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Health Insurance Availability and Entrepreneurship

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ABSTRACT

Despite a strong interest in entrepreneurship, economists have devoted little attention to the role of health insurance availability. I investigate the impact of a unique policy experiment—New Jersey's Individual Health Coverage Plan—on self-employment. Implemented in August 1993, the IHCP included an extensive set of reforms that loosened the historical connection between traditional employment and health insurance by facilitating access to coverage that was not employer-linked. I find evidence that the IHCP increased self-employment among New Jersey residents, relative to various sets of comparison states. Consistent with key policy features, including pure community rating of premiums, I find larger behavioral responses for unmarried, older, and observably less-healthy individuals.

Health Insurance Availability and Entrepreneurship

INTRODUCTION

While abundant evidence suggests the availability of health insurance influences labor market choices like the timing of retirement, there is much less research regarding its impact on self-employment decisions. In this paper, I investigate the impact of New Jersey's Individual Health Coverage Plan (IHCP) on the self-employment of its residents. The IHCP, which was implemented in August 1993, included an extensive set of reforms intended to encourage access to individual health insurance, while promoting competition in the nongroup market. Chief among these reforms, the IHCP guaranteed the availability and renewability of health insurance purchased in the individual market, while imposing pure community rating on premiums. The legislation loosened the historical connection between traditional employment and health insurance in the United States by facilitating access to a potential source of coverage that was not employer-linked. More generally, the IHCP provides an opportunity to examine the impact of social insurance on economic risk-taking like entrepreneurship.

Using data from the Behavioral Risk Factor Surveillance System (BRFSS) from 1991 to 1996, I find evidence that the IHCP increased the fraction of New Jersey residents who reported being self-employed, relative to various sets of comparison states that did not substantially reform their individual health insurance markets over this period. Importantly, I also allow the impact of the IHCP on self-employment to vary by the degree to which it relaxed the link between traditional employment and health insurance. For example, given that the IHCP guaranteed health insurance availability and renewability in the context of pure community-rating of premiums, one may expect larger behavioral responses from observably less-healthy

individuals on the assumption that they would otherwise have had more difficulty obtaining

health insurance in the individual market. To test this possibility, I allow the impact of the IHCP

on self-employment to vary by smoking status, weight-related health, and age. Consistent with

expectations, I find evidence of stronger relationships for smokers, the clinically obese, and older

individuals. In addition, I allow the impact of IHCP to vary by marital status and find estimated

effects that are much larger for unmarried individuals who generally do not have an existing

source of alternative health insurance coverage via a spouse. That is, I find larger implied effects

for a group that, in principle, experienced a greater loosening of the link between health

insurance and traditional employment as a result of the IHCP.

The paper proceeds as follows. The following section provides a brief background on

why health insurance availability might affect labor market choices and motivates why the IHCP

in particular may have affected the self-employment decisions of New Jersey residents. The

third section describes my data, focusing on key variables and my analysis sample. Though not a

traditional source of employment-related information, the fraction reporting self-employment in

the BRFSS closely matches the level reported in the Current Population Surveys (CPS), a more

commonly used source of such information. The fourth section presents my empirical strategy,

which involves before and after comparisons in the context of a difference-in-differences

framework. As alluded to above, I employ various sets of comparison states that implemented

no substantial health insurance reforms over the period in question. In particular, I first compare

New Jersey to nearby Pennsylvania and then sequentially expand the relevant comparison group

to include the mid-Atlantic, the Northeast, and all U.S. states that did not enact major health

insurance reforms in the relevant period. A key part of my empirical strategy is that I exploit

within-state control groups, defined by health and marital statuses, on the assumption that the

IHCP should have differential impacts on the self-employment decisions of these groups. This assumption is supported by evidence and intuition which suggest these groups are more likely to experience health insurance–related job-lock. In essence, I examine the degree to which the IHCP, as a source of alternative coverage, "unlocked" health insurance-induced attachment to traditional employment. The fifth section presents my findings, which fill a gap in the literature that relates health insurance availability and labor market choices. More broadly, they contribute to a large literature on the determinants of self-employment and provide evidence that social insurance encourages economic risk-taking like entrepreneurship. The final section presents a conclusion.

BACKGROUND AND MOTIVATION

Despite a strong interest in the distribution and determinants of self-employment, economists have devoted relatively little attention to the role health insurance availability plays in self-employment decisions. Indeed, there is only one published study on the topic.[1] This lack of attention is especially surprising in the context of several studies on the influence of health insurance availability on job mobility. In the remainder of this section, I first briefly review why health insurance might influence labor market choices, including self-employment, in the U.S. context. Next, I discuss why the IHCP might have affected self-employment decisions, focusing on its most relevant features and providing examples of groups for whom the IHCP likely represented a valuable source of alternative coverage not linked to traditional employment.

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[1] Holtz-Eakin, Penrod, and Rosen (1996) examine the impact of health insurance on the transition from traditional employment to self-employment using panel data. In particular, they compare the characteristics of individuals who transition from traditional to self-employment with their counterparts who remained wage earners and conclude that health insurance portability had no systematic effect on this transition.

Why Might Health Insurance Availability Affect Labor Market Choices?

As is well known, a majority of working-aged Americans obtain health insurance coverage as a fringe benefit offered by their employers (Fronstin 2004). Conditional on working for an employer that offers health insurance, it is generally thought that individual coverage is more difficult to obtain and more expensive than equivalent group coverage, due in large part to adverse selection.[2] For example, potential adverse selection leads insurers in the individual market to engage in medical underwriting, a process by which they attempt to gather information on the "riskiness" of applicants. Based on such information, insurers may attach riders or other exclusions on existing conditions, rate an applicant as "substandard," which results in higher premiums, or deny coverage outright.[3] Since individuals who leave jobs with employer-sponsored coverage must eventually forfeit it, the higher costs associated with individual policies, coupled with potential difficulty in obtaining or maintaining coverage, may discourage job mobility (see, for example, Buchmueller and Valletta 1996; Cooper and Monheit 1993; Gruber and Madrian 1994; Madrian 1994b). Such immobility may be especially binding for individuals who face relatively high experience-rated premiums in the nongroup market (e.g., individuals healthy enough to work but considered "bad risks" by health insurers) and individuals who lack existing alternative sources of coverage (e.g., unmarried individuals, those ineligible for government-sponsored health insurance, etc.). Finally, note that certain individuals, like those with long-term chronic health problems or those who anticipate poor

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[2] Here, I refer to the "loading factor" or portion of the premium beyond expected loss, which is commonly considered the price of health insurance. Relative to group coverage, the loading factor for individual health insurance is much higher, on average (Phelps 1997).

[3] While there is agreement that such actions occur, there is less agreement over their prevalence in the nongroup market (see, for example, GAO 1996, 2002; Pauly and Nichols 2002; Pollitz et al., 2001).

future health, may sort into employment that offers access to group health insurance relatively early in their working lives.

