

TAX INCENTIVES AS A SOLUTION TO THE UNINSURED:
EVIDENCE FROM THE SELF-EMPLOYED*

Gulcin Gumus[†] Tracy L. Regan[‡]

February 2008

Abstract

Between 1996 and 2003, a series of amendments were made to the Tax Reform Act of 1986 that gradually increased the tax credit for health insurance purchases by the self-employed from 25 to 100 percent. We study how these changes have influenced the likelihood that a self-employed person has health insurance coverage as the policy holder. The Current Population Survey is used to construct a data set corresponding to 1995-2005. Both the difference-in-difference and price elasticity of demand estimates suggest that the series of tax credits did not provide sufficient incentives for the self-employed to obtain health insurance coverage.

JEL Classification: J32, J48, I11.

Keywords: Health insurance, self-employment, elasticity, CPS.

*We are grateful to Carlos Flores and Oscar Mitnik for their constructive suggestions. We also would like to thank Eric French, participants at the Annual Meeting of the Society of Labor Economics, in the Applied Microeconomics Workshop at the University of Miami, at Florida International University's and at Florida Atlantic University's Department of Economics Seminar for helpful discussions. We thank Daniel Feenberg at the NBER for help with TAXSIM.

[†]Department of Health Policy & Management and Department of Economics, Florida International University, and IZA. Mailing Address: HLSII-554A, 11200 SW 8th St., Miami, FL 33199; Phone: (305) 348-0427; Fax: (305) 348-4901; Email: gumusg@fiu.edu.

[‡]Corresponding author: Department of Economics, University of Miami. Mailing Address: P.O. Box 248126, Coral Gables, FL 33124-6550; Phone: (305) 284-5540; Fax: (305) 284-2985; E-mail: tregan@miami.edu.

1 Introduction

In his 2007 State of the Union address, President Bush is quoted as saying, “Changing the tax code is a vital and necessary step to making health care affordable for more Americans.” The President is proposing a set of standard tax deductions to help the more than 45 million Americans who are without coverage. This amounts to nearly 18 percent of the non-elderly population (ages 64 and under). His proposed tax deductions are intended to “level the playing field for those who do not get health insurance through their job” and to help “put a basic private health insurance plan within reach” for the millions of Americans lacking coverage. According to the Kaiser Family Foundation (KFF, 2005) in 2004, the overwhelming majority (61 percent) of non-elderly Americans received their health insurance through their employers; individuals working in midsize/large firms (200+ employees) were offered health insurance 98 percent of the time whereas 59 percent of individuals working in small firms (3-199 employees) were offered coverage. About half (51 percent) of these employer-based plans covered only the worker and the remaining 49 percent covered the employee’s dependents (e.g., spouse) as well. Only five percent of Americans have health insurance through a private non-group plan; the remaining 16 percent are covered by public programs (e.g., Medicaid). Those who lack health insurance often include low income persons, single mothers and their children, and self-employed individuals.

This paper seeks to address the question: Can we fix the health insurance problem with tax incentives? We investigate this question by examining a series of amendments made to the Tax Reform Act of 1986 (TRA86). The TRA86 granted self-employed persons the ability to deduct 25 percent of their health insurance premiums (i.e. own, spouse, and dependents) from their taxable income. The Small Business Job Protection Act of 1996 established a schedule that would gradually increase this deduction to 80 percent by 2007. Since then, the schedule has been accelerated twice with passage of the Taxpayer Relief Act of 1997 and the Tax and Trade Extension Relief Act of 1998. Through these series of amendments, the initial TRA86 tax credit was increased to 30, 40, 45, 60, 70, and 100 percent in 1996, 1997, 1998, 1999, 2002, and 2003, respectively. Prior to this, the self-employed, who did not itemize their income tax deductions, paid for their health insurance with after-tax dollars. We use data from the 1996-2006 March Supplements of the Current Population Survey (CPS) to analyze the effect

of these amendments in the tax code for the period corresponding to 1995-2005. Specifically, we examine how changes in the tax code, concerning the deductibility of health insurance premiums by the self-employed, have affected whether an individual has coverage as a policy holder.

The most notable paper addressing the issues surrounding the initial tax reform is Gruber and Poterba (1994), hereafter G&P94. They examine the original TRA86 with respect to the price elasticity of demand for health insurance coverage. They argue that if the price elasticities are negligible, then providing tax credits may not necessarily lead to significant improvements in coverage rates. Using data from the 1986-1987 and 1989-1990 CPS, they analyze the decision of the self-employed to purchase health insurance before and after the initial 25 percent tax credit. Using a difference-in-difference (DD) model, they compare wage/salary employees and self-employed people and show that the subsidy increased the demand for health insurance among the latter, with marginal statistical significance. They also show that the estimated effect of the policy depends on the individual's marginal tax rate (MTR), i.e. the tax credit is more valuable for single individuals at higher MTRs. By comparison, we focus on estimating the effects of the subsequent amendments made to the TRA86 using the 11 most recent years of CPS data.

The time frame we consider is not only longer than that analyzed by G&P94 but it also provides a cleaner "natural experiment." Their analysis is complicated by other changes that accompanied the TRA86; the MTRs and medical care expenditure deduction rules and rates were also altered during the same time period they consider. Following G&P94's strategy, we take a two-fold approach in analyzing the effect of the amendments. We first use a DD model where we study whether self-employed persons were more likely to purchase health insurance as a policy holder, relative to wage/salary employees, over time as the TRA86 amendments provided increasingly generous tax credits. Second, we estimate the price elasticity of health insurance demand for various groups. Due to data limitations, G&P94 cannot distinguish between private health insurance coverage in one's own name and that in someone else's name (such as a spouse) and we show that this leads to somewhat inflated estimates of elasticity. The empirical analysis is performed for prime-age (ages 25-60) workers, both male and female. Overall, we find very small estimates of the price semi-elasticity of demand. Single persons and individuals without children tend to have the most elastic demand. A one percent decrease in

the health insurance premium increases the likelihood that a self-employed single man (woman) has coverage in his (her) own name by 0.69 (1.01) percentage points. These figures, taken together with the DD estimates, provide no evidence that the increased generosity of the TRA86 tax credits helped to close or reduce the gap in health insurance coverage between the self-employed and wage/salary workers. This finding is consistent with others in the literature.

Efforts directed at using tax policy to solve the uninsurance problem include Marquis and Long (1995), Gruber (2005), and Holtz-Eakin (2005). In their attempts to quantify the effect of tax credits on the number of uninsured persons, Marquis and Long (1995) and Holtz-Eakin (2005) estimate the price elasticity of demand for working families/individuals. Note that these exercises are limited by the availability of reliable price measures in the private non-group market. Marquis and Long (1995) use data from the 1988 March CPS and the 1987 Survey of Income and Program Participation (SIPP). Their policy simulations suggest that even a tax credit that reduces the after-tax premium by 40 percent would increase the number of families purchasing non-group health insurance by no more than eight percentage points. More recently, Holtz-Eakin (2005) estimates the price elasticity of demand using data from the 2001 SIPP. He also finds a very limited response: for example, a 50 percent tax credit increases the individual demand by 3.5 percentage points. While the elasticity estimates differ somewhat, both studies conclude that even sizeable tax subsidies to the working uninsured will generate only a limited response in the non-group market. Finkelstein (2002) estimates the price elasticity of demand for supplementary health insurance in Canada. She analyzes a tax credit for employer-provided health insurance and estimates an elasticity of -0.5 while the demand for non-group supplementary health insurance seems to be even less price responsive. Finally, Gruber (2005) uses a microsimulation model for the U.S. to compare the efficiency implications of various policies proposed to remedy the uninsurance problem. He finds that the inefficiencies associated with tax credits are greater than those stemming from a possible expansion of public insurance.

Other papers in the literature have addressed the strong connection between the labor market and health insurance coverage. Thomasson (2002, 2003) provides an excellent history of the evolution of the American health insurance market highlighting the 1942 Stabilization Act and the 1954 Internal Revenue Code. Together these laws enabled employers to deduct their contributions to their employees' health insurance plans from their payroll taxes. This has

led to the strong link between wage/salary employment and health insurance coverage. The coupling of health insurance and employment has arisen not only because of the nature of the tax system but also because: 1) the administrative costs are lowered when selling insurance to firms; 2) moral hazard concerns are eased with the provision of benefits in the form of services, as opposed to cash indemnities; and 3) the pooling of risk across employees alleviates problems associated with adverse selection. Gruber and Madrian (2004) and Madrian (2006) provide extensive reviews of the recent literature on the relationship between health insurance and employment.

One of the primary concerns with this link is that it limits job turnover which may in turn affect worker productivity and ultimately impact economic growth. Madrian (1994) and Gruber and Madrian (1994) find such evidence of “job-lock.” By comparison, Holtz-Eakin et al. (1996) and Gilleskie and Lutz (2002) find no significant relationship between employer-provided health insurance and job turnover. And yet others have found that the impact varies by empirical specification or the group analyzed (e.g., Buchmueller and Valletta, 1996). Gruber and Madrian (1994, 1997) find that the Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1985 affects job turnover and increases the rate of transition from employment to not being in the labor force. The COBRA requires employers, who sponsor health insurance plans, to offer their terminating employees, and their families, the right to continue their health insurance coverage through the employer’s plan for 18 months. Obtaining coverage through the COBRA is often expensive—102 percent of the average employer cost—and usually excludes pre-existing conditions.

Since health insurance is often tied to employment in the U.S., many self-employed individuals do not have coverage. For example, in 1996, 31 percent of self-employed persons under age 63 were without health insurance. This compares to 18.5 percent of wage/salary workers that were lacking coverage (Perry and Rosen, 2004). Similarly in the period we consider, 83.1 (86.5) percent of male (female) wage/salary employees have health insurance whereas 65.8 (75.8) percent of the self-employed have coverage. Perry and Rosen (2004) find that the lack of health insurance coverage among the self-employed does not necessarily translate into worse health outcomes when they are compared to their wage/salary counterparts. Meer and Rosen (2002) note that the determinants of health status are mainly due to factors other than health insurance (e.g., genetics, behavior, health care, environment). Our descriptive figures below

are consistent with these previous findings, i.e. wage/salary employees and the self-employed are very similar in terms of their self-reported health status despite the gap in health insurance coverage. In what follows, we do not argue in favor of tax incentives to provide health insurance coverage nor do we address whether the policy is effective in terms of improving health outcomes for the self-employed. Our aim is simply to evaluate the effects of the policy on the health insurance coverage for the self-employed, abstracting away from any welfare gains or losses.

This paper proceeds in the following manner: Section 2 discusses the conceptual framework and the empirical implementation. Section 3 describes the data used in the analysis. Section 4 presents the results and Section 5 concludes.

2 Conceptual Framework and Empirical Specification

This paper analyzes the effects of the TRA86 amendments on the likelihood that a self-employed person has health insurance coverage as the policy holder. The TRA86 granted self-employed persons the ability to deduct their (i.e. own, spouse, and dependents) health insurance premiums from their taxable income. Self-employed individuals include single owners of unincorporated businesses. Eligibility is restricted to self-employed persons with positive net profits who do not have access to employer-provided health insurance, for example, through their spouse. Currently, self-employed persons are allowed to deduct 100 percent of their health insurance premiums from their taxable income—previously it had been 25, 30, 40, 45, 60, and 70 percent. Originally, the 25 percent deduction was temporary and set to expire in 1992. The deductions were, however, made retroactive for persons who filed an amended return and were made permanent in 1996.¹ In 1998, nearly 2.7 percent of all returns claimed the self-employed deduction and for the 2005 fiscal year, the estimated tax expenditure corresponding to the deduction was about \$3.2 billion (Lyke, 2005). While the primary goal of the TRA86 was to equate the tax deductibility of health insurance premiums for wage/salary employees and the self-employed, a secondary goal may have been to address the unusually large rates

¹Note that the deductions are still not fully equalized as health insurance premiums, purchased by the self-employed, cannot be deducted from payroll taxes. Thus, self-employed persons must pay SECA (Self-Employment Contributions Act) payroll taxes when purchasing insurance for themselves or their dependents whereas wage/salary workers pay health insurance premiums with pre-tax dollars which are not subject to FICA (Federal Insurance Contributions Act) taxes or federal income taxes. The latter was allowed in 1979 with the passage of the Revenue Act of 1978.

of uninsurance among the self-employed population. This latter issue is the question that this paper seeks to answer.

To provide a sense of how these deductions translated into real savings, Table 1 lists the average real individual health insurance premiums and the corresponding effective premiums reflecting the tax savings.² Information on the average health insurance premiums are from the 1996-2004 Medical Expenditure Panel Survey-Insurance Component (MEPS-IC). Greater detail on the construction of these figures is provided below in Section 4. For example in 1996, the average real individual health insurance premium was \$2,465. For individuals with a 15 (28) percent MTR, this translated into a real savings of \$100 (\$187) when the TRA86-mandated tax credit equaled 30 percent. Thus, the effective real premium totaled \$2,364 (\$2,277). By comparison in 2004, the average real individual health insurance premium rose to \$3,929. This translated into real savings of \$600 (\$1,119) for individuals with a 15 (28) percent MTR as for the first time self-employed persons were able to deduct the entire premium from their taxable income. The corresponding effective real premium equaled \$3,329 (\$2,809). The annual percentage changes over the entire period reflect that the real premiums rose faster than the value of the tax credit. Therefore, the after-tax price of health insurance still increased for the self-employed during the time period considered.

