036) *
20-39	-0.066	(0.045)	-0.149	(0.033) ***
60+	0.185	(0.035) ***	0.193	(0.032) ***
Missing	-0.438	(0.071) ***	0.123	(0.054) **
Average Annual Salary (reference = $29,310-46,439)				
0-16956	-0.019	(0.141)	-0.026	(0.077)
16957-29309	0.160	(0.138)	-0.220	(0.074) ***
46440+	0.760	(0.138) ***	0.342	(0.073) ***
Missing	-1.413	(0.540) ***	-0.184	(0.278)
-2 Log Likelihood	28593.166		39309.141	
N	22,663		21,525	
Joint Significance F-tests				
Industry	139.1423	***	214.9041	***
Establishment Size	244.5281	***	31.5549	***
Establishment Age	56.0389	***	18.6176	***
State	322.0261	***	684.9624	***
Ownership	173.8955	***	239.8432	***
Unionized	99.4473	***	28.6714	***
Share Part-time	34.5249	***	11.9163	***
Share 50+ years	216.9891	***	147.1308	***
Share women	160.9537	***	65.9367	***
Wage rate	244.3958	***	214.8196	***

Source: Calculations provided by the Agency for Healthcare Research and Quality using data from the Medical Expenditure Panel Survey Insurance Component.

Note: Estimates were constructed using relative weighted enrollments. Both regressions include indicator variables for each state. *p<.10 **p<.05 ***p<.01. Family plans include plus one plans.

[1] In papers published during the 1970s, Feldstein and his colleagues forcefully argued that the tax exclusion led to "overinsurance" and excessive demand for medical services.

[2] J. McCain, "Straight Talk on Health System Reform," http://www.johnmccain.com/Informing/Issues/19ba2f1c-c03f-4ac2-8cd5-5cf2edb527cf.htm (accessed on 16 April 2008).

[3] H. Clinton, "Providing Affordable and Accessible Health Care," http://www.hillaryclinton.com/issues/healthcare/summary.aspx (accessed on 16 April 2008).

[4] R. Wyden, "Guaranteeing Health Care for All Americans" http://wyden.senate.gov/issues/Health_Care.cfm (accessed on 16 April 2008).

[5] The subsidy from a tax credit, unlike an exclusion or deduction, does not depend upon tax rate. Since tax rates are unobserved in our data, the extrapolation is less straight-forward but still informative.

[6] The self-employed eventually did receive an income tax preference for health insurance payments, although the subsidy for employment-based coverage remains more generous.

[7] The President's Advisory Panel on Federal Tax Reform, pages 78-82.

[8] Higher income people also have greater access to employer-provided health insurance. See E. Gould, "The erosion of employment-based insurance: More working families left uninsured." *International Journal of Health Services*. 38(2)(2008):213-251.

[9] J. Sheils and R. Haught, "The cost of tax-exempt health benefits in 2004." *Health Affairs* 23(2004):w106-w112 (published online 25 February 2004; 10.1377/hlthaff.w4.106).

[10] T. Selden and B. Gray. "Tax Subsidies for Employment-Related Health Insurance: Estimates for 2006." *Health Affairs,* Vol. 25(2006): 1568-1579.

[11] By identifying access to premium conversion through cafeteria plans (125 plan status), we are able to observe the portion of the premium which is tax-preferred and thus potentially subject to a cap.

[12] Federal government employees are not included in our analysis primarily because they are not sampled in the MEPS-IC.

[13] The 2004 distribution of premiums are inflated using the aggregate private insurance premiums from CMS and the under 65 population with private coverage from the MEPS-HC in both 2004 and 2006.

[14] National Health Expenditure Projections 2006-2016. http://www.cms.hhs.gov/NationalHealthExpendData/downloads/proj2006.pdf (accessed on 15 May 2007)

[15] "Employer Health Benefits 2007 Annual Survey" Kaiser Family Foundation and Health Research and Educational Trust.

[16] We exclude state and local governments as many of their characteristics cannot be measured in the same way (i.e., industry, age of firm).

[17] We add missing as a tabulation category and an explanatory variable in the logit regression to allow for employer's nonrandom response.

[18] M. Lettau, "New Statistics for Health Insurance from the National Compensation Survey." *Monthly Labor Review* (August 2004): pages 46-50.