Why Might the IHCP Have Affected Self-Employment Decisions?[4]

Throughout the 1980s and 1990s, states enacted much legislation to reform various aspects of their individual health insurance markets.[5] Between 1993 and 1996, eight states enacted substantial reform of their nongroup markets that included guaranteed issue and some form of community rating (LoSasso and Lurie 2003).[6] The most comprehensive of these reforms was the Individual Health Coverage Plan (IHCP), which was implemented by New Jersey in August 1993. While the IHCP bundled several policy changes, its overriding goal was to create an individual health insurance market characterized by competition and access. In what follows, I describe its key provisions, their intentions, and how the IHCP changed the individual market in New Jersey. The latter is most important since it has implications for whether, to what extent, and for whom the IHCP provided a legitimate alternative to employer-sponsored coverage.

Two of the most prominent features of the IHCP—guaranteed issue and guaranteed renewability—were intended to expand the size and scope of New Jersey's individual health insurance market. As is well-documented, insurers in individual markets may engage in risk selection, including refusing to issue coverage, or doing so only at very high premiums. While these actions are intended to reduce their exposure to adverse selection, they may discourage a

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[4] This section and the next one draw heavily on two papers by Swartz and Garnick (1999, 2000).

[5] Beyond state policy, amendments to the Tax Reform Act of 1986 increased the tax credit for the purchase of health insurance by the self-employed. These credits, however, were enacted between 1996 and 2003, mostly after my main analysis period, 1991 to 1996. Moreover, since they are common to all states, their impact on self-employment, if any, should be accounted for by year indicators included in all models.

[6] Chronologically, these eight states include New York (April 1993), Vermont (July 1993), New Jersey (August 1993), Maine (December 1993), New Hampshire (January 1995), Washington (January 1996), Kentucky (July 1996), and Massachusetts (August 1996).

broader set of individuals from purchasing individual coverage. In particular, they may discourage individuals who prefer to pursue labor market choices that do not entail health insurance but value coverage. This is especially relevant in the context of forgoing employer-sponsored coverage, which, if offered, typically is available to all employees, and rarely are individuals dropped from coverage.[7] To the extent that these provisions reduced the uncertainty of obtaining or maintaining individual health insurance coverage, they may have encouraged its purchase among such individuals. That said, it is important to note that this is not required since individuals may be induced to become self-employed by initiatives like the IHCP even if they do not purchase health insurance. In other words, given the "guaranteed acceptance" provision, individuals may enter self-employment knowing that they are now able to purchase health insurance when desired in the future. Unfortunately, I cannot examine the timing of such behavior as BRFSS respondents are not followed over time. Moreover, the relevant question asks only whether respondents have any health insurance coverage and does not distinguish between coverage types (e.g., group versus nongroup).

Beyond expanding the size of the market, the IHCP contained provisions aimed at increasing access for persons with poorer health and for whom affordability of health insurance was a binding constraint. For example, the IHCP limited exclusion from coverage on the basis of preexisting conditions to 12 months. Moreover, after 12 months with an IHCP plan, the waiting period was waived if an individual desired to change companies. Perhaps more importantly, the IHCP imposed pure community rating on premiums, so that all individuals

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[7] The possibility that individuals who would like to be self-employed but remain in traditional employment due to uncertainties with the individual market seems especially relevant because consumer information on the individual health insurance market is not particularly good. For example, Pollitz, Sorian, and Thomas (2001) find that different carriers in the same market treated identical fictitious applications quite differently. In such an environment, perceptions of difficulty in obtaining or maintaining coverage are likely relevant.

purchasing a given plan from a given carrier would pay the same rate. Indeed, this differentiates the IHCP from other large state reforms that implemented weaker forms of community rating. To mitigate the possibility of losses due to adverse selection, the IHCP transferred pricing power to insurance carriers, who no longer had to obtain approval from the state to increase premiums, as was previously the case.[8] Nevertheless, these aspects of IHCP have strong implications for whose labor market behavior is, in principle, most impacted; I address this issue in detail in a subsequent section.

To deal with the potential of increased enrollment, the IHCP encouraged entry into the individual market by requiring that all carriers selling health insurance policies in New Jersey either offer individual policies or, alternatively, subsidize the losses of those firms that sold them. This provision was intended to increase the number of potentially competing firms in the individual market.[9] As documented by Swartz and Garnick (1999) in extensive interviews with insurance company executives and others, this provision led several carriers, most of them managed care firms, to consider selling policies rather than subsidizing the losses of other companies they perceived as inefficient.

Two final provisions—standardization of plan offerings and portability of coverage—sought to increase competition among firms more directly. As suggested, the IHCP limited offerings to six standardized plans. These included five indemnity plans with varying degrees of completeness and an HMO plan, which allowed individuals to trade higher out-of-pocket expenses for lower premiums and vice versa.[10] While this was an attempt to eliminate "niche" market behavior, it also may have reduced the information costs associated with the purchase of

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[8] See Swartz and Garnick (1999) for more information on the politics of this particular provision.
[9] As I will discuss in greater detail, Blue Cross Blue Shield was the major provider of individual insurance policies in New Jersey prior to the IHCP.
[10] More complete policies were characterized by higher premiums and lower out-of-pocket costs.

individual health coverage, while preserving some amount of choice.[11] Such information costs

may be especially important in the individual health insurance market, where very few

individuals participate and policies are often tailored to specific individuals or very small

groups.[12] The IHCP also sought to induce competition by providing for portability of coverage

between plans offered by different carriers within the system. The intention was that consumer

search and potential subsequent mobility would discipline premiums. While plausible, it also

seems likely that this provision would be viewed favorably by individuals whose next-best

alternative is employer-sponsored coverage, since they would not be tied exclusively to any

individual carrier.

Impact of the IHCP on New Jersey's Individual Health Insurance Market

While the policy itself is quite involved, the relevant question for my analysis is whether

the IHCP succeeded in establishing individual coverage as a legitimate alternative to employer-

sponsored coverage. More generally, did it effectively loosen the connection between traditional

employment and access to health insurance? Relative to the prior regime, where nearly all

individual insurance policies were sold by Blue Cross Blue Shield, the answer appears to be yes,

at least in the short run. For example, as noted by Swartz and Garnick (2000), the number of

insurance companies selling policies in New Jersey's individual market increased from

effectively one, prior to IHCP, to a maximum of 28 carriers. Beyond numbers, it is clear that the

choices available to consumers in the individual market increased after August 1993. As

mentioned, the IHCP created six standardized plans that involve different levels of

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[11] Many believe that niche markets reduce competition in individual insurance markets since they are
tailored for very small groups and hence not available more generally.
  [12] There is evidence that standardization of plan offerings improved the functioning of the Medigap market
(see, for example, Rice, Graham, and Fox 1997).

comprehensiveness of coverage. Of the 17 firms that were selling policies in 1999, 12 sold one of the five indemnity plans and 9 sold the proscribed HMO coverage with some firms offering both types of coverage. This differed substantially from the prior regime where Blue Cross Blue Shield offered only indemnity coverage and individual policy choices were not uniform across individuals (e.g., smokers were offered different policies than nonsmokers).