In order to examine the effects of the TRA86 amendments on the health insurance coverage of the self-employed, we first utilize a DD approach and follow G&P94 by comparing the self-employed to wage/salary employees over time. For this purpose, we use the following regression where the dependent variable, Y , takes on a value of “1” if individual i in state s was the policy holder of his/her health insurance plan in period t , and “0” otherwise.

$$Y_{its} = X_{its}\alpha + SelfEmp_{its}\gamma + \sum_{t=1996}^{2005} \delta_t Year_{its} + \sum_{t=1996}^{2005} \theta_t (SelfEmp_{its} \times Year_{its}) + State_{its}\pi_s + \varepsilon_{its}, \quad (1)$$

Some individuals may have health insurance coverage from alternative sources, such as through a spouse’s plan. The TRA86 amendments would not necessarily affect having any kind of coverage but it is more likely that they provided incentives for the self-employed to obtain coverage in their own name. Thus, we focus specifically on having a health insurance plan as the policy holder. By comparison, G&P94 focus on coverage under a private health insurance

²All real figures are expressed in constant 2006 US\$ throughout the text and in the tables.

plan either in one’s own name or in someone else’s name. They do this because the CPS questionnaire changed in March 1988 making the survey responses regarding policy holder status inconsistent over time. X is a vector including individual and family characteristics as well as a constant term. $SelfEmp$ takes on a value of “1” if an individual is self-employed, and “0” otherwise (i.e. wage/salary employee). $Year$ is the set of year fixed effects, $State$ is a vector of state fixed effects, and ε is the error term which we assume is normally distributed. The omitted year is 1995—the year in which the deduction equaled 25 percent, the least generous in the time frame we analyze.³

The key identifying assumption in estimating our model is that in the absence of the TRA86 amendments, the unobservable differences between the self-employed (treatment group) and the wage/salary employees (control group) would be the same over time. In other words, the DD approach provides an unbiased estimate of the effect of the tax policy change assuming that the unobservable trend factors do not vary across the groups. Another assumption made in estimating equation (1) is that $SelfEmp$ is exogenous. Over the time period we analyze, the overall unincorporated self-employment rate increased from 6.6 percent in 1995 to 7.2 percent in 2005, averaging 7.1 percent for the entire 10-year period. The figures provided in Tables 2 and 3 lend support for the aforementioned assumptions.

In Table 2 we exploit the longitudinal feature of the CPS in addressing the possible endogeneity of any trends in self-employment. The CPS can be used to create a short panel of two-year cross sections by matching a subsample of individuals between each consecutive survey year. This subset of the CPS is referred to as the “outgoing rotation group” (ORG).⁴ This feature of the CPS provides us with an opportunity to examine the possible effects of the TRA86 amendments on the year-to-year changes in labor market status, i.e. between wage/salary employment and self-employment. For this subset of individuals, we find that the fraction of individuals who switch jobs—from wage/salary employment into self-employment and vice versa—in any given year is quite small; it is well under half a percent of our ORG sample. This is likely because the two observations we have for each individual are only 12

³An alternative specification would be, rather than including each year separately, to construct indicators by grouping together the years in which the TRA86 tax credit was similar and to interact them with $SelfEmp$. For example, we could construct dummies for 1995-1998, 1999-2002, and 2003-2005. Our chosen specification is actually more flexible than this alternative since the DD estimates for any subperiod can be retrieved based on our reported $\hat{\theta}$ s.

⁴See the Data section below for a detailed description of how the ORG panel is created.

months apart. Only about two percent of the sample switches over the entire 10-year period.

More importantly, there does not seem to be any patterns, in terms of gaining health insurance coverage, as individuals move into self-employment; only about 0.2 percent of the sample switch from wage/salary employment to self-employment and gain health insurance coverage over the entire period considered. In fact, it is slightly more likely that they lose their policy holder status when they switch to self-employment (0.5 percent). Similarly, among the self-employed who switch into wage/salary employment, a larger portion gain coverage as a policy holder rather than lose it. All of this reflects the link between health insurance coverage and full-time wage/salary employment in the U.S. Overall, there does not seem to be any discernable pattern over time that would indicate that the increasing generosity of the TRA86 amendments encouraged wage/salary employees to switch into self-employment.⁵ This is similar to the findings of Holtz-Eakin et al. (1996) who find no effect of health insurance portability on the likelihood of transition from wage/salary employment to self-employment. While we are not suggesting that the decision to be self-employed is exogenous, it seems very unlikely that the switch into self-employment is related to the likelihood of gaining health insurance coverage. Nor does the decision seem to be made in response to the TRA86 amendments. The identification of our model does not require that the decision to be self-employed is orthogonal to the decision to have health insurance coverage. Rather it simply requires that the respective changes be orthogonal.

Since the ORG panel is short, Table 2 provides limited evidence that the self-employment trends are independent of changes in health insurance coverage. As a further test of our assumptions, Table 3 addresses yearly changes in the composition of the wage/salary and self-employed groups. Considering the period we analyze spans 11 years, it is inevitable that the composition of each of these groups varied over time. However, our identification strategy only requires that trends in unobservable factors do not differ such that unbiased DD estimates of the policy change can be obtained. In what follows, we focus on the trends in the main observable characteristics to determine if the parallel trends assumption holds. To this end, we perform a separate DD on a set of covariates to see if the trends in any of the key variables differ

⁵To address the possibility that the increase in self-employment over this time period could be due to people entering or re-entering the labor force, rather than switching from wage/salary employment into self-employment, we performed a similar exercise for those who were not-working in the first period and entered self-employment in the following year. These results are omitted from Table 2 because there are very few people in each year who make this switch leaving the conclusions unchanged.

in a systematic way between our treatment (i.e. self-employed) and control (i.e. wage/salaried) groups. More specifically, we regress each covariate on the set of year dummies, a self-employed indicator, and the interactions.

Table 3 presents the coefficient estimates of the interaction terms, for both men and women. In general, there are very few instances in which any of the interaction terms gain statistical significance. None of these reveal any systematic pattern nor economic significance that would be of concern; the singular exception is the White indicator for the sample of women. On the other hand, when we consider the after-tax price of health insurance there is a clear difference in the trends between the self-employed and the wage/salaried. The positive and statistically significant coefficient estimates on the interaction terms reported in the last column of Table 3 are consistent with the numbers in Table 1. Based on the figures provided in Tables 2 and 3, the possible endogeneity or composition bias seems quite small and so we proceed with our assumptions. As a further test of these assumptions, we perform a series of robustness checks that consider different time periods and use different control groups in the estimations that follow. These results are reported in Section 4.

We use a linear probability model (LPM) to estimate equation (1). Alternatively, we could estimate equation (1) with a probit or logit model. As discussed in Hotz et al. (2006), LPMs in DD settings are preferable because they are less computationally intense and easier to interpret.⁶ This specification allows us to see how self-employed persons were affected, relative to wage/salary employees, and to gauge the effects of the increased generosity of the TRA86 health insurance deductions over time. Hence, the $\hat{\theta}$ s are the DD estimates. The literature (e.g., Perry and Rosen, 2004) has established that the rate of health insurance coverage is lower for self-employed persons than for wage/salary individuals. Thus, we expect the $\hat{\gamma}$ to be negative. If the TRA86 amendments did in fact encourage the self-employed to obtain health insurance coverage as a policy holder over time, we would expect the $\hat{\theta}$ s to be positive.

The differences in terms of health insurance coverage between the self-employed and the wage/salary employees is largely due to the high costs associated with obtaining health insurance in the private non-group market, although other factors such as differences in risk

⁶Ai and Norton (2003) discuss the problems associated with estimating the marginal effects for the interaction terms in non-linear models. They show that in order to correctly estimate the marginal effect of an interaction term, the entire cross-derivative must be calculated. However, there are difficulties associated with multiple interaction terms, as in the case of our model.

attitudes, age, etc. of the self-employed population might be important as well. In studying the initial TRA86 tax credit and the demand for health insurance, G&P94 specify a discrete choice model of individual insurance demand. Based on their specification we also estimate the following model:

$$Y_{its} = X_{its}\phi + SelfEmp_{its}\psi + \sum_{t=1996}^{2005} \zeta_t Year_{its} + State_{its}\eta_s + P_{its}\lambda + \mu_{its}, \quad (2)$$

where Y , X , $SelfEmp$, $Year$, and $State$ are defined as before and μ is the error term which is normally distributed. P is a measure of the after-tax premium. We estimate this model with a LPM as well as with a probit. We conduct the empirical analyses of equations (1) and (2) separately for men and women. Then, we divide our sample according to differences in family structure and eligibility. Details on these estimations as well as the results are reported in Section 4.

3 Data

The data used in this paper come from the CPS. The CPS is a monthly survey sponsored by the Census Bureau and the Bureau of Labor Statistics (BLS). Each month the CPS surveys some 50,000 households (“occupied units”) and is designed to represent the U.S. civilian, non-institutionalized population.⁷ Respondents are asked questions about themselves and persons in the household who are ages 16 and above. The questions center on demographic characteristics and labor market activities but include other annual supplementary information as well (e.g., health insurance, tobacco use, computer ownership). The respondent (“reference person”) is often the owner or renter of the selected housing unit.

This study uses data from the 1996-2006 CPS surveys. The 1996 survey was the first year in which detailed questions concerning the source of health insurance coverage were asked. The analysis for this paper focuses on workers between the ages of 25 and 60. We exclude individuals who were: 1) disabled; 2) full-time students; 3) in the Armed Forces; as well as those who were 4) unemployed; 5) not in the labor force; and/or 6) working without pay.⁸ In our sample, we

⁷Beginning in July 2001, the sample size increased to 60,000 occupied households.

⁸Later, in Section 4, we expand the sample to include not-working persons—i.e. individuals in groups 4, 5, and 6.

not only include the respondents but also any other individual in their family (e.g., spouse) who satisfies the age restriction and the other criteria mentioned above.

We perform the empirical analysis for men and women separately. In addition, we divide men and women into further subsamples based on family structure and eligibility status. Marital status is important in terms of having alternative sources of coverage.⁹ Single individuals are a special group since they can have coverage only as a policy holder. Married individuals, on the other hand, may be covered under their spouse’s health insurance plan. We further explore the possibility that the presence of children may reduce the likelihood of self-insuring by considering married persons without children. Finally, we also address the eligibility restrictions of the TRA86, as noted previously, by identifying the individuals who are not covered as a dependent under an employer-provided health insurance plan and whose real annual earnings are at least \$2000.

The CPS uses a 4-8-4 sampling scheme meaning that each household is in the survey for four consecutive months, out for the next eight, and then returns for the following four months. This survey design creates a longitudinal, albeit short, component called the “outgoing rotation group” (ORG). Our analysis uses a series of pooled cross-sections which includes duplicate observations on individuals who are part of the ORG sample.¹⁰ About 38 percent of our sample is composed of ORG individuals. The pooled cross-sections include repeated observations for the ORG respondents and thus we adjust the standard errors by clustering within individuals in order to correct for the possible autocorrelation.¹¹ This allows us to maintain the largest sample size and improves the precision of our estimates.¹²

The 1996-2006 CPS cross-sectional data correspond to 1995-2005. This is because the health insurance questions are asked once a year in March and refer to coverage at any time

⁹Abraham et al. (2006) and Beeson Royalty and Abraham (2006) address the joint nature of the household demand for health insurance.

¹⁰In a given survey, individuals are uniquely identified by two variables: a household identifier (HHID) and an individual line number within the household (LINENO). Across surveys, one needs to supplement these two variables with others in order to match individuals over time. Following Madrian and Lefgren (1999), we use gender, race, age, educational attainment, and foreign birth status to obtain a good match.

¹¹As Moulton (1990), Bertrand et al. (1994), and Donald and Lang (2007) have pointed out, regressing individual outcomes on aggregate-level policies (e.g., TRA86) that similarly affect all individuals in one group (e.g., self-employed in a given year) can drastically understate the standard errors of the DD estimates. As it turns out our DD estimates are not statistically significant, thus making the suggested correction redundant. The coefficient estimates would remain unchanged while the standard errors would be larger.

¹²The results are robust to eliminating either the first or the second observation on each ORG individual, thus omitting repeated observations on each individual.

during the previous calendar year. The CPS contains information on health insurance coverage from the following sources: 1) a private plan through an employer (either as a policy holder or dependent); 2) a private plan purchased directly (either as a policy holder or dependent); 3) a private plan provided by someone outside of the household; 4) Medicare; 5) Medicaid; or 6) another type of plan (i.e. state-only plan, Military Health plan, and Indian Health Service).¹³ The dependent variable used in our empirical analysis is whether an individual was covered by a non-public health insurance plan in their own name in the prior year (i.e. policy holders in categories 1 and 2). Individuals are considered self-employed if they indicate being self-employed, in terms of the longest job held within the past year, and if their business was unincorporated. Since the longest job held corresponds to the prior year, it accords well with the health insurance variables. This is also consistent with the BLS' definition of self-employment (Hipple, 2004).

The controls for individual characteristics used in the analysis include age and its square. The three race variables are White, Black, and other. The ethnic categories include Hispanic and other. We include the following levels of completed schooling: high school graduate, some college, college degree, or an advanced degree. Those with less than a high school degree are the omitted category. For the family characteristics, we form the following dummy variables for the number of own-children ages 18 and younger: having no children (excluded category), one child only, and more than one child. Family income is defined as the combined income of all family members during the last 12 months. It includes income from jobs, net income from a business/farm/rental unit, pensions, dividends, interest, social security payments, and any other money income received by family members ages 15 and above. This measure is adjusted for inflation and for the number of family members.¹⁴

Table 4a (4b) provides the descriptive statistics for men (women) by employment status. To begin, the sample of working men—both wage/salary and self-employed—is larger than for women. Self-employed persons are slightly older than their wage/salary counterparts. A smaller fraction of the self-employed are minorities and fewer of them report working the typical hours per week (36-55 hours) compared to the wage/salary employees. While most men are full-time workers, there is a noticeably larger fraction of women who are part-time workers. Since we

¹³Note that these categories are not necessarily mutually exclusive.

¹⁴Adjusted family income is total family income divided by the square root of the number of family members.

focus on prime-age working individuals, the large majority of the sample reports their health status as excellent, very good, or good. The wage/salary employees and the self-employed are very similar in terms of their self-reported health status. For both sexes, a larger portion of the wage/salary employees have some type of health insurance coverage than do the self-employed (83.1 versus 65.8 percent for men and 86.5 versus 75.8 percent for women, respectively). This difference between the two groups is even more pronounced when one considers only the policy holders (71.9 versus 39.2 percent for men and 60.2 versus 26.9 percent for women).

The majority of our sample is married, and self-employed people are even more likely to be so than wage/salary workers. This could be due to the small differences in age between the two groups. The adjusted family income is higher among the wage/salary men than the self-employed men which is also partly reflected in the MTRs. Among the married persons, a larger percentage of men and women in wage/salary employment are married to spouses who have some source of health insurance coverage but fewer of them report being married to spouses who are policy holders. In both the wage/salary and the self-employed samples, it is more common for the women to be married to spouses with their own employer-provided health insurance plan than it is for men. For example, among the men in wage/salary employment (self-employment), 37.1 (42.3) percent are married to spouses who are policy holders of employer-provided health insurance plans, whereas the corresponding figure for women is 63.6 (62.2) percent. In the next section, we present the estimation results of our DD and insurance demand models and discuss some robustness checks.