Another important question is what happened to premiums following the IHCP. During its first two years, premiums fell from levels for comparable policies that were sold prior to the reform (Swartz and Garnick 2000). While the hope was that competition in the individual market would continue to reduce premiums over time, there is evidence that they increased modestly over the next two years for some plans and by greater amounts for others. For example, from Q1:1995 to Q4:1996, the lowest real premium for Plan C, an intermediate level of indemnity coverage, and the HMO coverage option increased, respectively, from $127 to $146 per month and from $177 to $183 per month for individual coverage. By contrast, the price of Plan D, which represented the most generous plan offered through the IHCP, increased from $142 to $194 per month for individual coverage over this period. While the latter increase in premiums represents an increase of roughly one-third, it is important to note that these minimum prices were not much greater than average premiums offered via group insurance to employers in the U.S. Northeast.[13] That said, it is possible that some individuals, including already self-employed individuals in "one-life" policies, faced higher premiums because the proscribed IHCP plans that replaced them involved higher levels of coverage and were not allowed to experience-rate premiums. While no data are available, it is thought that these plans were a small portion of New Jersey's individual health insurance market (Swartz and Garnick 1999).

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[13] These figures refer to single coverage. Differences for family coverage were somewhat larger proportionately. See Swartz and Garnick (2000) for more details.

Finally, while total enrollment increased dramatically from roughly 50,000 to over 180,000 in the first two years, it declined in the following years.[14] By Q4:1996, total enrollment was down to about 160,000. Even larger decreases occurred from Q1:1997 to Q4:2001, with total enrollment falling by roughly half. These declining enrollments suggest that the IHCP has been subject to adverse selection. Indeed, Monheit et al. (2004) present evidence consistent with adverse selection in the IHCP. Falling enrollments, however, like the premium increases noted above, have not occurred uniformly across plans. Perhaps not surprisingly, evidence for adverse selection seems strongest in Plan D, the IHCP's most generous plan. By contrast, there is little evidence of adverse selection with respect to the HMO offering, which itself experienced a dramatic increase in enrollment in the first few years, followed by roughly constant enrollment to the end of 2001.

For my purposes, adverse selection is not a large concern. First, even if adverse selection exists, the individuals responsible for it may be those induced into self-employment by the reform. In other words, any adverse selection may be driven, at least in part, by the behavior I intend to estimate.[15] Since the IHCP imposed pure community rating, one might expect larger behavioral responses among those who would likely have paid higher premiums in the effectively experience-rated individual market that prevailed prior to 1993. As will be seen, I allow the impact of the reform to vary by smoking status, weight-related health, and age as proxies for observable health status. Second, the enrollment declines and larger premium increases that suggest the existence of adverse selection appear to have not started until after the

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[14] This paragraph draws heavily on Monheit et al. (2004).
[15] That said, recall that individuals may move into self-employment *prior* to purchasing health insurance with the knowledge that it is now more readily available in the individual market.

end of my main period of analysis, 1991–1996.[16] As noted, I vary the length of my postpolicy

period, including trimming it to December 1995, and find estimates consistent with my original

post-period.[17]

Whose Labor Market Choices Might Be Most Affected by the IHCP?

While the IHCP facilitated access to an alternative source of health insurance coverage

generally, it is likely that this was more meaningful for individuals who lacked alternatives to

their own employer-sponsored coverage. One example of such a group is unmarried individuals.

While married individuals typically are eligible for group health insurance offered by a spouse's

employer, unmarried individuals generally do not have this option. By providing access to an

alternative source of coverage, the IHCP likely loosened the connection between traditional

employment and health insurance for unmarried individuals to a greater extent than their married

counterparts. As detailed in the fourth section of the paper, I allow the impact of the IHCP to

vary across individuals by their marital status.[18] If unmarried individuals are indeed more

constrained in their choices and if the IHCP provides a plausible alternative, then a greater

response among unmarried individuals is expected.

Individuals with lower health status form another group that may have been offered

relatively more choice by the IHCP. Such individuals may not qualify for health insurance in the

individual market, and those who do qualify may be concerned with continuity of coverage or

face prohibitively high premiums. By contrast, experience-rating of premiums within the context

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[16] In my main models, the prepolicy period is January 1991 to August 1993 and the postpolicy period is September 1993 to December 1996. The prepolicy period is constrained since data on New Jersey residents are not available in BRFSS prior to 1991.

[17] I also extend the length of the postpolicy period to December 2000 in annual increments.

[18] This strategy is similar in spirit to papers that exploit the existence of spousal coverage to examine various labor market implications of health insurance availability (see, for example, Buchmueller and Valletta [1999], Chou and Staiger [2001], and Madrian [1994a]).

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of employer-sponsored coverage is rare. In conjunction with the guaranteed issue and

renewability provisions, limiting exclusion on the basis of preexisting conditions to one year and,

perhaps most importantly, the pure community rating of premiums may have allowed such

individuals to pursue labor market options outside the context of traditional employment. In my

empirical analysis, I proxy lower health status by whether an individual is a heavy smoker,

which I define as someone who smokes at least one-half of a pack of cigarettes (10 cigarettes)

per day, for two reasons. First, heavy smoking is correlated with higher current and future

medical expenses and, as such, is a characteristic most individual market insurers use to

experience-rate premiums. Second, heavy smoking, relative to even light smoking, is likely an

observable trait. In addition, I proxy lower health status by whether individuals are clinically

obese. Like heavy smoking, excess body weight is an observable characteristic correlated with

higher health expenditures. As such, it may also deter some individuals from making choices

that do not entail access to group health insurance.[19]

DATA

I use data from the BRFSS for the years 1991–1996. The BRFSS is an annual telephone

survey of adults aged 18 and older from across the United States. While not a traditional source

for labor market data, the BRFSS collects a limited set of employment-related information,

including employment status. The data have several advantages. Two key features are its

relatively large sample sizes and, more importantly, it is representative of state populations by

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[19] Though not as directly health related as smoking behavior and obesity status, I also estimate models by age group. In particular, I allow the impact of the IHCP on self-employment to vary across younger and older individuals since age is correlated with health status and since older individuals often have more difficulty obtaining and/or pay higher premiums for coverage in the individual market.

design. Another important advantage is that the BRFSS collects data on health status and health behaviors, unlike traditional sources of employment-related information. For reasons discussed in the previous section, health-related information is desirable since the alternative source of coverage provided by the IHCP may be relatively more valuable to observably less-healthy individuals, due to prior barriers in obtaining coverage in the individual market. In what follows, I compare the self-employment information in the BRFSS to corresponding information from a more commonly used source of employment-related information. Finally, I describe my analysis sample.

Self-Employment Status

As noted, the BRFSS is not a traditional source for employment-related data. So, while respondents are asked about their employment status, the relevant question is very general in nature. In particular, there are eight legitimate responses, including employed for wages, out of work for more than one year, out of work for less than one year, homemaker, student, retired, unable to work, and, of course, self-employed. Moreover, there is no information on multiple jobs and no information on intensity of work effort (e.g., hours worked per week). Despite this generality, the proportion reporting self-employment in the BRFSS is quite similar to estimates from a more traditional source of employment-related information. Table 1 compares the fraction self-employed in BRFSS to the March Current Population Surveys from 1994 to 1996. The first column of Table 1 compares self-employment among individuals aged 25–59, which matches the sample I analyze. Corresponding estimates are quite similar (10.2 percent in BRFSS and 9.6 percent in the CPS), and this similarity extends across the age distribution with differences converging to equality with age. While the differences are small, the fraction that is self-employed is consistently lower in the CPS. This is likely due to the additional level of detail

in the wording of the relevant CPS question, which asks respondents about the status of their main job held in the previous week.[20] As can be seen, these patterns hold for men and women.

The repeated cross-sectional nature of my data imply that I cannot model specific transitions to self-employment (e.g., from traditional employment to self-employment).[21] As a result, I cannot pinpoint the source of any policy effect that might be found. This limitation aside, I avoid two common issues that arise in using panel data. First, relatively infrequent labor market transitions are likely subject to nontrivial measurement error. Second, my estimates are not subject to bias from differential sample attrition. This latter point is especially relevant since recent work finds that displaced workers are more likely to transition to self-employment than their nondisplaced counterparts (Krashinsky 2004). Perhaps more importantly, this finding suggests that focusing only on the transition from traditional to self-employment will miss much relevant behavior.[22] For example, displaced workers may be less likely to transition back to traditional employment after implementation of a policy similar to the IHCP.

Analysis Samples

The 1991–1996 BRFSS files contain data on 591,723 individuals residing in New Jersey or another state that did not implement substantial reforms in its individual health insurance market over the period in question. I limit my sample to individuals aged 25–59. On the lower end, I intend to exclude individuals who place very low value on health insurance or who have little attachment to the labor force. On the upper end, I aim to avoid measuring behavior driven

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[20] For example, individuals engaged in both traditional and self-employment may report the latter when asked the more general BRFSS question, even if they are primarily employed in a traditional job.

[21] As detailed later in the paper, my empirical strategy effectively compares how the fraction of self-employed changes following the implementation of the IHCP in New Jersey versus Pennsylvania and, eventually, an expanded set of comparison states.

[22] This finding also emphasizes the importance of accounting for economic conditions and, as described in the section on empirical strategy, I include monthly state unemployment rates in all models.

principally by retirement-related decisions. In addition to requiring valid self-employment information, these age restrictions reduce my sample to 382,670 individuals. Given that I include indicators for missing covariate information, this figure represents my main analysis sample. Sample sizes corresponding to my three smaller comparison groups (i.e., Pennsylvania, mid-Atlantic states, and Northeast states that did not experience individual health insurance reforms) are 18,409, 40,880, and 66,893, respectively. Table 2 presents selected sample characteristics for New Jersey and my four comparison groups for the prepolicy period.

EMPIRICAL STRATEGY

Given the nature of the policy change, I employ a difference-in-differences strategy. In principle, one could compare the fraction that is self-employed in New Jersey before and after the IHCP. However, this information alone may be biased due to secular trends in self-employment or potential confounders such as changing economic conditions. As a result, a plausible comparison group is needed. As noted, I use four distinct sets of comparison states, including the nearby state of Pennsylvania as well as mid-Atlantic, Northeast, and all U.S. states that did not substantially reform their individual health insurance markets over the period in question.[23] In effect, I compare the before-after change in self-employment in New Jersey to the same measure for these four comparison groups. A standard regression-based implementation of this approach is as follows:

(1) $\quad SE_{ijt} = \alpha + \rho POST + \eta NJ + \gamma POST * NJ + X\beta + \tau + \varepsilon_{ijt}$

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[23] My strategy is similar to Buchmueller and DiNardo (2002), who use Pennsylvania residents as a comparison group in assessing the extent of adverse selection following the imposition of community rating of premiums in New York.

In this context, SE represents self-employment status, POST is an indicator that equals one for individuals surveyed between September 1993 and December 1996 and equals zero for individuals surveyed between January 1991 and August 1993, NJ is an indicator that equals one for New Jersey residents and zero for the relevant group of comparison states, X is a set of individual and state-level covariates, including monthly unemployment rates, that may affect self-employment decisions, and τ represents a full set of month and year indicators.[24] The coefficient of greatest interest is γ since it represents the impact of IHCP implementation on self-employment in New Jersey, relative to that of comparison state residents, who were unaffected by these reforms. In addition, I estimate models that vary the length of the postpolicy period, as defined above. All models are estimated with sample weights and all standard errors are clustered by state.

Building on this basic specification, I estimate the impact of the policy change based on characteristics that should affect the degree to which the IHCP relaxed the link between traditional employment and health insurance. I perform two analyses along these lines. First, I estimate Equation (1) by marital status since unmarried individuals generally do not have an existing source of alternative coverage via their spouse. Hence, one might expect a larger average response to the policy among unmarried individuals. Second, I estimate the relationship by smoking and clinical obesity statuses, as proxies for observable health status, since the alternative source of coverage provided by the IHCP should be relatively more important to individuals who may have had greater difficulty in obtaining coverage in the individual market before IHCP implementation or, more generally, may have anticipated such difficulty. Indeed,

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[24] I include monthly unemployment rates since previous work finds that displaced workers, whose numbers will vary with labor market fluctuations, have high rates of entry into self-employment (Farber 1999; Krashinsky 2004).

unlike the group market, where de facto community rating is the norm, it is well established that

smokers pay substantially higher premiums than nonsmokers.[25] Similarly, one might expect that

older individuals have more difficulty obtaining health insurance in the individual market, so I

estimate the relationship separately for those aged 50 and older and those younger than 50 years

old.[26] Beyond general interest, observing more pronounced relationships for such subgroups

should boost the credibility of any finding that implies increased self-employment in response to

the IHCP.

ESTIMATES

In what follows, I first present self-employment means for New Jersey and four

comparison groups for periods before and after implementation of the IHCP. I then present

regression-based estimates from models that compare the New Jersey experience to those of the

four sets of comparison states. After demonstrating the robustness of my estimates to the length

of the postpolicy period, I estimate models that exploit within-state control groups that, in

principle, should be more impacted by the reforms inherent in the IHCP. In particular, I allow

the impact of the IHCP on self-employment decisions to vary by marital status, age and

observable health status, where I proxy the latter by smoking behavior and obesity status.

Self-Employment Before and After the IHCP

Table 3 presents the fraction self-employed in New Jersey and the four sets of

comparison states before the IHCP and the period following it. In addition to Pennsylvania, I

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[25] While I examine differential response by groups defined by smoking and obesity statuses, there are other
groups for whom this logic applies (e.g., individuals whose children have chronic health problems).
[26] Since age is correlated with health, but is not a direct measure of it, I include related estimates in an
appendix table.

label the remaining three sets of comparison states as Mid-Atlantic states, Northeast states, and All U.S. states. Mid-Atlantic states include Delaware, Maryland, and Pennsylvania; Northeast states include these three states plus Connecticut, Massachusetts, New Hampshire, and Rhode Island; while All U.S. states include all states that did not implement substantial reforms of their individual health insurance markets. Throughout, I exclude New York, Maine, and Vermont residents from the relevant comparison groups because each implemented substantial nongroup market reforms that included guaranteed issue and some form of (nonpure) community rating of premiums at roughly the same time as the implementation of the IHCP.[27] I define the prepolicy period from January 1991 to August 1993, and the postpolicy period is September 1993 to December 1996.