4 Estimation and Results

Tables 5a and 5b provide the simple sample means and the unadjusted DD estimates for men and women, respectively. Between 1995 and 2005, there are downward trends in the rate of health insurance coverage as a policy holder. For example in 1995, 70.7 (58.7) percent of all men (women) in our sample had health insurance coverage as a policy holder whereas in 2005 this rate dropped to 65.9 (57.1) percent. Similarly for the wage/salary men (women), the rates fell from 73.0 (60.4) to 68.6 (59.1) percent. While the rate of coverage is always higher for wage/salary employees than for self-employed workers, there are corresponding decreases in the rates of coverage for the self-employed men and women over time as well. In 1995, 41.1

(28.1) percent of the self-employed men (women) had coverage under their own name; this figure drops to 34.3 (23.0) percent 10 years later. The simple differences listed in columns 4 and 5 illustrate these year-to-year changes for each worker-type. The unadjusted DD estimates provided in the last columns of Tables 5a and 5b reveal the gap in coverage, that is growing over time, between self-employed persons and wage/salary workers. These DD estimates are statistically insignificant except for women in 2005. While crude, these figures are some of the first evidence that the TRA86 amendments did not help in eliminating, nor reducing, the gap in coverage for self-employed persons. Next, we estimate a series of DD specifications by controlling for a variety of other factors in a regression context.

The estimates of equation (1) can be found in Tables 6a and 6b; the full set of results are available in Appendix Tables 1a and 1b. Each regression also includes a set of state-specific effects (not reported) to account for any state-level differences. The regression results are summarized as follows: Individuals are less likely to have coverage in their own name if they are self-employed, Black, Hispanic, less educated, younger, a single man, or a married woman, and have lower family incomes. The DD technique is performed by comparing self-employed persons to wage/salary workers relative to 1995—the year in which the TRA86 tax credit was the least generous (25 percent) during the time period we analyze.

Table 6a (6b), column 1, provides the estimates of equation (1) for all men (women) in our sample. Clearly, being self-employed lowers the likelihood that one has a health insurance plan in his/her name. The negative and statistically significant coefficient estimate on this indicator implies that the coverage rates are about 32.6 (30.2) percentage points lower for self-employed men (women) compared to those in wage/salary employment. For example, this could be due to differences in risk attitudes between these two groups. The coefficient estimates on the year dummies are almost all negative and gain statistical significance in the latter years. Jointly, the year dummies are statistically significant and collectively they suggest that the rate of coverage has declined over time for both groups; a finding consistent with the figures presented in Tables 5a and 5b. In contrast, the estimated coefficients on the interaction terms are nearly all negative but never statistically significant, neither individually nor jointly. The singular exception to this is for the women; the last interaction term is negative and statistically significant at the five percent level. Again consistent with the basic DD presented in Tables 5a and 5b, this implies that the TRA86 amendments did not help to close the gap

in health insurance coverage between the self-employed and wage/salary employees. Although the few statistically significant coefficient estimates suggest that the gap in coverage between the two groups has grown in size for selected periods, jointly they do not indicate any economic significance.

Tables 6a and 6b, columns 2-4, restrict the sample by family structure. Column 2 considers single persons. This group is unique in that they do not have any other possible sources of health insurance coverage from another family member. (Recall that full-time students and individuals under the age of 25 are omitted from our sample.) Perhaps due to this lack of alternatives, the gap in health insurance coverage between the wage/salary employees and the self-employed is smaller for the singles than it was for the full sample. While smaller in magnitude, the estimated coefficient on *SelfEmp* remains statistically significant. In the case of single men (women), the only individual interaction term that gains statistical significance is negative. So far, we have yet to find evidence that the gap in coverage has decreased over time as the tax credits became more generous. Column 3 considers married persons and column 4 refers to married persons without children. While health insurance coverage decisions are often made in the context of the household for married couples, the presence of children presumably limits the likelihood of self-insuring. Again, the interaction terms remain jointly (and individually) statistically insignificant for both groups (with the marginal exception of married women without children in 2005). In sum, redefining our sample according to family structure leaves the results unchanged—the DD estimates show no effect of the TRA86 amendments.

The TRA86 restricted eligibility to persons with positive net profits who do not have access to employer-provided health insurance. Unfortunately, the CPS data do not include information on profits earned. In columns 5 and 6 of Tables 6a and 6b, we use the same income restriction as in G&P94 and eliminate those persons who earn less than \$2000 per year in real terms. These columns also eliminate anyone who is covered as a dependent under an employer-provided health insurance plan, although it is not clear whether this rule is being enforced. We refer to these individuals as “eligible” but given the limitations of our data we cannot determine with certainty if an individual has access to employer-provided health insurance.¹⁵ Although our eligibility classification may not be exact, it provides us with an

¹⁵The reasons for this are: 1) if a spouse reports no employer-provided insurance, it does not necessarily

opportunity to investigate this group more closely. The incentives provided by the tax credits are greater for these individuals, holding everything else constant. Restricting our sample in this manner produces some statistical significance on a limited number of the individual interaction terms, but each coefficient estimate remains negative. In the case of eligible men (see Table 6a, column 5) the interaction terms are jointly statistically significant (albeit at the 10 percent level). However, the DD estimates do not suggest that the gap in coverage is closing over time as the individual interaction terms, including those that are statistically significant, are all negative.

Overall the results presented in Tables 6a and 6b are consistent with the unadjusted DD estimates provided in Tables 5a and 5b. The DD estimates are almost always statistically insignificant in the regression context (with the exception of eligible men and married women without children) when we are able to include other controls in the analysis but the estimated coefficients on the interaction terms are never positive. If the TRA86 amendments did in fact encourage self-employed persons to obtain coverage, the $\hat{\theta}$ s would be positive. Together these findings suggest that the gap between the wage/salary employees and the self-employed was not reduced by the tax credits introduced through the TRA86 amendments. In order to confirm these findings, we performed two robustness checks. First, we expanded our sample to include those individuals who were not working. An individual is defined as not-working if he/she is unemployed, not part of the labor force, or working without pay. As before, we consider the longest job held within the past year for these classifications. Like the self-employed, not-working individuals do not have access to employer-provided health insurance. While both groups purchase their health insurance in the private non-group market, the not-working group was not eligible for the tax credits. For this robustness check, we added a dummy variable for not-working and its interactions with the year dummies.¹⁶ Second, we re-estimated our model using 1995-1997 as the omitted reference years instead of omitting a single year (i.e. 1995). None of these exercises alter the main conclusions presented above.

Our results so far indicate that there has been no response to the tax credit. While the DD analysis is illustrative, it does not account for individual variation in the after-tax price of

imply that he/she was not offered such a plan; and 2) even if a spouse has coverage under such a plan, we cannot confirm whether the spouse was given the option of including the respondent under the policy.

¹⁶This exercise was only performed only for columns 1-4 of Tables 6a and 6b because we were not able to impose the \$2000 earnings threshold for this sample to explore the set of eligibles.

health insurance. As G&P94 show, the effect of the policy depends on the individual's MTR which was not previously accounted for in our analysis. Next, we investigate the degree of price elasticity of demand for coverage as a policy holder using the TRA86 amendments as an identification strategy. This provides a finer measure of the policy change compared to the DD model. In order to obtain an estimate of the price elasticity of demand, we explicitly control for the differences over time in the after-tax premium of health insurance between the self-employed individuals and the wage/salary employees. As discussed above, during the period we consider the coverage rates have been decreasing for both groups. Cutler (2003) studies the reasons for the decline in health insurance coverage rates in the 1990s despite the economic boom the U.S. experienced. He finds that the entire decline among the wage/salary employees can be explained by the increase in employees' costs of insurance plans.

Wage/salary employees face lower premiums compared to the self-employed not only because their employers sponsor part of the premium but also because employer-provided insurance is based on group rates that are substantially below individually purchased plan rates. G&P94 indicate that while some self-employed might have access to group insurance coverage, most do not. They calculate the after-tax premium of health insurance for a single year with data on the distribution of expenditures on health care and insurance purchased in the non-group market from the 1977 National Medical Care Expenditure Survey (NMCES). We obtain average individual premium figures using the Medical Expenditure Panel Survey-Insurance Component (MEPS-IC). The Agency for Healthcare Research and Quality (AHRQ) make available annual tables from the MEPS-IC corresponding to 1996-2004 which list the average individual premiums per enrolled employee at private-sector establishments that offer health insurance.¹⁷ The figures are provided for each state and vary by firm size. For the wage/salary employees, we use the overall firm averages, by state and by year.

The AHRQ's MEPS does not have similar information for privately-purchased non-group plans. In fact, obtaining meaningful and reliable average premium figures for individually purchased plans from any source is nearly impossible.¹⁸ Since no reliable estimates exist, we

¹⁷We approximate the figures corresponding to 1995 and 2005 by adjusting the adjacent year's figure for the rate of inflation (as measured by the Consumer Price Index)—i.e. between 1995-1996 and 2004-2005, respectively.

¹⁸MEPS has a Household Component (MEPS-HC) which is a survey of individuals and families. The MEPS-HC asks the respondents, who report having coverage from an individual policy, what their out-of-pocket premiums are. This is a very small sample and hence cannot provide reliable summary statistics at the state-level for each year between 1995 and 2005.

proxy for the premium of plans purchased in the non-group market with the MEPS-IC figures corresponding to firms employing less than 10 employees. These premiums reflect the best proxy for what a self-employed individual would face in the market for non-group health insurance. In order to construct an after-tax figure, we obtain estimated MTRs using the NBER's TAXSIM program. This program calculates individuals' MTRs using information reported on their tax returns including the tax year, state of residence, marital status, exemptions, various sources of income (such as wage/salary, dividend, other property, social security, and pensions) and transfers (such as unemployment compensation and welfare).¹⁹ As in G&P94, the after-tax premium of health insurance, P , is defined as:

$$P = \begin{cases} I \times (1 - \tau) & \text{if wage/salary employee} \\ T \times (1 - \max(\beta, TRA_t)\tau) & \text{if self-employed,} \end{cases} \quad (3)$$

where I is the employee's contribution to his/her health insurance plan and β is the fraction of the health insurance cost that is claimed as an itemized deduction on one's income tax return. Individuals (both wage/salary and self-employed) are allowed to deduct their health insurance premiums from their taxable income as long as the cost, together with the other eligible medical care expenditures, constitute at least 7.5 percent of their adjusted gross income (AGI). τ is the individual's MTR on earned income, and T is the total health insurance premium which represents both the employee's and the employer's contribution to the health insurance plan. TRA_t is the deduction rate allowed by the TRA86 in each year (e.g., $TRA_{1996} = 0.3$).

G&P94 faced additional challenges in estimating the price elasticity of demand because during the period they analyzed changes other than the partial deductibility of health insurance premiums by the self-employed occurred. First, the MTRs were substantially reduced; they note that the top MTR dropped from 50 to 28 percent with the passage of the TRA86. Second, the amount of permissible medical expenses one could deduct from their income tax returns was raised from five to 7.5 percent of AGI. Third, the allowable deduction, for taxpayers who do not itemize, rose from \$3760 to \$5000. It is easier in our case to form a price measure because our period of analysis is free of other confounding policy changes.

To begin, we estimated equation (2) omitting P . As was the case with the DD model

¹⁹For more information on TAXSIM, see www.nber.org/taxsim or Feenberg and Coutts (1993).

presented above, the estimated coefficient on *SelfEmp* is negative and statistically significant. However, once we include the after-tax health insurance premium in our regression, $\hat{\psi}$ is substantially smaller. Table 7 reports only the coefficient estimate on P and the price semi-elasticity of demand; the full set of results can be found in the Appendix Tables 2a and 2b.²⁰ The first set of results in Table 7 (M1), corresponding to the men, report the LPM estimates of equation (2). The coefficient estimates of λ s and their standard errors can be found in the first two rows. $\hat{\lambda}$ represents the derivative of demand with respect to the after-tax price ($\frac{\partial Y}{\partial P}$), which is statistically significant at the one percent level in all specifications. $\hat{\lambda}$ is then multiplied by the corresponding cell average of the after-tax health insurance premium for the self-employed to obtain the price semi-elasticity which is reported in the third row.²¹ For example, in (M1) column 1, the partial derivative of Y with respect to P is -0.107. To obtain the price semi-elasticity we multiply this figure by 2.955, yielding -0.316. Thus, a one percent decrease in the after-tax health insurance premium increases the probability that a self-employed man has coverage as the policy holder by 0.32 percentage points suggesting that this group's demand is relatively price inelastic.

Columns 2 and 3 divide the sample into single and married persons. The price semi-elasticity of demand for single men is larger in magnitude (-0.688) and reveals a greater degree of price sensitivity compared to those who are married. This finding was expected since singles lack alternative sources of coverage and hence are more likely to respond to this particular change in policy. Column 4 corresponds to the set of married individuals without children and indicates a relatively elastic demand, compared to all married men. Finally, columns 5 and 6 consider the set of eligible respondents. As expected we see a greater response to the TRA86 amendments among the eligibles. Further restricting the sample to include only those eligible persons without children (i.e. column 6) increases the estimate of the semi-elasticity of demand from -0.415 to -0.597. This again reflects that the lack of children makes individuals relatively more price sensitive.

The results for the sample of women are provided in Table 7 (W1). Again the $\hat{\lambda}$ s are

²⁰This specification explicitly controls for the after-tax price of health insurance, P , unlike the DD model. Since P varies by self-employment status, state of residence, year, and MTR, concerns about understated standard errors are no longer valid (see Donald and Lang, 2007). In estimating equation (2) we no longer regress individual outcomes on aggregate-level policies as was the case for the DD in equation (1).

²¹Following G&P94, we use the after-tax price for the self-employed since the focus is on their behavioral response to the TRA86 and the wage/salary persons merely act as controls for economy-wide events.

all statistically significant. In addition, they reflect the same order of magnitude as did the estimates for men. Even the largest estimate of the price semi-elasticity, 1.005 (single women), displays a very limited response to changes in the after-tax price of health insurance. Thus, for both men and women we see the largest response to the tax credits, in terms of estimated price elasticity, by the singles and the eligibles without children.