As seen in Table 3, the fraction of New Jersey residents who report being self-employed prior to the IHCP is somewhat lower than in the four sets of comparison states. However, while this fraction remains virtually constant over time in the comparison states, it rises considerably for the New Jersey sample.[28] In particular, the fraction self-employed in New Jersey increases from 0.0798 to 0.0960. The implied difference-in-differences estimates are remarkably consistent across comparison groups and range from 0.0133 to 0.0161. In large part, this is due to the fact that there is virtually no change in self-employment in the four sets of comparison states over this period. The implication is that the fraction self-employed in New Jersey rose by between 1.3 and 1.6 percentage points as a result of the alternative source of health insurance

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[27] I include New Hampshire and Massachusetts in the Northeast and All U.S. states groups since each implemented similar reforms, but not until 1995 and 1996, respectively. Likewise, I include Kentucky and Washington in the All U.S. states group because each also implemented similar reforms, but not until 1996. Models that exclude these states produce estimates that are nearly identical in magnitude and precision to those presented below.

[28] As shown later, the increase is driven by individuals for whom the reform was likely more meaningful than others (e.g., those without a potential alternative source of health insurance coverage and observably less-healthy individuals).

coverage provided by the implementation of the IHCP. Next, I investigate whether these preliminary estimates obtain in a regression-based context.

Regression-Based Estimates

Table 4 presents my main estimates. In particular, it reports estimates of γ in a regression-based difference-in-differences specification that compares the New Jersey experience to the experiences of the four sets of comparison states. As discussed, all individual comparison states experienced no substantial health insurance reforms over the period in question. The columns in Table 4 present estimates of Equation (1) that correspond to the four sets of comparison states. In particular, the estimates imply that the IHCP increased the fraction self-employed in New Jersey by between 1.1 and 1.6 percentage points—very similar to conditional mean estimates from Table 3. Relative to an initial level of self-employment of nearly 8 percent, these estimates represent an increase of between 14 and 20 percent.

Table 5 reports estimates from models that vary the length of the postpolicy period for the comparison group labeled All U.S. states. The first column of Table 5 presents estimates from a model that shortens the length of this period to the end of 1995, and the remaining columns sequentially lengthen it by one year until the end of 2000. While estimates of γ decline somewhat with additional postpolicy years, they remain practically and statistically significant. For example, defining the postpolicy period from September 1993 to December 2000 implies an 11 percent increase in self-employment, which is about 60 percent as large as the corresponding estimate for All U.S. states presented in Table 4. Though not presented, similar estimates using Pennsylvania, Mid-Atlantic states, and Northeast States as the relevant comparison groups show a similar pattern, but are somewhat more constant over time.

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Important Heterogeneity in Main Estimates

As discussed, particular subgroups should be more likely to respond behaviorally to the

IHCP. In particular, I posit that unmarried individuals and observably less-healthy individuals

should value the alternative source of coverage provided by the IHCP to a greater extent than

their married and healthier counterparts, respectively. With respect to marital status, unmarried

individuals are less likely to have an existing alternative source of health insurance because they

have no spouse. With respect to health status, it is likely that observably less-healthy individuals

faced, or otherwise perceived, greater barriers in obtaining health insurance coverage in the

individual market. As a result, the nature of the IHCP reforms, which included guaranteed

insurability and renewability in the context of pure community rating of premiums and

restrictions on preexisting conditions exclusions, suggests that less-healthy individuals should

value the IHCP to a greater extent than their healthier counterparts.

Table 6 presents estimates by marital status across the four different comparison groups

listed in Table 4. Relevant coefficient estimates are uniformly larger for unmarried individuals

than their married counterparts, which is consistent with the notion that the IHCP was more

valuable as an alternative source of coverage to individuals who did not have one available via a

spouse.[29] Empirically, this result is consistent in magnitude and precision across all three

comparison groups. There is also evidence that the IHCP increased self-employment among

married New Jersey residents. For example, the Mid-Atlantic and All U.S. states specifications

provide statistically precise evidence that implementation of the IHCP increased the fraction self-

employed among married individuals, though each effect is much smaller in magnitude relative

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[29] The finding is also similar in spirit to Madrian (1994b), who finds that individuals with spousal health insurance are more likely to change jobs than those without it.

to the corresponding estimate for unmarrieds. While not precisely estimated, coefficient estimates in the other two married specifications indicate similar implied magnitudes.

Table 7 displays estimates by smoking status for my four comparison groups. For each group, the first column represents nonsmokers while the second column represents smokers. I label someone as a smoker if they smoke at least one-half pack of cigarettes per day (i.e., 10 cigarettes).[30] I make this restriction since health status differences must be plausibly observable, and while it is likely that light smoking could be hidden from a potential insurer, it seems unlikely that this level of daily smoking could be concealed systematically. The estimates in Table 7 suggest that the effect of the IHCP on self-employment decisions is much more pronounced for individuals who smoke at least one-half pack of cigarettes per day. Moreover, estimates of γ for these smokers are nearly identical across the four comparison groups. In addition, there is consistent evidence of an impact for nonsmokers, as defined, but the implied magnitudes are smaller than for smokers. These estimates, which suggest that the behavioral responses of smokers who cannot easily conceal their habit were larger than those of their nonsmoking counterparts, are consistent with the notion that the IHCP provided a more valuable alternative source of coverage to a set of individuals relatively more likely to have difficulty obtaining such coverage prereform.[31]

Table 8 presents estimates by obesity status. Again, estimates from models with alternative comparison groups are presented. Each of the first columns represents nonobese individuals and each of the second columns represents obese individuals. I label someone as obese if they report weight and height such that their implied body mass index is greater than or

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[30] As a result, non-smokers include individuals who do not smoke as well as those who smoke less than 10 cigarettes per day.
[31] Though not reported, this set of estimates is not very sensitive to the definition of a smoker.

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equal to 28. While the clinical definition of adult obesity is a BMI of at least 30, it is well

documented that individuals systematically underreport their weight when it is self-reported, as

in the BRFSS, rather than explicitly measured (Cawley 1999). Indeed, my own calculations

using anthropometric data on height and weight from the third National Health and Nutrition

Examination Survey (NHANES III)—which was gathered from 1988 to 1994, a period only

slightly earlier than mine—suggest that nearly 23 percent of individuals are measured to be

clinically obese. In my BRFSS samples, roughly the same proportion report an implied BMI of

28 or higher, consistent with individuals underreporting their weight.[32] Using this definition,

estimates in Table 8 suggest that while the IHCP had a systematic effect on nonobese

individuals, the magnitude of its impact was much greater for individuals defined as obese. As

with estimates by smoking status, these are consistent with the notion that the IHCP, as a source

of alternative health insurance coverage, was more valuable to individuals who may have had a

more difficult time obtaining insurance in the individual market prior to its implementation.

Though not reported, I find a similar pattern for overweight versus nonoverweight individuals

where overweight status is attained with a BMI of at least 25.

Finally, though not as directly health related as smoking behavior or obesity status, I

estimate the impact of the IHCP on self-employment by age. In particular, I allow its impact to

vary across two age groups—one composed of individuals less than 50 years old and the other

including those at least 50 years old. As seen in Table 9, whose structure mirrors Tables 6–8,

corresponding estimates of γ are consistently larger for older individuals, though there is some

systematic evidence of a relationship, albeit a smaller one, for those under 50 years old in the

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[32] By contrast, only about 17 percent of individuals report a BMI of 30 or greater. In any event, estimates
for individuals with a self-reported BMI of 30 or greater produce very similar results to those presented and are
available upon request.

Mid-Atlantic, Northeast, and All U.S. states comparison groups. Since age is correlated with health status, and since older individuals often have more difficulty or pay substantially higher premiums for individual health insurance, these estimates provide further evidence that increased health insurance availability, via the IHCP, increased self-employment in New Jersey.

CONCLUSIONS

My main findings suggest that the IHCP increased self-employment in New Jersey, relative to four comparison groups, by roughly 14–20 percent. While not trivial, these findings are at the lower end of the range of estimates with respect to job mobility and retirement, which suggest that health insurance availability, in the many forms studied, increases the relevant behavior by between 25 and 50 percent (Madrian 2006). Consistent with key features of the IHCP, I investigate its impact on self-employment by marital, smoking, and obesity statuses, as well as by respondent age, and find that my overall results are driven by the behavior of individuals for whom the IHCP likely represented a valuable alternative source of coverage not linked to traditional employment. Estimates for these groups, in percentage terms, lie at the upper end of this range, consistent with the notion that I am more closely identifying those whose behavior were actually impacted by the policy.

My findings fill a gap in the literature that relates health insurance availability and labor market choices, but have broader implications. For example, they suggest that social insurance encourages economic risk taking like entrepreneurship. Moreover, my findings contribute to a large literature on the determinants of self-employment choices, which exists independent of the literature on health insurance availability and labor market choices. Finally, they have

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implications for current policy, since the most prominent features of the IHCP are consistent

with the types of health insurance reforms debated in the 2008 U.S. presidential election.

References

Buchmueller, T. C., and J. E. DiNardo. 2002. "Did Community Rating Induce an Adverse Selection Death Spiral? Evidence from New York, Pennsylvania and New Jersey." *American Economic Review* 92(1): 280–293.

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): 439–455.

———. 1999. "The Effect of Health Insurance on Married Female Labor Supply." *Journal of Human Resources* 34(1): 42–70.

Cawley, J. H. 1999. "Rational Addiction, the Consumption of Calories, and Body Weight." PhD diss., University of Chicago.

Chou, Y. J., and D. Staiger. 2001. "Health Insurance and Female Labour Supply in Taiwan." *Journal of Health Economics,* 20(2): 187–211.

Cooper, P. F., and A. C. Monheit. 1993. "Does Employment-Related Health Insurance Inhibit Job Mobility?" *Inquiry* 30(4): 400–416.

Currie, J., and B. C. Madrian. 1999. "Health, Health Insurance, and the Labor Market." In *Handbook of Labor Economics, Volume 3,* Orley Ashenfelter and David Card, eds. Amsterdam: Elsevier Science, pp. 3309–3416.

Farber, H. S. 1999. "Alternative and Part-Time Employment Arrangements as a Response to Job Loss." *Journal of Labor Economics* 17(4): S142–S169.

Fronstin, P. 2004. *Sources of Health Insurance and Characteristics of the Uninsured: Analysis of the March 2004 Current Population Survey*. EBRI Issue Brief No. 276. Washington, DC: Employee Benefit Research Institute.

Gruber, J. 2000. "Health Insurance and the Labor Market." In *Handbook of Health Economics Volume 1*, Anthony J. Culyer and Joseph P. Newhouse, eds. Amsterdam: Elsevier Science, pp. 645–706.

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): 86–201.

———. 1995. "Health Insurance Availability and the Retirement Decision." *American Economic Review* 85(4): 938–948.

———. 1996. "Health Insurance and Early Retirement: Evidence from the Availability of Continuation Coverage." In *Advances in the Economics of Aging*, D. A. Wise, ed. Chicago: University of Chicago Press, pp. 115–143.

———. 1997. "Employment Separation and Health Insurance Coverage." *Journal of Public Economics* 66(3): 349–382.

Holtz-Eakin, D., J. R. Penrod, and H. S. Rosen. 1996. "Health Insurance and the Supply of Entrepreneurs." *Journal of Public Economics* 62(1-2): 209–235.

Kapur, K. 1998. "The Impact of Health on Job Mobility: A Measure of Job Lock." *Industrial and Labor Relations Review* 51(2): 282–297.

Krashinsky, H. A. 2004. "Self-Employment for Less-Educated Men." Photocopy, University of Toronto.

LoSasso, A. T., and I. Z. Lurie. 2003. "The Effect of State Policies on the Market for Private Nongroup Health Insurance." Institute for Policy Research Working Paper No. 04-09. Evanston, IL: Institute for Policy Research.

Madrian, B. C. 1994a. "The Effect of Health Insurance on Retirement." *Brookings Papers on Economic Activity* 1994(1): 181–232.

———. 1994b. "Employment-Based Health Insurance and Job Mobility: Is There Evidence of Job Lock?" *Quarterly Journal of Economics* 109(1): 27–54.

———. 2006. "The U.S. Health Care System and Labor Markets." NBER Working Paper No. 11980. Cambridge, MA: National Bureau of Economic Research.

Monheit, A. C., J. C. Cantor, M. Koller, and K. S. Fox. 2004. "Community Rating and Sustainable Individual Health Insurance Markets in New Jersey." *Health Affairs* 23(4): 167–175.

Pauly, M., and L. Nichols. 2002. "The Nongroup Health Insurance Market: Short on Facts, Long on Opinions and Policy Disputes." *Health Affairs–Web Exclusives*, October 23: W325–W344.

Phelps, C. E. 1997. *Health Economics*, 2nd ed. Reading, MA: Addison-Wesley.

Pollitz, K., Sorian, R., and K. Thomas. 2001. "How Accessible is Individual Health Insurance for Consumers with Less-than-Perfect Health?" Washington, DC: Henry J. Kaiser Family Foundation.

Rice, T., M. L. Graham, and P. D. Fox. 1997. "The Impact of Policy Standardization on the Medigap Market." *Inquiry* 34(2): 106–116.

Swartz, K. and D.W. Garnick. 1999. "Hidden Assets: Health Insurance Reform in New Jersey." *Health Affairs* 18(4): 180–187.

———. 2000. "Lessons from New Jersey." *Journal of Health Politics, Policy and Law* 25(1): 45–70.

U.S. General Accounting Office. 1996. "Private Health Insurance: Millions Relying on Individual Market Face Cost and Coverage Trade-Offs." GAO/HEHS-97-8. Washington, DC: GAO.

———. 2002. "Private Health Insurance: Access May be Restricted for Applicants with Mental Disorders." GAO-02-339. Washington, DC: GAO.

Table 1 Comparing the Fraction Self-Employed in the BRFSS and CPS, 1994–1996

Age Group	25–59	25–34	35–44	45–59
All				
BRFSS	0.1024	0.0732	0.1086	0.1258
CPS	0.0963	0.0630	0.1016	0.1238
Men				
BRFSS	0.1321	0.0924	0.1403	0.1649
CPS	0.1256	0.0792	0.1331	0.1653
Women				
BRFSS	0.0733	0.0538	0.0776	0.0883
CPS	0.0677	0.0470	0.0709	0.0846

NOTE: The figures in the first column correspond to my analysis sample which includes respondents aged 25–59.