Alternatively, we estimated equation (2) with a probit model. The estimates from this model are found in Table 7, rows (M2) and (W2). Provided here are the coefficient estimate on P , its derivative (i.e. marginal effect), and the corresponding price semi-elasticity.²² Overall, these results indicate somewhat smaller estimates of the price semi-elasticity compared to the figures obtained for LPM. An additional robustness check is the expansion of our sample to include those individuals who were not-working, for the reasons mentioned previously. Finally, rather than clustering our standard errors, we eliminated the duplicate observations corresponding to the persons in the ORG. For this purpose, we began by eliminating the first observation on each ORG person and next eliminated the second observation instead. Our conclusions were not altered by either of these exercises.²³

In several instances G&P94 also obtained statistically insignificant responses to price changes. However, their statistically significant price derivatives yielded larger price elasticities compared to the ones we estimate. For example, in the case of single men, they find that a one percent increase in the cost of insurance decreases the probability of coverage by about 1.8 percentage points. As a final exercise, we attempt to provide an explanation for these differences. To do this, we re-estimate equation (2) again with an LPM model but use G&P94's definition of Y —namely, health insurance coverage as a policy holder or in someone else's name (i.e. categories 1, 2, 3 as described in Section 3). The difference between (M1) and (M3), as well as (W1) and (W3), is relatively larger for married individuals and negligible for the singles. Our estimates are still smaller than what G&P94 find and indicate that at least part of the difference stems from the definition of coverage. By not considering the policy holder status, we along with G&P94 are probably capturing either the response of the individual or possibly that of the spouse to the policy change without begin able to distinguish between the two.

²²To calculate the marginal effects reported in Table 7, we evaluate the derivative with respect to price for each individual observation and take the sample average. We also calculated the marginal effects using only the self-employed sub-sample and the results are virtually identical.

²³The results of these robustness checks are available from the authors upon request.

5 Conclusions

In this paper, we analyze how the tax credits provided under the TRA86 amendments affected the rates of health insurance coverage among the self-employed. We find that even the full-deductibility of health insurance premiums was not sufficient to compensate the self-employed for the high costs associated with obtaining health insurance coverage in the private non-group market. Using data from the CPS, corresponding to the period of 1995-2005, we obtain DD estimates comparing the self-employed to wage/salary employees. These results provide no evidence that the tax credits helped to reduce or eliminate the gap in coverage between these two groups. Estimates of the price elasticity of demand reveal a very limited response to reductions in the after-tax premium. This conclusion is consistent with earlier findings that the provision of subsidies in the non-group market is unlikely to generate sizeable reactions among the uninsured (Marquis and Long, 1995; Gruber, 2005; Holtz-Eakin, 2005).

The uninsurance problem gripping America has already become one of the leading issues in the upcoming 2008 Presidential elections. Having addressed the prior lack of prescription drug coverage for Medicare recipients with the passage of the Medicare Prescription Drug Plan in 2006, President Bush is now proposing a series of standard tax deductions aimed at addressing the nation's growing uninsured population. While our conclusions pertain to the self-employed population and may not generalize to other groups with high rates of uninsurance, our results do suggest that these types of policies, by themselves, may not provide sufficient incentives for individuals purchasing health insurance in the private non-group market. Even when the tax credits cover a substantial portion of the total premium, obtaining coverage in this market may still be difficult due to other costs involved (Pauly and Nichols, 2002; Blumberg and Nichols, 2004). These include, but are not limited to, higher administrative costs, search costs, potential denial, and exclusion restrictions on pre-existing conditions. Last but not least, non-group policies are typically not as generous as the employer-provided plans in terms of their cost-sharing features (such as co-payments, co-insurance rates, deductibles) and extent of coverage. Quantifying these other costs is nearly impossible due to data limitations. And so it seems offering tax credits alone, without adopting other policies, may not remedy the uninsurance problem.

Further questions need to be answered to address other relevant issues that are beyond the

scope of the current analysis. For example, how has the non-group health insurance market been affected by these tax credits? Were firms encouraged to enter the market as the tax credits became more generous? How would extending the tax credits to other persons, e.g. the not-working, affect the rates of coverage? Would the tax credits encourage individuals, who currently have employer-provided health insurance, to purchase their plans in the non-group market instead? Finally, what other regulations should be adopted in the non-group market to ensure that the tax credits have the intended outcomes? Future research on all of these issues is critical in providing a more complete answer to the question of whether tax incentives are the solution to the problem of the uninsured.

References

- [1] Abraham, J.M., W.B. Vogt, M.S. Gaynor, 2006, "How Do Households Choose Their Employer-Based Health Insurance?" *Inquiry*, 43(4), pp. 315-332.
- [2] Ai, C. and E.C. Norton, 2003, "Interaction Terms in Logit and Probit Model," *Economic Letters*, 80, pp. 123-129.
- [3] Beeson Royalty, A. and J.M. Abraham, 2006, "Health Insurance and Labor Market Outcomes: Joint Decision-Making within Households," *Journal of Public Economics*, 90(8-9), pp. 1561-1577.
- [4] Bertrand, M., E. Duflo, and S. Mullainathan, 2004, "How Much Should We Trust Differences-in-Differences Estimates?" *Quarterly Journal of Economics*, 119(1), pp. 249-275.
- [5] Blumberg, L.J. and L.M. Nichols, 2004, "Why are so Many Americans Uninsured? A Conceptual Framework, Summary of the Evidence, and Delineation of the Gaps in our Knowledge," *Health Policy and the Uninsured*. C.G. McLaughlin, ed., Washington D.C.; Urban Institute Press, pp. 35-95.
- [6] Buchmueller, T.C. and R.G. Valletta, 1996, "The Effects of Employer-Provided Health Insurance on Worker Mobility," *Industrial and Labor Relations Review*, 49(3), pp. 439-455.
- [7] Cutler, D.M., 2003, "Employee Costs and the Decline in Health Insurance Coverage," *Forum for Health Economics & Policy*, 6(3), pp. 1-27.
- [8] Donald, S.G. and K. Lang, 2007, "Inference with Difference in Differences and Other Panel Data," *Review of Economics and Statistics*, 89(2), pp. 221-233.
- [9] Feenberg, D and E. Coutts. 1993, "An Introduction to the TAXSIM Model," *Journal of Policy Analysis and Management*, 12(1), pp. 189-194.
- [10] Finkelstein, A., 2002, "The Effect of Tax Subsidies to Employer-Provided Supplementary Health Insurance: Evidence from Canada," *Journal of Public Economics*, 84, pp. 305-339.
- [11] Gilleskie, D.B. and B.F. Lutz, 2002, "The Impact of Employer-Provided Health Insurance on Dynamic Employment Transitions," *Journal of Human Resources*, 37(1), pp. 129-162.
- [12] Gruber, J., 2005, "Tax Policy for Health Insurance," *Tax Policy and the Economy*, vol. 19. J. Poterba, ed., Cambridge, MA; MIT Press, pp. 39-63.
- [13] Gruber, J. and B.C. Madrian, 1994, "Health Insurance and Job Mobility: The Effects of Public Policy on Job-Lock," *Industrial and Labor Relations Review*, 48(1), pp. 86-102.
- [14] Gruber, J. and B.C. Madrian, 1997, "Employment Separation and Health Insurance Coverage," *Journal of Public Economics*, 66, pp. 349-382.
- [15] Gruber, J. and B.C. Madrian, 2004, "Health Insurance, Labor Supply, and Job Mobility: A Critical Review of the Literature," *Health Policy and the Uninsured*. C.G. McLaughlin, ed., Washington D.C.; Urban Institute Press.

- [16] Gruber, J. and J. Poterba, 1994, "Tax Incentives and the Decision to Purchase Health Insurance: Evidence from the Self-Employed," *Quarterly Journal of Economics*, 109, pp. 701-733.
- [17] Hipple, S., 2004, "Self-Employment in the United States: An Update," *Monthly Labor Review*, 127(7), pp. 13-23.
- [18] Holtz-Eakin, D., 2005, "The Price Sensitivity of Demand for Nongroup Health Insurance," *Congressional Budget Office Background Paper*.
- [19] Holtz-Eakin, D., J.R. Penrod, and H.S. Rosen, 1996, "Health Insurance and the Supply of Entrepreneurs," *Journal of Public Economics*, 62, pp. 209-235.
- [20] Hotz, J.V., C.H. Mullin, and J.K. Scholz, 2006, "Examining the Effect of the Earned Income Tax Credit on the Labor Market Participation of Families on Welfare," *NBER Working Paper*, No. 11968.
- [21] Kaiser Commission on Medicaid and the Uninsured, 2005, "Health Insurance Coverage in America: 2005 Data Update."
- [22] Lyke, Bob, 2005. "Tax Benefits for Health Insurance and Expenses: Current Legislation," Congressional Research Service Issue Brief for Congress, IB98037.
- [23] Madrian, B.C., 1994, "Employment-Based Health Insurance and Job Mobility: Is There Evidence of Job-Lock?" *Quarterly Journal of Economics*, 109, pp. 27-54.
- [24] Madrian, B.C., 2006, "The U.S. Health Care System and Labor Markets," *NBER Working Paper*, No. 11980.
- [25] Madrian, B.C. and L.J. Lefgren, 1999, "A Note on Longitudinally Matching Current Population Survey (CPS) Respondents," *NBER Technical Working Paper*, No. 247.
- [26] Marquis, M.S. and S.H. Long, 1995, "Worker Demand for Health Insurance in the Non-group Market," *Journal of Health Economics*, 14(1), pp. 47-63.
- [27] Meer, J. and H.S. Rosen, 2002, "Insurance, Health, and the Utilization of Medical Services," *CEPS Working Paper*, No. 85.
- [28] Moulton, B.R., 1990, "An Illustration of a Pitfall in Estimating the Effects of Aggregate Variables on Micro Units," *Review of Economics and Statistics*, 72(2), pp. 334-338.
- [29] Pauly, M.V. and L.M. Nichols, 2002, "The Nongroup Health Insurance Market: Short on Facts, Long on Opinions and Policy Disputes," *Health Affairs Web Exclusive*, W325-W344.
- [30] Perry, C. W. and H.S. Rosen, 2004, "The Self-Employed are Less Likely than Wage Earners to Have Health Insurance than Wage-Earners. So What?" *Public Policy and the Economics of Entrepreneurship*. D. Holtz-Eakin and H. Rosen, ed., Cambridge, MA; MIT Press pp. 23-58.
- [31] Thomasson, M., 2002, "From Sickness to Health: The Twentieth-Century Development of U.S. Health Insurance," *Explorations in Economic History*, 39, pp. 233-253.

- [32] Thomasson, M., 2003, “The Importance of Group Coverage: How Tax Policy Shaped U.S. Health Insurance,” *American Economic Review*, 93, pp. 1373-1384.

Table 1: Health insurance premiums and the corresponding deductions in taxable income, 1995-2005

| Year | Tax subsidy as a % of premium | Average real premium | MTR=15% | | | MTR=28% | | |
|------|-------------------------------|----------------------|------------------|------------------------|-------------------------------------|------------------|------------------------|-------------------------------------|
| | | | Real tax savings | Effective real premium | Annual %Δ in effective real premium | Real tax savings | Effective real premium | Annual %Δ in effective real premium |
| 1995 | 25% | \$2,515 | \$81 | \$2,433 | - | \$152 | \$2,363 | - |
| 1996 | 30% | \$2,465 | \$100 | \$2,364 | -2.83% | \$187 | \$2,277 | -3.62% |
| 1997 | 40% | \$2,454 | \$133 | \$2,321 | -1.83% | \$247 | \$2,206 | -3.13% |
| 1998 | 45% | \$2,512 | \$158 | \$2,355 | 1.45% | \$294 | \$2,218 | 0.55% |
| 1999 | 60% | \$2,601 | \$230 | \$2,371 | 0.68% | \$429 | \$2,172 | -2.10% |
| 2000 | 60% | \$2,712 | \$270 | \$2,442 | 2.99% | \$505 | \$2,207 | 1.64% |
| 2001 | 60% | \$2,922 | \$289 | \$2,633 | 7.85% | \$539 | \$2,383 | 7.96% |
| 2002 | 70% | \$3,251 | \$374 | \$2,877 | 9.25% | \$699 | \$2,552 | 7.11% |
| 2003 | 100% | \$3,594 | \$575 | \$3,019 | 4.96% | \$1,074 | \$2,521 | -1.23% |
| 2004 | 100% | \$3,929 | \$600 | \$3,329 | 10.26% | \$1,119 | \$2,809 | 11.44% |
| 2005 | 100% | \$4,159 | \$618 | \$3,541 | 6.37% | \$1,154 | \$3,005 | 6.97% |

Notes: Prices reflect the average premiums per enrolled employee at small private-sector establishments (fewer than 10 employees) that offer health insurance. Real amounts are expressed in constant 2006 US\$. MTR = marginal tax rate. Source: MEPS.

Table 2: Health insurance (HI) policy holder status among switchers[†]

| Year | Previously wage/salary | | | | Previously self-employed | | | |
|-----------|--|---------|------------------------------|------------------------------|--|---------|------------------------------|------------------------------|
| | Number of switchers to self-employment (%) | | % of switchers who | | Number of switchers to wage/salary (%) | | % of switchers who | |
| | | | gain HI policy holder status | lose HI policy holder status | | | gain HI policy holder status | lose HI policy holder status |
| 1995 | 414 | (0.21%) | 0.02% | 0.04% | 438 | (0.22%) | 0.04% | 0.03% |
| 1996 | 613 | (0.31%) | 0.03% | 0.06% | 306 | (0.15%) | 0.03% | 0.02% |
| 1997 | 393 | (0.20%) | 0.02% | 0.04% | 423 | (0.21%) | 0.04% | 0.02% |
| 1998 | 371 | (0.19%) | 0.02% | 0.04% | 394 | (0.20%) | 0.04% | 0.01% |
| 1999 | 393 | (0.20%) | 0.02% | 0.05% | 395 | (0.20%) | 0.04% | 0.02% |
| 2000 | 371 | (0.19%) | 0.02% | 0.04% | 387 | (0.19%) | 0.05% | 0.01% |
| 2001 | 491 | (0.25%) | 0.02% | 0.07% | 519 | (0.26%) | 0.06% | 0.03% |
| 2002 | 470 | (0.24%) | 0.02% | 0.05% | 511 | (0.26%) | 0.05% | 0.02% |
| 2003 | 456 | (0.23%) | 0.02% | 0.06% | 417 | (0.21%) | 0.04% | 0.02% |
| 2004 | 464 | (0.23%) | 0.02% | 0.04% | 484 | (0.24%) | 0.05% | 0.02% |
| All years | 4,436 | (2.23%) | 0.19% | 0.50% | 4,274 | (2.15%) | 0.43% | 0.20% |

Notes: [†]The figures correspond to the men and women in the outgoing rotation group (ORG) only (N=199,161).