Table 2 Selected Sample Characteristics, Prior to IHCP

	NJ	PA	Mid-Atlantic	Northeast	All U.S.
Self-employed	0.080	0.092	0.088	0.091	0.103
Age	39.61	39.96	39.63	39.56	39.44
Male	0.479	0.484	0.486	0.486	0.496
White	0.772	0.882	0.767	0.800	0.790
African-American	0.086	0.078	0.121	0.101	0.093
Hispanic	0.081	0.022	0.070	0.061	0.084
Other race	0.061	0.028	0.042	0.038	0.033
Less than high school	0.070	0.091	0.097	0.091	0.111
High school	0.302	0.444	0.362	0.347	0.336
Some college	0.248	0.202	0.228	0.229	0.263
University or higher	0.380	0.263	0.313	0.333	0.290
Married	0.723	0.702	0.667	0.673	0.705
State unemp. rate	7.67	7.30	7.49	7.60	7.11
N	2,446	4,036	14,520	25,668	145,203

NOTE: Figures are weighted means for the period January 1991 to August 1993, inclusive, which corresponds to my pre-policy period. "Mid-Atlantic" states include Delaware, Maryland, and Pennsylvania, "Northeast" states include the Mid-Atlantic states listed as well as Connecticut, Massachusetts, New Hampshire, and Rhode Island and "All U.S." states include all states with the exception of New York, Maine, and Vermont, which implemented reforms similar to the IHCP over the period in question.

Table 3 Fraction Sself-Employed, Pre- and Postpolicy: New Jersey vs. Various Comparison Groups

	Pre-IHCP	Post-IHCP	Difference	Difference-in-differences
New Jersey	0.0798	0.0960	0.0162	----
Pennsylvania	0.0918	0.0932	0.0014	0.0148
Mid-Atlantic states	0.0884	0.0903	0.0019	0.0143
Northeast states	0.0910	0.0939	0.0029	0.0133
All U.S. states	0.1032	0.1033	0.0001	0.0161

NOTE: Figures reported are weighted means. "Pre-IHCP" refers to the time period January 1991 to August 1993 and "Post-IHCP" refers to the period September 1993 to December 1996. "Difference-in-Differences" estimates are calculated relative to the estimated New Jersey difference. Means for Mid-Atlantic states do not include New York, and Northeast states exclude New York, Maine, and Vermont. All U.S. states exclude the same states as Northeast states since the only two non-Northeast states, Kentucky and Washington, implemented relevant reforms in 1996, the last year of my data. These exclusions are due to similar policies being enacted at roughly the same time as New Jersey's IHCP. See the second section of the text for additional details.

Table 4 Impact of Health Insurance Availability on Self-Employment

	Pennsylvania	Mid-Atlantic states	Northeast states	All U.S. states
Post*New Jersey (γ)	0.0134	0.0136	0.0112	0.0157
	(0.0012)	(0.0017)	(0.0031)	(0.0028)
	[0.0279]	[0.0020]	[0.0041]	[0.0001]
	{0.168}	{0.170}	{0.140}	{0.196}
New Jersey	−0.0163	−0.0157	−0.0120	−0.0265
	(0.0006)	(0.0025)	(0.0015)	(0.0068)
Post	−0.0115	−0.0077	0.0016	0.0061
	(0.0168)	(0.0131)	(0.0097)	(0.0040)
Age	0.0072	0.0085	0.0096	0.0110
	(0.0018)	(0.0017)	(0.0013)	(0.0011)
Age squared	−0.0001	−0.0001	−0.0001	−0.0001
	(0.00002)	(0.00002)	(0.00001)	(0.00001)
Male	0.0638	0.0551	0.0557	0.0586
	(0.0092)	(0.0100)	(0.0064)	(0.0033)
White	0.0128	0.0093	0.0149	0.0053
	(0.0008)	(0.0033)	(0.0038)	(0.0033)
African American	−0.0154	−0.0249	−0.0235	−0.0462
	(0.0058)	(0.0090)	(0.0066)	(0.0042)
Hispanic	−0.000004	−0.0052	−0.0067	−0.0200
	(0.0115)	(0.0089)	(0.0063)	(0.0074)
Married	0.0134	0.0125	0.0109	0.0051
	(0.0039)	(0.0030)	(0.0027)	(0.0021)
State unemployment rate	0.0084	0.0070	0.0033	0.0032
	(0.0075)	(0.0029)	(0.0020)	(0.0029)
Dependent mean	0.0912	0.0894	0.0919	0.1028
N	18,409	40,880	66,893	382,760

NOTE: Sample includes individuals 25–59 years old from 1991–1996 BRFSS files. Implied percentage impacts are in curly brackets; these are computed as the coefficient listed divided by the preperiod fraction self-employed in New Jersey listed in Table 1. In addition to the covariates shown, all models include indicators for level of formal education and month and year indicators. Probit marginal effects are nearly identical in all cases. Standard errors, in parentheses, are adjusted for heteroskedasticity and correlation of observations within state cells. Corresponding p-values are in square brackets for γ.

Table 5 Estimated Effect of HI Availability on Self-Employment, by Length of Postperiod

	1995	1997	1998	1999	2000
Post*NJ (γ)	0.0215	0.0118	0.0122	0.0094	0.0091
	(0.0022)	(0.0024)	(0.0026)	(0.0030)	(0.0032)
	[0.0001]	[0.0001]	[0.0001]	[0.0025]	[0.0071]
	{0.269}	{0.148}	{0.153}	{0.118}	{0.114}
NJ	−0.0264	−0.0268	−0.0268	−0.0266	−0.0266
	(0.0070)	(0.0068)	(0.0068)	(0.0067)	(0.0067)
Post	0.0073	0.0066	0.0063	0.0058	0.0054
	(0.0043)	(0.0042)	(0.0041)	(0.0040)	(0.0039)
Dep. mean	0.1036	0.1030	0.1027	0.1021	0.1014
N	308,319	464,315	556,137	654,144	765,895

NOTE: Estimates presented use All U.S. states as the comparison group, though other groups yield substantively similar estimates which are available upon request. Samples include individuals 25–59 years old. This table presents models that vary the length of the postperiod, which extended to the end of 1996 in my main models. For example, the model corresponding to estimates under the heading 1997 add 1997 observations to the analysis sample, and so forth. All models include controls for age, race, education, and state unemployment rate, in addition to month and year indicators. Implied percentage impacts are in curly brackets; these are computed as the coefficient listed divided by the pre-period fraction self-employed in New Jersey listed in Table 3. Probit marginal effects are nearly identical in all cases. Standard errors, in parentheses, are adjusted for heteroskedasticity and correlation of observations within state cells. Corresponding p-values are in square brackets for γ.