Table 3: Difference-in-difference for selected covariates, men and women

| MEN (N=377,454) | | | | | | | | | | | | | | |
|------------------------|-------|--------|--------|----------|--------------------|---------------|-----------|--------|---------|--------|---------|--------------------|-------------------------------------|-------------------------------------|
| Covariate | Age | White | Black | Hispanic | Years of schooling | Health status | | | | | Married | Number of children | Adjusted ⁺ family income | After-tax ⁺⁺ price of HI |
| | | | | | | Excellent | Very good | Good | Fair | Poor | | | | |
| Self-emp × 1996 | 0.020 | -0.004 | -0.005 | -0.002 | 0.192 | 0.017 | -0.004 | -0.001 | -0.014 | 0.001 | -0.019 | -0.026 | 0.463** | -0.011 |
| Self-emp × 1997 | 0.543 | 0.005 | -0.010 | -0.010 | 0.225* | 0.008 | -0.014 | 0.011 | -0.011 | 0.005 | -0.001 | -0.076 | 0.208 | -0.081** |
| Self-emp × 1998 | 0.179 | -0.001 | -0.006 | -0.004 | 0.085 | 0.023 | -0.017 | 0.002 | -0.009 | 0.001 | -0.010 | -0.047 | 0.039 | -0.014 |
| Self-emp × 1999 | 0.252 | -0.002 | -0.008 | -0.010 | 0.181 | 0.001 | 0.006 | 0.009 | -0.018* | 0.002 | -0.015 | -0.071 | -0.055 | 0.032** |
| Self-emp × 2000 | 0.507 | 0.001 | -0.012 | -0.024** | 0.102 | 0.002 | -0.008 | 0.015 | -0.009 | 0.000 | -0.015 | -0.062 | -0.082 | 0.314** |
| Self-emp × 2001 | 0.371 | 0.002 | 0.000 | -0.009 | 0.031 | -0.006 | 0.002 | 0.009 | -0.010 | 0.004 | -0.015 | -0.044 | -0.422** | 0.491** |
| Self-emp × 2002 | 0.494 | -0.005 | 0.012 | -0.001 | -0.166 | -0.022 | -0.004 | 0.034* | -0.008 | -0.000 | -0.011 | -0.040 | -0.314 | 0.650** |
| Self-emp × 2003 | 0.562 | 0.005 | -0.002 | 0.000 | -0.107 | -0.006 | -0.006 | 0.017 | -0.007 | 0.003 | -0.030 | -0.073 | -0.185 | 0.741** |
| Self-emp × 2004 | 0.209 | -0.006 | 0.004 | -0.002 | -0.145 | -0.016 | 0.000 | 0.016 | -0.005 | 0.004 | -0.039* | -0.128** | -0.459** | 0.759** |
| Self-emp × 2005 | 0.556 | -0.010 | 0.006 | 0.001 | -0.010 | -0.013 | 0.008 | 0.008 | -0.006 | 0.003 | -0.039* | -0.114** | 0.080 | 0.719** |

| WOMEN (N=348,203) | | | | | | | | | | | | | | |
|--------------------------|---------|----------|--------|----------|--------------------|---------------|-----------|---------|--------|--------|---------|--------------------|-------------------------------------|-------------------------------------|
| Covariate | Age | White | Black | Hispanic | Years of schooling | Health status | | | | | Married | Number of children | Adjusted ⁺ family income | After-tax ⁺⁺ price of HI |
| | | | | | | Excellent | Very good | Good | Fair | Poor | | | | |
| Self-emp × 1996 | -0.769* | -0.010 | 0.000 | -0.006 | 0.175 | 0.037 | -0.008 | -0.039* | 0.003 | 0.008 | -0.016 | 0.043 | 0.346 | -0.008 |
| Self-emp × 1997 | -0.135 | -0.017 | 0.002 | -0.008 | 0.048 | 0.027 | -0.010 | -0.019 | 0.002 | 0.000 | 0.000 | -0.030 | 0.185 | -0.073** |
| Self-emp × 1998 | -0.012 | -0.015 | 0.009 | -0.000 | 0.219 | 0.053* | -0.033 | -0.031 | 0.012 | -0.001 | 0.004 | -0.007 | 0.351 | -0.005 |
| Self-emp × 1999 | -0.144 | -0.029* | 0.023 | -0.005 | 0.014 | 0.022 | 0.006 | -0.025 | -0.007 | 0.004 | 0.026 | -0.017 | 0.054 | 0.037* |
| Self-emp × 2000 | 0.332 | -0.020 | 0.003 | -0.014 | 0.017 | 0.005 | -0.016 | 0.006 | 0.001 | 0.005 | 0.019 | -0.082 | 0.440* | 0.345** |
| Self-emp × 2001 | -0.223 | -0.027* | 0.016 | -0.002 | 0.072 | 0.026 | -0.029 | -0.005 | 0.002 | 0.005 | -0.007 | -0.019 | -0.013 | 0.475** |
| Self-emp × 2002 | -0.123 | -0.030* | 0.009 | -0.002 | -0.023 | 0.009 | -0.009 | -0.001 | -0.001 | 0.002 | 0.000 | -0.017 | -0.062 | 0.661** |
| Self-emp × 2003 | -0.137 | -0.037** | 0.022* | -0.000 | 0.033 | 0.004 | -0.016 | -0.013 | 0.020* | 0.005 | -0.014 | -0.032 | -0.258 | 0.774** |
| Self-emp × 2004 | -0.393 | -0.029* | 0.020* | -0.004 | 0.143 | 0.050* | -0.026 | -0.023 | -0.006 | 0.005 | -0.022 | -0.020 | -0.089 | 0.723** |
| Self-emp × 2005 | -0.474 | -0.032* | 0.006 | 0.003 | 0.048 | 0.032 | -0.001 | -0.028 | -0.004 | 0.001 | -0.006 | -0.024 | -0.138 | 0.714** |

Notes: All models are based on weighted and clustered data and they include a constant term, self-employed indicator, and year effects. Excluded categories are year 1995 and its interaction with the self-employed indicator. ⁺ Family income is adjusted for the household size and expressed in constant 2006 US\$. ⁺⁺ See Section 4 for the details on the construction of the after-tax health insurance premiums. * Significance at 5%. ** Significance at 1%.

Table 4a: Descriptive statistics, men

| | Wage/salary | | Self-employed | |
|--|-------------|-----------|---------------|-----------|
| | Mean | St. Error | Mean | St. Error |
| <i>Individual characteristics</i> | | | | |
| Age | 40.731 | 0.023 | 43.785 | 0.073 |
| Age 25-34 | 0.307 | 0.001 | 0.189 | 0.003 |
| Age 35-44 | 0.330 | 0.001 | 0.330 | 0.004 |
| Age 45-54 | 0.264 | 0.001 | 0.329 | 0.004 |
| Age 55-60 | 0.098 | 0.001 | 0.153 | 0.003 |
| Race/Ethnicity | | | | |
| White | 0.841 | 0.001 | 0.890 | 0.002 |
| Black | 0.102 | 0.001 | 0.054 | 0.002 |
| Hispanic | 0.127 | 0.001 | 0.092 | 0.002 |
| Education | | | | |
| Years of schooling | 13.499 | 0.007 | 13.439 | 0.023 |
| Less than high school | 0.101 | 0.001 | 0.108 | 0.002 |
| High school degree | 0.323 | 0.001 | 0.354 | 0.004 |
| Some college degree | 0.261 | 0.001 | 0.251 | 0.003 |
| Bachelor's degree | 0.207 | 0.001 | 0.179 | 0.003 |
| Graduate degree | 0.107 | 0.001 | 0.108 | 0.002 |
| Weekly hours worked | | | | |
| 1-20 | 0.017 | 0.000 | 0.052 | 0.002 |
| 21-35 | 0.047 | 0.000 | 0.122 | 0.002 |
| 36-55 | 0.839 | 0.001 | 0.625 | 0.004 |
| 55+ | 0.097 | 0.001 | 0.200 | 0.003 |
| Health status | | | | |
| Excellent | 0.350 | 0.001 | 0.338 | 0.003 |
| Very good | 0.367 | 0.001 | 0.361 | 0.003 |
| Good | 0.234 | 0.001 | 0.242 | 0.003 |
| Fair | 0.043 | 0.000 | 0.050 | 0.002 |
| Poor | 0.006 | 0.000 | 0.008 | 0.001 |
| Health insurance | | | | |
| Any | 0.831 | 0.001 | 0.658 | 0.004 |
| Policy holder | 0.719 | 0.001 | 0.392 | 0.004 |
| <i>Family characteristics</i> | | | | |
| Married | 0.669 | 0.001 | 0.709 | 0.004 |
| Number of children under age 18 | 0.826 | 0.003 | 0.852 | 0.009 |
| No children | 0.563 | 0.001 | 0.565 | 0.004 |
| One child | 0.171 | 0.001 | 0.166 | 0.003 |
| More than one child | 0.266 | 0.001 | 0.269 | 0.003 |
| Adjusted family income (\$10,000) [†] | 4.825 | 0.010 | 4.399 | 0.036 |
| Estimated marginal tax rate (MTR)* | | | | |
| MTR = 0 | 0.053 | 0.000 | 0.127 | 0.002 |
| 0 < MTR ≤ 10 | 0.035 | 0.000 | 0.051 | 0.002 |
| 10 < MTR ≤ 15 | 0.426 | 0.001 | 0.402 | 0.003 |
| 15 < MTR ≤ 28 | 0.362 | 0.001 | 0.284 | 0.003 |
| MTR > 28 | 0.124 | 0.001 | 0.135 | 0.002 |
| <i>Spouse characteristics</i> [†] | | | | |
| Spouse has any health insurance (HI) coverage | 0.892 | 0.001 | 0.778 | 0.004 |
| Spouse is HI policy holder | 0.391 | 0.001 | 0.503 | 0.004 |
| Spouse is policy holder of an emp.-provided HI | 0.371 | 0.001 | 0.423 | 0.004 |
| | N | 346,513 | 30,941 | |

Notes: Means and standard errors are based on weighted and clustered data. [†] Family income is adjusted for the household size and expressed in constant 2006 US\$. * MTR are estimated using the TAXSIM program. [†] Means for spouse characteristics are conditional on being married.

Table 4b: Descriptive statistics, women

| | Wage/salary | | Self-employed | |
|--|-------------|-----------|---------------|-----------|
| | Mean | St. Error | Mean | St. Error |
| <i>Individual characteristics</i> | | | | |
| Age | 41.021 | 0.024 | 43.108 | 0.090 |
| Age 25-34 | 0.296 | 0.001 | 0.203 | 0.004 |
| Age 35-44 | 0.327 | 0.001 | 0.351 | 0.005 |
| Age 45-54 | 0.277 | 0.001 | 0.313 | 0.004 |
| Age 55-60 | 0.100 | 0.001 | 0.133 | 0.003 |
| Race/Ethnicity | | | | |
| White | 0.811 | 0.001 | 0.881 | 0.003 |
| Black | 0.134 | 0.001 | 0.059 | 0.002 |
| Hispanic | 0.100 | 0.001 | 0.072 | 0.002 |
| Education | | | | |
| Years of schooling | 13.652 | 0.006 | 13.759 | 0.025 |
| Less than high school | 0.071 | 0.001 | 0.067 | 0.002 |
| High school degree | 0.317 | 0.001 | 0.301 | 0.004 |
| Some college degree | 0.299 | 0.001 | 0.316 | 0.005 |
| Bachelor's degree | 0.213 | 0.001 | 0.210 | 0.004 |
| Graduate degree | 0.099 | 0.001 | 0.106 | 0.003 |
| Weekly hours worked | | | | |
| 1-20 | 0.090 | 0.001 | 0.258 | 0.004 |
| 21-35 | 0.155 | 0.001 | 0.212 | 0.004 |
| 36-55 | 0.722 | 0.001 | 0.430 | 0.005 |
| 55+ | 0.033 | 0.000 | 0.100 | 0.003 |
| Health status | | | | |
| Excellent | 0.325 | 0.001 | 0.365 | 0.004 |
| Very good | 0.369 | 0.001 | 0.354 | 0.004 |
| Good | 0.249 | 0.001 | 0.223 | 0.004 |
| Fair | 0.051 | 0.000 | 0.048 | 0.002 |
| Poor | 0.007 | 0.000 | 0.009 | 0.001 |
| Health insurance | | | | |
| Any | 0.865 | 0.001 | 0.758 | 0.004 |
| Policy holder | 0.602 | 0.001 | 0.269 | 0.004 |
| <i>Family characteristics</i> | | | | |
| Married | 0.626 | 0.001 | 0.746 | 0.004 |
| Number of children under age 18 | 0.850 | 0.003 | 0.987 | 0.011 |
| No children | 0.529 | 0.001 | 0.498 | 0.005 |
| One child | 0.204 | 0.001 | 0.177 | 0.003 |
| More than one child | 0.267 | 0.001 | 0.324 | 0.004 |
| Adjusted family income (\$10,000) [†] | 4.588 | 0.010 | 4.607 | 0.045 |
| Estimated marginal tax rate (MTR)* | | | | |
| MTR = 0 | 0.092 | 0.001 | 0.143 | 0.003 |
| 0 ≤ MTR ≤ 10 | 0.036 | 0.000 | 0.045 | 0.002 |
| 0 ≤ MTR ≤ 15 | 0.424 | 0.001 | 0.398 | 0.004 |
| 0 ≤ MTR ≤ 28 | 0.345 | 0.001 | 0.280 | 0.004 |
| MTR > 28 | 0.102 | 0.001 | 0.134 | 0.003 |
| <i>Spouse characteristics</i> [†] | | | | |
| Spouse has any health insurance (HI) coverage | 0.913 | 0.001 | 0.860 | 0.004 |
| Spouse is HI policy holder | 0.670 | 0.001 | 0.752 | 0.005 |
| Spouse is policy holder of an emp.-provided HI | 0.636 | 0.001 | 0.622 | 0.005 |
| N | 327,951 | | 20,252 | |

Notes: Means and standard errors are based on weighted and clustered data. [†] Family income is adjusted for the household size and expressed in constant 2006 US\$. * MTR are estimated using the TAXSIM program. † Means for spouse characteristics are conditional on being married.

Table 5a: Proportion of health insurance policy holders, men

| Year | All men (1) | Wage/salary (2) | Self-employed (3) | Wage/salary Difference ($t+1 - t$) (4) | Self-employed Difference ($t+1 - t$) (5) | Difference in Difference (5) - (4) |
|-----------|------------------|--------------------|----------------------|--|--|--|
| 1995 | 0.707 (0.003) | 0.730 (0.003) | 0.411 (0.013) | - | - | - |
| 1996 | 0.706 (0.003) | 0.727 (0.003) | 0.422 (0.013) | -0.002 (0.005) | 0.011 (0.018) | 0.013 (0.019) |
| 1997 | 0.699 (0.003) | 0.727 (0.003) | 0.397 (0.011) | -0.002 (0.005) | -0.014 (0.017) | -0.012 (0.018) |
| 1998 | 0.710 (0.003) | 0.737 (0.003) | 0.414 (0.012) | 0.007 (0.005) | 0.003 (0.017) | -0.004 (0.018) |
| 1999 | 0.714 (0.003) | 0.740 (0.003) | 0.410 (0.012) | 0.011* (0.005) | -0.002 (0.017) | -0.012 (0.018) |
| 2000 | 0.712 (0.003) | 0.738 (0.003) | 0.407 (0.012) | 0.009 (0.005) | -0.004 (0.018) | -0.013 (0.018) |
| 2001 | 0.701 (0.003) | 0.725 (0.003) | 0.410 (0.010) | -0.005 (0.004) | -0.001 (0.016) | 0.004 (0.017) |
| 2002 | 0.685 (0.003) | 0.712 (0.003) | 0.376 (0.010) | -0.017** (0.004) | -0.035* (0.016) | -0.018 (0.017) |
| 2003 | 0.675 (0.003) | 0.700 (0.003) | 0.383 (0.010) | -0.030** (0.004) | -0.029 (0.016) | 0.001 (0.017) |
| 2004 | 0.662 (0.003) | 0.690 (0.003) | 0.353 (0.010) | -0.040** (0.004) | -0.058** (0.016) | -0.018 (0.017) |
| 2005 | 0.659 (0.003) | 0.686 (0.003) | 0.343 (0.010) | -0.043** (0.004) | -0.069** (0.016) | -0.025 (0.016) |
| All years | 0.693 (0.001) | 0.719 (0.001) | 0.392 (0.004) | | | |
| N | 377,454 | 346,513 | 30,941 | | | |

Notes: Means (standard errors) are based on weighted and clustered data. Components may not add to totals due to rounding. * Significance at 5%.
** Significance at 1%.

Table 5b: Proportion of health insurance policy holders, women

| Year | All women (1) | Wage/salary (2) | Self-employed (3) | Wage/salary Difference ($t+1 - t$) (4) | Self-employed Difference ($t+1 - t$) (5) | Difference in Difference (5) - (4) |
|-----------|------------------|--------------------|----------------------|--|--|--|
| 1995 | 0.587 (0.004) | 0.604 (0.004) | 0.281 (0.014) | - | - | - |
| 1996 | 0.590 (0.004) | 0.605 (0.004) | 0.277 (0.015) | 0.001 (0.005) | -0.004 (0.020) | -0.005 (0.021) |
| 1997 | 0.585 (0.003) | 0.605 (0.004) | 0.263 (0.013) | 0.001 (0.005) | -0.018 (0.019) | -0.019 (0.020) |
| 1998 | 0.585 (0.003) | 0.604 (0.004) | 0.281 (0.013) | 0.000 (0.005) | 0.001 (0.019) | 0.001 (0.020) |
| 1999 | 0.580 (0.003) | 0.598 (0.004) | 0.279 (0.014) | -0.006 (0.005) | -0.002 (0.020) | 0.004 (0.020) |
| 2000 | 0.588 (0.004) | 0.608 (0.004) | 0.267 (0.013) | 0.004 (0.005) | -0.014 (0.019) | -0.018 (0.020) |
| 2001 | 0.589 (0.003) | 0.607 (0.003) | 0.272 (0.011) | 0.003 (0.005) | -0.008 (0.018) | -0.011 (0.018) |
| 2002 | 0.581 (0.003) | 0.600 (0.003) | 0.260 (0.011) | -0.004 (0.005) | -0.021 (0.018) | -0.017 (0.018) |
| 2003 | 0.581 (0.003) | 0.599 (0.003) | 0.272 (0.011) | -0.005 (0.005) | -0.009 (0.018) | -0.004 (0.019) |
| 2004 | 0.580 (0.003) | 0.598 (0.003) | 0.282 (0.012) | -0.006 (0.005) | 0.002 (0.018) | 0.008 (0.019) |
| 2005 | 0.571 (0.003) | 0.591 (0.003) | 0.230 (0.011) | -0.013** (0.005) | -0.051** (0.017) | -0.038* (0.018) |
| All years | 0.583 (0.001) | 0.602 (0.001) | 0.269 (0.004) | | | |
| N | 348,203 | 327,951 | 20,252 | | | |

Notes: Means (standard errors) are based on weighted and clustered data. Components may not add to totals due to rounding. * Significance at 5%.

** Significance at 1%.

Table 6a: Difference-in-difference regression results, men

| Variable | All men | | Married men | | Eligible men | |
|-------------------------------|----------|----------|-------------|----------|--------------|----------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Self-employed | -0.326** | -0.260** | -0.355** | -0.375** | -0.275** | -0.260** |
| | (0.013) | (0.025) | (0.015) | (0.023) | (0.015) | (0.021) |
| 1996 | -0.002 | 0.006 | -0.007 | -0.010 | 0.002 | 0.000 |
| | (0.004) | (0.008) | (0.005) | (0.007) | (0.004) | (0.006) |
| 1997 | -0.005 | 0.010 | -0.013* | -0.014 | 0.002 | 0.002 |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 1998 | -0.000 | 0.014 | -0.007 | -0.009 | 0.001 | 0.001 |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 1999 | 0.002 | 0.019* | -0.007 | -0.013 | 0.007 | 0.005 |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2000 | -0.002 | 0.026** | -0.014** | -0.020* | 0.006 | 0.007 |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2001 | -0.015** | 0.008 | -0.025** | -0.031** | -0.008 | -0.008 |
| | (0.004) | (0.008) | (0.005) | (0.007) | (0.004) | (0.006) |
| 2002 | -0.026** | -0.016* | -0.029** | -0.040** | -0.017** | -0.023** |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2003 | -0.038** | -0.024** | -0.043** | -0.046** | -0.028** | -0.030** |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2004 | -0.046** | -0.029** | -0.052** | -0.064** | -0.034** | -0.036** |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2005 | -0.048** | -0.032** | -0.054** | -0.069** | -0.037** | -0.042** |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| Self-emp × 1996 | 0.005 | -0.007 | 0.011 | 0.053 | -0.007 | -0.003 |
| | (0.017) | (0.033) | (0.019) | (0.030) | (0.020) | (0.028) |
| Self-emp × 1997 | -0.022 | -0.038 | -0.015 | 0.015 | -0.018 | -0.015 |
| | (0.017) | (0.033) | (0.020) | (0.031) | (0.020) | (0.027) |
| Self-emp × 1998 | -0.011 | -0.028 | -0.002 | 0.021 | -0.013 | -0.015 |
| | (0.017) | (0.033) | (0.020) | (0.031) | (0.020) | (0.027) |
| Self-emp × 1999 | -0.020 | -0.043 | -0.008 | 0.034 | -0.022 | -0.022 |
| | (0.017) | (0.033) | (0.020) | (0.032) | (0.020) | (0.027) |
| Self-emp × 2000 | -0.022 | -0.055 | -0.009 | 0.009 | -0.028 | -0.046 |
| | (0.017) | (0.034) | (0.020) | (0.032) | (0.021) | (0.028) |
| Self-emp × 2001 | 0.002 | 0.007 | -0.000 | 0.006 | -0.000 | -0.013 |
| | (0.016) | (0.032) | (0.019) | (0.031) | (0.019) | (0.027) |
| Self-emp × 2002 | -0.011 | -0.005 | -0.012 | 0.002 | -0.039* | -0.045 |
| | (0.016) | (0.031) | (0.018) | (0.030) | (0.019) | (0.027) |
| Self-emp × 2003 | 0.001 | -0.035 | 0.013 | 0.037 | -0.022 | -0.037 |
| | (0.016) | (0.031) | (0.019) | (0.031) | (0.019) | (0.027) |
| Self-emp × 2004 | -0.014 | -0.043 | -0.004 | 0.047 | -0.025 | -0.027 |
| | (0.016) | (0.031) | (0.018) | (0.030) | (0.019) | (0.026) |
| Self-emp × 2005 | -0.030 | -0.061* | -0.022 | -0.005 | -0.053** | -0.068** |
| | (0.016) | (0.031) | (0.018) | (0.030) | (0.019) | (0.026) |
| Joint significance (p-values) | | | | | | |
| Year dummies | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Interaction terms | 0.288 | 0.272 | 0.652 | 0.419 | 0.093 | 0.178 |
| Year DVs & interactions | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| R ² | 0.124 | 0.149 | 0.116 | 0.106 | 0.179 | 0.157 |
| N | 377,454 | 108,132 | 269,322 | 95,292 | 307,777 | 160,749 |

Notes: All models include individual and family characteristics, a constant term, and state effects. For full regression results, see Appendix Table 1a. Excluded categories are non-Hispanic whites, less than high school degree, no children, year 1995, and its interaction with the self-employed indicator. Standard errors are in parantheses. * Significance at 5%. ** Significance at 1%.

Table 6b: Difference-in-difference regression results, women

| Variable | | | | Married women | | Eligible women |
|-------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | All women | Single women | Married women | without kids | Eligible women | without kids |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Self-employed | -0.302** (0.013) | -0.241** (0.030) | -0.322** (0.015) | -0.320** (0.026) | -0.323** (0.021) | -0.281** (0.029) |
| 1996 | -0.001 (0.004) | 0.009 (0.007) | -0.008 (0.006) | -0.012 (0.009) | 0.001 (0.005) | -0.002 (0.006) |
| 1997 | -0.005 (0.005) | -0.002 (0.007) | -0.006 (0.006) | -0.017 (0.009) | -0.007 (0.005) | -0.014* (0.006) |
| 1998 | -0.010* (0.005) | -0.004 (0.007) | -0.012 (0.006) | -0.025** (0.009) | -0.010* (0.005) | -0.018** (0.006) |
| 1999 | -0.017** (0.005) | 0.006 (0.007) | -0.030** (0.006) | -0.031** (0.009) | -0.008 (0.005) | -0.013* (0.006) |
| 2000 | -0.011* (0.005) | 0.009 (0.007) | -0.021** (0.006) | -0.027** (0.010) | -0.006 (0.005) | -0.017** (0.006) |
| 2001 | -0.014** (0.004) | -0.002 (0.007) | -0.022** (0.006) | -0.038** (0.009) | -0.010* (0.005) | -0.021** (0.006) |
| 2002 | -0.023** (0.004) | -0.013 (0.007) | -0.029** (0.006) | -0.038** (0.009) | -0.022** (0.005) | -0.031** (0.006) |
| 2003 | -0.027** (0.004) | -0.024** (0.007) | -0.027** (0.006) | -0.035** (0.009) | -0.032** (0.005) | -0.038** (0.006) |
| 2004 | -0.029** (0.004) | -0.023** (0.007) | -0.030** (0.006) | -0.042** (0.009) | -0.032** (0.005) | -0.039** (0.006) |
| 2005 | -0.039** (0.004) | -0.043** (0.007) | -0.035** (0.006) | -0.046** (0.009) | -0.044** (0.005) | -0.051** (0.006) |
| Self-emp × 1996 | -0.010 (0.019) | -0.048 (0.040) | 0.006 (0.021) | -0.011 (0.037) | 0.001 (0.030) | -0.028 (0.041) |
| Self-emp × 1997 | -0.024 (0.018) | -0.052 (0.040) | -0.016 (0.021) | -0.010 (0.035) | -0.048 (0.029) | -0.047 (0.039) |
| Self-emp × 1998 | -0.006 (0.018) | -0.025 (0.041) | 0.002 (0.020) | 0.001 (0.035) | -0.019 (0.029) | -0.029 (0.038) |
| Self-emp × 1999 | 0.008 (0.019) | -0.018 (0.043) | 0.025 (0.021) | 0.013 (0.035) | 0.004 (0.029) | 0.008 (0.040) |
| Self-emp × 2000 | -0.022 (0.019) | -0.053 (0.042) | -0.007 (0.021) | -0.006 (0.035) | -0.033 (0.030) | -0.034 (0.040) |
| Self-emp × 2001 | -0.016 (0.017) | -0.044 (0.038) | -0.004 (0.019) | -0.020 (0.033) | -0.033 (0.027) | -0.060 (0.037) |
| Self-emp × 2002 | -0.014 (0.017) | -0.076* (0.038) | 0.009 (0.019) | 0.005 (0.034) | -0.033 (0.027) | -0.049 (0.038) |
| Self-emp × 2003 | -0.007 (0.018) | -0.069 (0.038) | 0.018 (0.020) | 0.005 (0.034) | -0.039 (0.027) | -0.075* (0.037) |
| Self-emp × 2004 | 0.000 (0.018) | -0.021 (0.038) | 0.009 (0.019) | -0.014 (0.034) | -0.006 (0.027) | -0.033 (0.037) |
| Self-emp × 2005 | -0.038* (0.017) | -0.065 (0.038) | -0.030 (0.019) | -0.080* (0.032) | -0.046 (0.027) | -0.094* (0.038) |
| Joint significance (p-values) | | | | | | |
| Year dummies | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Interaction terms | 0.227 | 0.577 | 0.142 | 0.112 | 0.373 | 0.195 |
| Year DVs & interactions | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| R ² | 0.120 | 0.161 | 0.074 | 0.056 | 0.130 | 0.097 |
| N | 348,203 | 122,196 | 226,007 | 89,356 | 236,374 | 127,934 |

Notes: All models include individual and family characteristics, a constant term, and state effects. For full regression results, see Appendix Table 1b. Excluded categories are non-Hispanic whites, less than high school degree, no children, year 1995, and its interaction with the self-employed indicator. Standard errors are in parantheses. * Significance at 5%. ** Significance at 1%.