Table 6 Estimated Impact of Health Insurance Availability on Self-Employment Status, by Marital Status: Multiple Comparison Groups

	Pennsylvania		Mid-Atlantic states		Northeast states		All U.S. states	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Post*NJ (γ)	0.0052	0.0341	0.0070	0.0299	0.0043	0.0270	0.0083	0.0328
	(0.0026)	(0.0031)	(0.0019)	(0.0029)	(0.0036)	(0.0023)	(0.0026)	(0.0044)
	[0.1446]	[0.0293]	[0.0181]	[0.0010]	[0.1367]	[0.0001]	[0.0022]	[0.0001]
NJ	−0.0181	−0.0110	−0.0160	−0.0149	−0.0109	−0.0149	−0.0230	−0.0360
	(0.0027)	(0.0030)	(0.0028)	(0.0035)	(0.0022)	(0.0017)	(0.0073)	(0.0060)
Post	0.0049	−0.0496	0.0039	−0.0337	0.0085	−0.0135	0.0085	0.0005
	(0.0190)	(0.0105)	(0.0160)	(0.0115)	(0.0105)	(0.0143)	(0.0047)	(0.0056)
Dependent mean	0.0985	0.0862	0.0970	0.0722	0.0994	0.0756	0.1086	0.0894
N	11,715	6,694	25,388	15,492	41,335	25,558	241,101	141,569

NOTE: Samples include individuals 25–59 years old from 1991–1996 BRFSS files. Models (1) and (2) report estimates for married and unmarried individuals, respectively. All models include controls for age, race, education, and state unemployment rate, in addition to month and year indicators. Mid-Atlantic states include Delaware, Maryland, and Pennsylvania, and Northeast states includes the Mid-Atlantic states listed, as well as Connecticut, Massachusetts, New Hampshire, and Rhode Island. All models include individuals for years 1991–1996, inclusive. Standard errors, in parentheses, are adjusted for heteroskedasticity and correlation of observations within state cells. Corresponding p-values are in square brackets for γ.

Table 7 Estimated Impact of Health Insurance Availability on Self-Employment Status, by Smoking Status: Multiple Comparison Groups

	Pennsylvania		Mid-Atlantic states		Northeast states		All U.S. states	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Post*NJ (γ)	0.0040	0.0502	0.0046	0.0507	0.0022	0.0487	0.0071	0.0368
	(0.0018)	(0.0023)	(0.0021)	(0.0013)	(0.0037)	(0.0029)	(0.0029)	(0.0038)
	[0.1329]	[0.0147]	[0.0588]	[0.0001]	[0.2852]	[0.0001]	[0.0173]	[0.0001]
NJ	−0.0146	−0.0185	−0.0140	−0.0194	−0.0112	−0.0141	−0.0227	−0.0311
	(0.0012)	(0.0078)	(0.0023)	(0.0054)	(0.0016)	(0.0052)	(0.0072)	(0.0057)
Post	−0.0074	−0.0257	−0.0053	−0.0171	0.0064	−0.0161	0.0071	0.0029
	(0.0113)	(0.0444)	(0.0099)	(0.0304)	(0.0095)	(0.0187)	(0.0029)	(0.0075)
Dependent mean	0.0930	0.0843	0.0907	0.0844	0.0938	0.0847	0.1050	0.0994
N	14,589	3,820	32,639	8,241	53,321	13,572	289,263	82,571

NOTE: Samples include individuals 25–59 years old from 1991–1996 BRFSS files. Models (1) and (2) report estimates for nonsmokers (which includes those who smoke less than 10 cigarettes per day) and smokers who consume at least a half-pack (i.e., 10 cigarettes) per day, respectively. All models include controls for age, race, education, and state unemployment rate, in addition to month and year indicators. Mid-Atlantic states include Delaware, Maryland, and Pennsylvania, and Northeast states include the Mid-Atlantic states listed as well as Connecticut, Massachusetts, New Hampshire, and Rhode Island. All models include individuals for years 1991–1996, inclusive. Standard errors, in parentheses, are adjusted for heteroskedasticity and correlation of observations within state cells. Corresponding p-values are in square brackets for γ.

Table 8 Estimated Impact of Health Insurance Availability on Self-Employment Status, by Obesity Status: Multiple Comparison Groups

	Pennsylvania		Mid-Atlantic states		Northeast states		All U.S. states	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Post*NJ (γ)	0.0055	0.0420	0.0083	0.0328	0.0054	0.0299	0.0114	0.0296
	(0.0002)	(0.0039)	(0.0025)	(0.0099)	(0.0037)	(0.0082)	(0.0031)	(0.0026)
	[0.0118]	[0.0292]	[0.0233]	[0.0227]	[0.0908]	[0.0041]	[0.0006]	[0.0001]
NJ	−0.0200	−0.0063	−0.0211	−0.0028	−0.0163	0.0018	−0.0276	−0.0247
	(0.0009)	(0.0077)	(0.0022)	(0.0058)	(0.0019)	(0.0049)	(0.0068)	(0.0067)
Post	−0.0216	0.0136	−0.0153	0.0134	−0.0036	0.0172	0.0028	0.0159
	(0.0039)	(0.0174)	(0.0128)	(0.0137)	(0.0110)	(0.0086)	(0.0050)	(0.0085)
Dependent mean	0.0928	0.0862	0.0914	0.0833	0.0943	0.0845	0.1041	0.0991
N	13,992	4,417	30,745	10,135	51,186	15,707	287,649	95,021

NOTE: Samples include individuals 25–59 years old from 1991–1996 BRFSS files. Models (1) and (2) report estimates for non-obese and obese individuals, respectively. All models include controls for age, race, education, and state unemployment rate, in addition to month and year indicators. Mid-Atlantic states include Delaware, Maryland, and Pennsylvania, and Northeast states include the Mid-Atlantic states listed, as well as Connecticut, Massachusetts, New Hampshire, and Rhode Island. All models include individuals for years 1991–1996, inclusive. Standard errors, in parentheses, are adjusted for heteroskedasticity and correlation of observations within state cells. Corresponding p-values are in square brackets for γ.

Table 9 Estimated Impact of Health Insurance Availability on Self-Employment Status, by Age: Multiple Comparison Groups

	Pennsylvania		Mid-Atlantic states		Northeast states		All U.S. states	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Post*NJ (γ)	0.0047	0.0450	0.0088	0.0321	0.0084	0.0194	0.0118	0.0302
	(0.0037)	(0.0085)	(0.0023)	(0.0097)	(0.0033)	(0.0141)	(0.0030)	(0.0038)
	[0.2127]	[0.0592]	[0.0156]	[0.0313]	[0.0192]	[0.1058]	[0.0002]	[0.0001]
NJ	−0.0142	−0.0242	−0.0144	−0.0207	−0.0155	0.0053	−0.0256	−0.0281
	(0.0023)	(0.0060)	(0.0033)	(0.0097)	(0.0022)	(0.0146)	(0.0066)	(0.0073)
Post	−0.0073	−0.0252	−0.0085	−0.0043	0.0039	−0.0090	0.0097	−0.0084
	(0.0232)	(0.0101)	(0.0199)	(0.0239)	(0.0139)	(0.0208)	(0.0052)	(0.0073)
Dependent mean	0.0864	0.1103	0.0857	0.1043	0.0889	0.1045	0.0975	0.1251
N	14,853	3,556	33,005	7,875	54,436	12,457	309,019	73,651

NOTE: Models (1) and (2) report estimates for individuals less than 50 years old and at least 50 years old, respectively. All models include controls for age, race, education, and state unemployment rate, in addition to month and year indicators. Mid-Atlantic states include Delaware, Maryland, and Pennsylvania, and Northeast states include the Mid-Atlantic states listed, as well as Connecticut, Massachusetts, New Hampshire, and Rhode Island. All models include individuals for years 1991–1996, inclusive. Standard errors, in parentheses, are adjusted for heteroskedasticity and correlation of observations within state cells. Corresponding p-values are in square brackets for γ.