Table 7: Estimates of insurance demand, men and women

| MEN | | All men | Single men | Married men | Married men without kids | Eligible men | Eligible men without kids |
|--|-----------------|---------------------|---------------------|---------------------|-------------------------------|---------------------|--------------------------------|
| | | (1) | (2) | (3) | (4) | (5) | (6) |
| (M1) Health insurance/Policy holder (LPM) | | | | | | | |
| | Coefficient | -0.107** (0.006) | -0.228** (0.011) | -0.050** (0.007) | -0.085** (0.012) | -0.142** (0.007) | -0.204** (0.010) |
| | Semi-elasticity | -0.316 | -0.688 | -0.147 | -0.250 | -0.415 | -0.597 |
| (M2) Health insurance/Policy holder (Probit) | | | | | | | |
| | Coefficient | -0.301** (0.018) | -0.640** (0.039) | -0.135** (0.021) | -0.218** (0.036) | -0.363** (0.023) | -0.540** (0.033) |
| | Marginal effect | -0.095** | -0.205** | -0.042** | -0.067** | -0.094** | -0.149** |
| | Semi-elasticity | -0.281 | -0.618 | -0.123 | -0.197 | -0.275 | -0.436 |
| (M3) Health insurance/Gruber & Poterba measure (LPM) | | | | | | | |
| | Coefficient | -0.147** (0.006) | -0.224** (0.011) | -0.097** (0.007) | -0.164** (0.011) | -0.148** (0.007) | -0.207** (0.010) |
| | Semi-elasticity | -0.434 | -0.676 | -0.285 | -0.483 | -0.433 | -0.606 |
| | N | 377,454 | 108,132 | 269,322 | 95,292 | 307,777 | 160,749 |
| WOMEN | | | | | Married women without kids | Eligible women | Eligible women without kids |
| | | All women | Single women | Married women | (4) | (5) | (6) |
| | | (1) | (2) | (3) | | | |
| (W1) Health insurance/Policy holder (LPM) | | | | | | | |
| | Coefficient | -0.136** (0.007) | -0.321** (0.014) | -0.024** (0.008) | -0.047** (0.014) | -0.238** (0.010) | -0.245** (0.014) |
| | Semi-elasticity | -0.404 | -1.005 | -0.070 | -0.138 | -0.710 | -0.726 |
| (W2) Health insurance/Policy holder (Probit) | | | | | | | |
| | Coefficient | -0.443** (0.024) | -0.900** (0.055) | -0.082** (0.028) | -0.147** (0.043) | -0.684** (0.033) | -0.683** (0.045) |
| | Marginal effect | -0.156** | -0.269** | -0.031** | -0.055** | -0.204** | -0.191** |
| | Semi-elasticity | -0.464 | -0.843 | -0.091 | -0.162 | -0.609 | -0.566 |
| (W3) Health insurance/Gruber & Poterba measure (LPM) | | | | | | | |
| | Coefficient | -0.210** (0.007) | -0.304** (0.014) | -0.101** (0.008) | -0.145** (0.013) | -0.232** (0.009) | -0.223** (0.013) |
| | Semi-elasticity | -0.625 | -0.952 | -0.295 | -0.427 | -0.692 | -0.661 |
| | N | 348,203 | 122,196 | 226,007 | 89,356 | 236,374 | 127,934 |

Notes: All models include individual and family characteristics, a constant term, and state effects. For full regression results, see Appendix Tables 2a and 2b. Standard errors are in parantheses. * Significance at 5%. ** Significance at 1%.

Appendix Table 1a: Full set of estimation results for the difference-in-difference regression model, men

| Variable | | | | Married men | Eligible men | |
|-----------------|----------|------------|-------------|--------------|--------------|--------------|
| | All men | Single men | Married men | without kids | Eligible men | without kids |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Self-employed | -0.326** | -0.260** | -0.355** | -0.375** | -0.275** | -0.260** |
| | (0.013) | (0.025) | (0.015) | (0.023) | (0.015) | (0.021) |
| 1996 | -0.002 | 0.006 | -0.007 | -0.010 | 0.002 | 0.000 |
| | (0.004) | (0.008) | (0.005) | (0.007) | (0.004) | (0.006) |
| 1997 | -0.005 | 0.010 | -0.013* | -0.014 | 0.002 | 0.002 |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 1998 | -0.000 | 0.014 | -0.007 | -0.009 | 0.001 | 0.001 |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 1999 | 0.002 | 0.019* | -0.007 | -0.013 | 0.007 | 0.005 |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2000 | -0.002 | 0.026** | -0.014** | -0.020* | 0.006 | 0.007 |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2001 | -0.015** | 0.008 | -0.025** | -0.031** | -0.008 | -0.008 |
| | (0.004) | (0.008) | (0.005) | (0.007) | (0.004) | (0.006) |
| 2002 | -0.026** | -0.016* | -0.029** | -0.040** | -0.017** | -0.023** |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2003 | -0.038** | -0.024** | -0.043** | -0.046** | -0.028** | -0.030** |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2004 | -0.046** | -0.029** | -0.052** | -0.064** | -0.034** | -0.036** |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2005 | -0.048** | -0.032** | -0.054** | -0.069** | -0.037** | -0.042** |
| | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| Self-emp × 1996 | 0.005 | -0.007 | 0.011 | 0.053 | -0.007 | -0.003 |
| | (0.017) | (0.033) | (0.019) | (0.030) | (0.020) | (0.028) |
| Self-emp × 1997 | -0.022 | -0.038 | -0.015 | 0.015 | -0.018 | -0.015 |
| | (0.017) | (0.033) | (0.020) | (0.031) | (0.020) | (0.027) |
| Self-emp × 1998 | -0.011 | -0.028 | -0.002 | 0.021 | -0.013 | -0.015 |
| | (0.017) | (0.033) | (0.020) | (0.031) | (0.020) | (0.027) |
| Self-emp × 1999 | -0.020 | -0.043 | -0.008 | 0.034 | -0.022 | -0.022 |
| | (0.017) | (0.033) | (0.020) | (0.032) | (0.020) | (0.027) |
| Self-emp × 2000 | -0.022 | -0.055 | -0.009 | 0.009 | -0.028 | -0.046 |
| | (0.017) | (0.034) | (0.020) | (0.032) | (0.021) | (0.028) |
| Self-emp × 2001 | 0.002 | 0.007 | -0.000 | 0.006 | -0.000 | -0.013 |
| | (0.016) | (0.032) | (0.019) | (0.031) | (0.019) | (0.027) |
| Self-emp × 2002 | -0.011 | -0.005 | -0.012 | 0.002 | -0.039* | -0.045 |
| | (0.016) | (0.031) | (0.018) | (0.030) | (0.019) | (0.027) |
| Self-emp × 2003 | 0.001 | -0.035 | 0.013 | 0.037 | -0.022 | -0.037 |
| | (0.016) | (0.031) | (0.019) | (0.031) | (0.019) | (0.027) |
| Self-emp × 2004 | -0.014 | -0.043 | -0.004 | 0.047 | -0.025 | -0.027 |
| | (0.016) | (0.031) | (0.018) | (0.030) | (0.019) | (0.026) |
| Self-emp × 2005 | -0.030 | -0.061* | -0.022 | -0.005 | -0.053** | -0.068** |
| | (0.016) | (0.031) | (0.018) | (0.030) | (0.019) | (0.026) |
| Age | 0.012** | 0.016** | 0.008** | 0.001 | 0.017** | 0.013** |
| | (0.001) | (0.002) | (0.001) | (0.002) | (0.001) | (0.001) |
| Age squared/100 | -0.010** | -0.013** | -0.005** | 0.003 | -0.016** | -0.011** |
| | (0.001) | (0.002) | (0.001) | (0.002) | (0.001) | (0.001) |
| Black | -0.067** | -0.063** | -0.062** | -0.049** | -0.064** | -0.059** |
| | (0.004) | (0.006) | (0.005) | (0.007) | (0.004) | (0.005) |
| Hispanic | -0.127** | -0.124** | -0.130** | -0.137** | -0.142** | -0.126** |
| | (0.003) | (0.005) | (0.004) | (0.006) | (0.003) | (0.005) |

Appendix Table 1a: Full set of estimation results for the difference-in-difference regression model, men (continued)

| Variable | | | Married men | | Eligible men | |
|-------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | All men | Single men | Married men | without kids | Eligible men | without kids |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| High school degree | 0.165** (0.004) | 0.174** (0.006) | 0.160** (0.004) | 0.144** (0.007) | 0.179** (0.004) | 0.157** (0.005) |
| Some college degree | 0.222** (0.004) | 0.253** (0.007) | 0.204** (0.005) | 0.175** (0.008) | 0.245** (0.004) | 0.221** (0.006) |
| Bachelor's degree | 0.267** (0.004) | 0.329** (0.007) | 0.236** (0.005) | 0.195** (0.008) | 0.290** (0.004) | 0.281** (0.006) |
| Graduate degree | 0.277** (0.004) | 0.343** (0.008) | 0.254** (0.005) | 0.214** (0.008) | 0.282** (0.004) | 0.275** (0.006) |
| Married | 0.009** (0.002) | - | - | - | 0.104** (0.002) | 0.091** (0.003) |
| Adjusted family income | 0.008** (0.000) | 0.016** (0.000) | 0.005** (0.000) | 0.005** (0.000) | 0.011** (0.000) | 0.010** (0.000) |
| One child | -0.000 (0.003) | 0.005 (0.006) | 0.001 (0.003) | - | 0.012** (0.003) | - |
| More than one child | 0.017** (0.003) | -0.020* (0.008) | 0.018** (0.003) | - | 0.007** (0.002) | - |
| Constant | 0.201** (0.020) | 0.047 (0.034) | 0.275** (0.027) | 0.494** (0.039) | 0.065** (0.020) | 0.064* (0.026) |
| Joint significance (p-values) | | | | | | |
| Year dummies | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Interaction terms | 0.288 | 0.272 | 0.652 | 0.419 | 0.093 | 0.178 |
| Year DVs & interactions | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| R ² | 0.124 | 0.149 | 0.116 | 0.106 | 0.179 | 0.157 |
| N | 377,454 | 108,132 | 269,322 | 95,292 | 307,777 | 160,749 |

Notes: Excluded categories are non-Hispanic whites, less than high school degree, no children, year 1995, and its interaction with the self-employed indicator. All models include state effects which are not reported here. Adjusted family income is in constant 2006 US\$10,000. Standard errors are in parantheses. * Significance at 5%. ** Significance at 1%.

Appendix Table 1b: Full set of estimation results for the difference-in-difference regression model, women

| Variable | | | | Married women | | Eligible women |
|-----------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | All women | Single women | Married women | without kids | Eligible women | without kids |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Self-employed | -0.302** (0.013) | -0.241** (0.030) | -0.322** (0.015) | -0.320** (0.026) | -0.323** (0.021) | -0.281** (0.029) |
| 1996 | -0.001 (0.004) | 0.009 (0.007) | -0.008 (0.006) | -0.012 (0.009) | 0.001 (0.005) | -0.002 (0.006) |
| 1997 | -0.005 (0.005) | -0.002 (0.007) | -0.006 (0.006) | -0.017 (0.009) | -0.007 (0.005) | -0.014* (0.006) |
| 1998 | -0.010* (0.005) | -0.004 (0.007) | -0.012 (0.006) | -0.025** (0.009) | -0.010* (0.005) | -0.018** (0.006) |
| 1999 | -0.017** (0.005) | 0.006 (0.007) | -0.030** (0.006) | -0.031** (0.009) | -0.008 (0.005) | -0.013* (0.006) |
| 2000 | -0.011* (0.005) | 0.009 (0.007) | -0.021** (0.006) | -0.027** (0.010) | -0.006 (0.005) | -0.017** (0.006) |
| 2001 | -0.014** (0.004) | -0.002 (0.007) | -0.022** (0.006) | -0.038** (0.009) | -0.010* (0.005) | -0.021** (0.006) |
| 2002 | -0.023** (0.004) | -0.013 (0.007) | -0.029** (0.006) | -0.038** (0.009) | -0.022** (0.005) | -0.031** (0.006) |
| 2003 | -0.027** (0.004) | -0.024** (0.007) | -0.027** (0.006) | -0.035** (0.009) | -0.032** (0.005) | -0.038** (0.006) |
| 2004 | -0.029** (0.004) | -0.023** (0.007) | -0.030** (0.006) | -0.042** (0.009) | -0.032** (0.005) | -0.039** (0.006) |
| 2005 | -0.039** (0.004) | -0.043** (0.007) | -0.035** (0.006) | -0.046** (0.009) | -0.044** (0.005) | -0.051** (0.006) |
| Self-emp × 1996 | -0.010 (0.019) | -0.048 (0.040) | 0.006 (0.021) | -0.011 (0.037) | 0.001 (0.030) | -0.028 (0.041) |
| Self-emp × 1997 | -0.024 (0.018) | -0.052 (0.040) | -0.016 (0.021) | -0.010 (0.035) | -0.048 (0.029) | -0.047 (0.039) |
| Self-emp × 1998 | -0.006 (0.018) | -0.025 (0.041) | 0.002 (0.020) | 0.001 (0.035) | -0.019 (0.029) | -0.029 (0.038) |
| Self-emp × 1999 | 0.008 (0.019) | -0.018 (0.043) | 0.025 (0.021) | 0.013 (0.035) | 0.004 (0.029) | 0.008 (0.040) |
| Self-emp × 2000 | -0.022 (0.019) | -0.053 (0.042) | -0.007 (0.021) | -0.006 (0.035) | -0.033 (0.030) | -0.034 (0.040) |
| Self-emp × 2001 | -0.016 (0.017) | -0.044 (0.038) | -0.004 (0.019) | -0.020 (0.033) | -0.033 (0.027) | -0.060 (0.037) |
| Self-emp × 2002 | -0.014 (0.017) | -0.076* (0.038) | 0.009 (0.019) | 0.005 (0.034) | -0.033 (0.027) | -0.049 (0.038) |
| Self-emp × 2003 | -0.007 (0.018) | -0.069 (0.038) | 0.018 (0.020) | 0.005 (0.034) | -0.039 (0.027) | -0.075* (0.037) |
| Self-emp × 2004 | 0.000 (0.018) | -0.021 (0.038) | 0.009 (0.019) | -0.014 (0.034) | -0.006 (0.027) | -0.033 (0.037) |
| Self-emp × 2005 | -0.038* (0.017) | -0.065 (0.038) | -0.030 (0.019) | -0.080* (0.032) | -0.046 (0.027) | -0.094* (0.038) |
| Age | 0.008** (0.001) | 0.016** (0.001) | -0.000 (0.001) | -0.006** (0.002) | 0.017** (0.001) | 0.012** (0.001) |
| Age squared/100 | -0.006** (0.001) | -0.012** (0.002) | 0.001 (0.002) | 0.007** (0.002) | -0.016** (0.001) | -0.010** (0.001) |
| Black | 0.014** (0.003) | -0.027** (0.004) | 0.066** (0.005) | 0.050** (0.008) | -0.031** (0.003) | -0.029** (0.004) |
| Hispanic | -0.046** (0.003) | -0.084** (0.005) | -0.028** (0.004) | -0.058** (0.007) | -0.091** (0.004) | -0.092** (0.005) |

Appendix Table 1b: Full set of estimation results for the difference-in-difference regression model, women (continued)

| Variable | All women | Single women | Married women | | Eligible women | |
|-------------------------------|---------------------|---------------------|---------------------|--------------------|---------------------|---------------------|
| | | | Married women | without kids | Eligible women | without kids |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| High school degree | 0.153** (0.004) | 0.208** (0.006) | 0.107** (0.006) | 0.087** (0.009) | 0.198** (0.005) | 0.168** (0.007) |
| Some college degree | 0.208** (0.004) | 0.284** (0.006) | 0.147** (0.006) | 0.132** (0.009) | 0.271** (0.005) | 0.230** (0.007) |
| Bachelor's degree | 0.272** (0.005) | 0.359** (0.007) | 0.204** (0.006) | 0.185** (0.010) | 0.338** (0.005) | 0.292** (0.007) |
| Graduate degree | 0.334** (0.005) | 0.371** (0.007) | 0.287** (0.007) | 0.271** (0.011) | 0.364** (0.005) | 0.323** (0.007) |
| Married | -0.179** (0.002) | - | - | - | -0.002 (0.002) | -0.033** (0.003) |
| Adjusted family income | 0.006** (0.000) | 0.022** (0.001) | 0.003** (0.000) | 0.001** (0.000) | 0.012** (0.000) | 0.010** (0.000) |
| One child | -0.065** (0.003) | -0.034** (0.004) | -0.075** (0.004) | - | -0.019** (0.003) | - |
| More than one child | -0.137** (0.003) | -0.098** (0.005) | -0.151** (0.004) | - | -0.070** (0.003) | - |
| Constant | 0.281** (0.022) | 0.031 (0.031) | 0.464** (0.032) | 0.572** (0.046) | 0.017 (0.023) | 0.166** (0.029) |
| Joint significance (p-values) | | | | | | |
| Year dummies | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Interaction terms | 0.227 | 0.577 | 0.142 | 0.112 | 0.373 | 0.195 |
| Year DVs & interactions | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| R ² | 0.120 | 0.161 | 0.074 | 0.056 | 0.130 | 0.097 |
| N | 348,203 | 122,196 | 226,007 | 89,356 | 236,374 | 127,934 |

Notes: Excluded categories are non-Hispanic whites, less than high school degree, no children, year 1995, and its interaction with the self-employed indicator. All models include state effects which are not reported here. Adjusted family income is in constant 2006 US\$10,000. Standard errors are in parantheses. * Significance at 5%. ** Significance at 1%.

Appendix Table 2a: Full set of estimation results for the health insurance demand regression (LPM), men

| Variable | All men | | Single men | Married men | Married men without kids | Eligible men | Eligible men without kids |
|------------------------|----------|----------|------------|-------------|-----------------------------|--------------|------------------------------|
| | (0) | (1) | (2) | (3) | (4) | (5) | (6) |
| Self-employed | -0.338** | -0.074** | 0.284** | -0.239** | -0.145** | 0.050** | 0.213** |
| | (0.004) | (0.015) | (0.029) | (0.018) | (0.032) | (0.018) | (0.026) |
| 1996 | -0.002 | -0.002 | 0.005 | -0.007 | -0.006 | 0.001 | 0.000 |
| | (0.004) | (0.004) | (0.008) | (0.004) | (0.007) | (0.004) | (0.006) |
| 1997 | -0.007 | -0.011* | -0.001 | -0.016** | -0.016* | -0.004 | -0.006 |
| | (0.004) | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 1998 | -0.001 | 0.002 | 0.018* | -0.006 | -0.005 | 0.004 | 0.005 |
| | (0.004) | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 1999 | 0.001 | 0.006 | 0.028** | -0.005 | -0.005 | 0.013** | 0.014* |
| | (0.004) | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2000 | -0.003 | 0.006 | 0.041** | -0.011* | -0.012 | 0.016** | 0.020** |
| | (0.004) | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2001 | -0.014** | 0.001 | 0.041** | -0.018** | -0.018* | 0.012** | 0.019** |
| | (0.004) | (0.004) | (0.008) | (0.005) | (0.007) | (0.004) | (0.006) |
| 2002 | -0.026** | -0.005 | 0.029** | -0.021** | -0.023** | 0.007 | 0.013* |
| | (0.004) | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2003 | -0.038** | -0.011** | 0.028** | -0.029** | -0.022** | 0.004 | 0.015* |
| | (0.004) | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2004 | -0.047** | -0.016** | 0.034** | -0.038** | -0.035** | 0.003 | 0.018** |
| | (0.004) | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| 2005 | -0.050** | -0.021** | 0.026** | -0.042** | -0.045** | -0.003 | 0.008 |
| | (0.004) | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| Age | 0.012** | 0.012** | 0.015** | 0.007** | 0.001 | 0.016** | 0.013** |
| | (0.001) | (0.001) | (0.002) | (0.001) | (0.002) | (0.001) | (0.001) |
| Age squared/100 | -0.010** | -0.010** | -0.012** | -0.005** | 0.003 | -0.015** | -0.010** |
| | (0.001) | (0.001) | (0.002) | (0.001) | (0.002) | (0.001) | (0.001) |
| Black | -0.067** | -0.066** | -0.061** | -0.062** | -0.048** | -0.063** | -0.058** |
| | (0.004) | (0.004) | (0.006) | (0.005) | (0.007) | (0.004) | (0.005) |
| Hispanic | -0.127** | -0.126** | -0.123** | -0.130** | -0.136** | -0.141** | -0.125** |
| | (0.003) | (0.003) | (0.005) | (0.004) | (0.006) | (0.003) | (0.005) |
| High school degree | 0.165** | 0.163** | 0.171** | 0.159** | 0.143** | 0.177** | 0.155** |
| | (0.004) | (0.004) | (0.006) | (0.004) | (0.007) | (0.004) | (0.005) |
| Some college degree | 0.222** | 0.220** | 0.248** | 0.204** | 0.173** | 0.243** | 0.217** |
| | (0.004) | (0.004) | (0.007) | (0.005) | (0.008) | (0.004) | (0.006) |
| Bachelor's degree | 0.267** | 0.264** | 0.323** | 0.235** | 0.193** | 0.287** | 0.276** |
| | (0.004) | (0.004) | (0.007) | (0.005) | (0.008) | (0.004) | (0.006) |
| Graduate degree | 0.277** | 0.274** | 0.335** | 0.253** | 0.212** | 0.278** | 0.269** |
| | (0.004) | (0.004) | (0.008) | (0.005) | (0.008) | (0.004) | (0.006) |
| Married | 0.009** | 0.009** | - | - | - | 0.103** | 0.091** |
| | (0.002) | (0.002) | | | | (0.002) | (0.003) |
| Adjusted family income | 0.008** | 0.007** | 0.014** | 0.005** | 0.005** | 0.010** | 0.009** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| One child | -0.000 | -0.001 | 0.006 | 0.000 | - | 0.011** | - |
| | (0.003) | (0.003) | (0.006) | (0.003) | | (0.003) | |
| More than one child | 0.017** | 0.015** | -0.015 | 0.017** | - | 0.005* | - |
| | (0.003) | (0.003) | (0.008) | (0.003) | | (0.002) | |
| After-tax HI premium | - | -0.107** | -0.228** | -0.050** | -0.085** | -0.142** | -0.204** |
| | | (0.006) | (0.011) | (0.007) | (0.012) | (0.007) | (0.010) |
| Constant | 0.202** | 0.250** | 0.143** | 0.297** | 0.525** | 0.126** | 0.143** |
| | (0.020) | (0.021) | (0.034) | (0.027) | (0.039) | (0.020) | (0.027) |
| R ² | 0.124 | 0.125 | 0.155 | 0.116 | 0.107 | 0.181 | 0.161 |
| N | 377,454 | 377,454 | 108,132 | 269,322 | 95,292 | 307,777 | 160,749 |

Notes: Excluded categories are non-Hispanic whites, less than high school degree, no children, year 1995, and its interaction with the self-employed indicator. All models include state effects which are not reported here. Adjusted family income is in constant 2006 US\$10,000. Standard errors are in parentheses. * Significance at 5%. ** Significance at 1%.

Appendix Table 2b: Full set of estimation results for the health insurance demand regression (LPM), women

| Variable | All women | | Single women | Married women | Married women | | Eligible women |
|------------------------|-----------|----------|--------------|---------------|---------------|----------------|----------------|
| | (0) | (1) | (2) | (3) | without kids | Eligible women | without kids |
| Self-employed | -0.314** | 0.021 | 0.545** | -0.262** | -0.215** | 0.241** | 0.284** |
| | (0.004) | (0.018) | (0.037) | (0.020) | (0.036) | (0.025) | (0.035) |
| 1996 | -0.002 | -0.001 | 0.007 | -0.008 | -0.013 | 0.001 | -0.003 |
| | (0.004) | (0.004) | (0.007) | (0.005) | (0.008) | (0.005) | (0.006) |
| 1997 | -0.006 | -0.010* | -0.014* | -0.008 | -0.019* | -0.017** | -0.024** |
| | (0.005) | (0.005) | (0.007) | (0.006) | (0.009) | (0.005) | (0.006) |
| 1998 | -0.010* | -0.006 | 0.005 | -0.011 | -0.024** | -0.004 | -0.013* |
| | (0.005) | (0.005) | (0.007) | (0.006) | (0.009) | (0.005) | (0.006) |
| 1999 | -0.016** | -0.009 | 0.025** | -0.027** | -0.028** | 0.005 | -0.000 |
| | (0.005) | (0.005) | (0.007) | (0.006) | (0.009) | (0.005) | (0.006) |
| 2000 | -0.012* | -0.000 | 0.034** | -0.019** | -0.023* | 0.012* | -0.000 |
| | (0.005) | (0.005) | (0.007) | (0.006) | (0.009) | (0.005) | (0.006) |
| 2001 | -0.015** | 0.004 | 0.041** | -0.019** | -0.033** | 0.020** | 0.009 |
| | (0.004) | (0.004) | (0.007) | (0.006) | (0.009) | (0.005) | (0.006) |
| 2002 | -0.024** | 0.001 | 0.044** | -0.024** | -0.029** | 0.020** | 0.011 |
| | (0.004) | (0.004) | (0.007) | (0.006) | (0.009) | (0.005) | (0.006) |
| 2003 | -0.027** | 0.005 | 0.048** | -0.020** | -0.024* | 0.020** | 0.013 |
| | (0.004) | (0.005) | (0.007) | (0.006) | (0.009) | (0.005) | (0.007) |
| 2004 | -0.029** | 0.008 | 0.063** | -0.023** | -0.030** | 0.030** | 0.023** |
| | (0.004) | (0.005) | (0.007) | (0.006) | (0.010) | (0.005) | (0.007) |
| 2005 | -0.041** | -0.005 | 0.040** | -0.031** | -0.039** | 0.015** | 0.007 |
| | (0.004) | (0.005) | (0.008) | (0.006) | (0.010) | (0.005) | (0.007) |
| Age | 0.008** | 0.007** | 0.014** | -0.000 | -0.006** | 0.016** | 0.011** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.002) | (0.001) | (0.001) |
| Age squared/100 | -0.006** | -0.006** | -0.011** | 0.001 | 0.007** | -0.015** | -0.009** |
| | (0.001) | (0.001) | (0.002) | (0.002) | (0.002) | (0.001) | (0.001) |
| Black | 0.014** | 0.014** | -0.026** | 0.066** | 0.050** | -0.030** | -0.029** |
| | (0.003) | (0.003) | (0.004) | (0.005) | (0.008) | (0.003) | (0.004) |
| Hispanic | -0.046** | -0.046** | -0.082** | -0.028** | -0.057** | -0.090** | -0.091** |
| | (0.003) | (0.003) | (0.005) | (0.004) | (0.007) | (0.004) | (0.005) |
| High school degree | 0.153** | 0.151** | 0.202** | 0.107** | 0.086** | 0.195** | 0.164** |
| | (0.004) | (0.004) | (0.006) | (0.006) | (0.009) | (0.005) | (0.007) |
| Some college degree | 0.208** | 0.205** | 0.275** | 0.147** | 0.131** | 0.266** | 0.225** |
| | (0.004) | (0.004) | (0.006) | (0.006) | (0.009) | (0.005) | (0.007) |
| Bachelor's degree | 0.272** | 0.268** | 0.346** | 0.203** | 0.184** | 0.330** | 0.284** |
| | (0.005) | (0.005) | (0.007) | (0.006) | (0.010) | (0.005) | (0.007) |
| Graduate degree | 0.334** | 0.330** | 0.357** | 0.287** | 0.270** | 0.356** | 0.315** |
| | (0.005) | (0.005) | (0.007) | (0.007) | (0.011) | (0.005) | (0.007) |
| Married | -0.179** | -0.182** | - | - | - | -0.006* | -0.033** |
| | (0.002) | (0.002) | | | | (0.002) | (0.003) |
| Adjusted family income | 0.006** | 0.005** | 0.019** | 0.003** | 0.001* | 0.010** | 0.009** |
| | (0.000) | (0.000) | (0.001) | (0.000) | (0.000) | (0.000) | (0.000) |
| One child | -0.065** | -0.065** | -0.031** | -0.075** | - | -0.019** | - |
| | (0.003) | (0.003) | (0.004) | (0.004) | | (0.003) | |
| More than one child | -0.137** | -0.138** | -0.088** | -0.152** | - | -0.069** | - |
| | (0.003) | (0.003) | (0.005) | (0.004) | | (0.003) | |
| After-tax HI premium | - | -0.136** | -0.321** | -0.024** | -0.047** | -0.238** | -0.245** |
| | | (0.007) | (0.014) | (0.008) | (0.014) | (0.010) | (0.014) |
| Constant | 0.282** | 0.346** | 0.185** | 0.475** | 0.591** | 0.131** | 0.268** |
| | (0.022) | (0.022) | (0.031) | (0.032) | (0.046) | (0.024) | (0.030) |
| R ² | 0.119 | 0.121 | 0.169 | 0.073 | 0.056 | 0.134 | 0.101 |
| N | 348,203 | 348,203 | 122,196 | 226,007 | 89,356 | 236,374 | 127,934 |

Notes: Excluded categories are non-Hispanic whites, less than high school degree, no children, year 1995, and its interaction with the self-employed indicator. All models include state effects which are not reported here. Adjusted family income is in constant 2006 US\$10,000. Standard errors are in parentheses. * Significance at 5%. ** Significance at 1%.