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HEALTH INSURANCE AND THE SUPPLY OF ENTREPRENEURS

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ABSTRACT

Some commentators have suggested that the absence of portable health insurance impedes people from leaving their jobs to start new firms. We investigate this belief by comparing wage-earners who become self-employed during a given period of time with their counterparts who do not. By examining the impact of variables relating to the health insurance and health status of these workers and their families, we can infer whether the lack of health insurance portability affects the probability that they become self-employed. The evidence does not support the conjecture that the current health insurance system affects the propensity to become self-employed. Hence, whatever its other merits, there is no reason to believe that the introduction of universal health insurance would significantly enhance entrepreneurial activity.

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"If you leave your job to start a
small business, you're covered"

— President Bill Clinton,
on the advantages of his
Health Security plan.[1]

1. INTRODUCTION

Most medical insurance in the United States is provided by employers. Two out of every three Americans under the age of 65 are covered by employer-provided insurance, and these individuals constitute roughly 75 percent of all employees (Aaron [1991]). Employer-provided insurance is typically not portable. As a result, people who switch jobs may lose their health insurance, a situation that may reduce labor market mobility.[2] Thoughtful observers of the U.S. health insurance system have long recognized the potential importance of this "job-lock" phenomenon. Several recent studies are consistent with this view. For example, Madrian [1994] claims that job-lock reduces labor force mobility by 25 percent.

In the same vein, some have conjectured that the absence of portable insurance may affect the decision to leave a job and start a new firm. Thus, the *Wall Street Journal* noted, "If you're thinking of taking the entrepreneurial plunge, take a break from the business plans and five-year projections, and consider your family's need for health, disability and life insurance" (Asinof [1992]). This view was articulated more carefully by Laura D'Andrea Tyson, Chairwoman of the Council of Economic Advisers: "The difficulty of self-employed workers and small businesses today in purchasing health insurance creates large disincentives for individuals to leave covered jobs to start up new businesses. Reform may thus stimulate new business formation, particularly for small businesses. There is little economic research on this subject to date."[3]

In fact, we know of no research on the question of whether the largely employer-based health insurance system in the United States has reduced the supply of entrepreneurs. The goal of this paper is to provide some evidence on this important issue.

Our basic approach involves comparing wage-earners who make a transition to self-employment over a given period of time with their counterparts who do not. By examining the impact of variables relating to the health insurance and health status of these workers and their families, we can make inferences about whether the lack of health insurance portability affects the probability that they choose to become self-employed.

While no previous research has addressed this issue, there has been some related work, and it is discussed in Section 2. Section 3 presents the model that we employ to organize our analysis of the data. Section 4 describes the data. We employ two sources, the Survey of Program Participation (SIPP) and the Panel Study of Income Dynamics (PSID). We focus primarily on the SIPP data, because they are particularly suitable for analyzing our problem. However, to reduce the likelihood that our results are an artifact of this data source, we check the robustness of our conclusions using the PSID. The results are presented in Section 5. Surprisingly, we find that in the overwhelming majority of cases, health insurance portability has no impact on transitions from wage-earning to entrepreneurship. In Section 6 we conclude with a summary and suggestions for future research.

2. PRIOR LITERATURE

Two strands of previous research are especially relevant to our problem. The first is the empirical literature examining transitions from wage-earning into entrepreneurship. It has focused on issues like the effects of race, gender, occupation, and access to capital markets. Examples of such work are provided by Evans and Leighton [1989], Holtz-Eakin, Joulfaian and Rosen [1994] and Meyer [1990]. However, to the best of our knowledge, there have been no attempts at all to link health insurance institutions to the supply of entrepreneurs.

The second strand relates to the growing concern that, because health insurance is generally provided by a person's employer, leaving one job to take another may entail the loss of health insurance and reduce job mobility.[4] Indeed, even if a worker is able to obtain insurance on a new job, pre-existing condition exclusions, medical underwriting, and term-of-service limitations may make health insurance provided by a current employer more valuable to a worker than an otherwise comparable policy offered by a prospective employer.[5] The result in all these cases is the same — the lack of portable health insurance may impose costs that impede mobility from one job to another. (See Congressional Budget Office [1992, pp. 7, 9].)

Economists have now begun to seek statistical evidence for the existence of this job-lock phenomenon. Cooper and Monheit [forthcoming] use data from the National Medical Expenditure Survey (NMES) to examine whether the probability of making a job-to-job transition is affected by the presence of employer-provided health insurance. They find that there is a statistically significant negative correlation, which is consistent with the presence of job-lock. However, Holtz-Eakin [1994] and Madrian [1994] have pointed out a potential

problem with this approach. Because it is impossible for the researcher to obtain comprehensive information about an individual's work environment, the presence of employer-provided health insurance may simply be a proxy for the presence of various unobserved characteristics of the job. That is, "good jobs" may provide a package of desirable characteristics including health insurance (which appears in the data) and other characteristics (which do not). Hence, the fact that workers are less likely to leave jobs with health insurance may tell us nothing more than people hang onto "good jobs."

To deal with this problem, both Holtz-Eakin and Madrian employ a "differences-within-differences" approach. Rather than compare those with employer-provided insurance to those without it, they look within the group of people who have such insurance, and ask whether differences in expected insurance costs affect job-to-job transitions. Using this approach, Holtz-Eakin finds no evidence of job-lock in the PSID. Madrian's results, based on the NMES, are suggestive of job-lock, but the statistical significance of the relevant parameter estimates is relatively low. In any case, neither study examines job-to-entrepreneurship transitions.

As in the job-to-job transitions that are the subject of the above studies, transitions to self-employment from the wage-and-salary sector include the costs associated with the termination of one health insurance policy and the opening of another. However, transitions to self-employment involve two additional considerations that do not apply to job-to-job transitions. First, health insurance benefits for wage and salary workers are not taxable while only 25 percent of health insurance costs for the self-employed are deductible.[6] Second, for reasons of market power, adverse selection or administrative costs, for

comparable plans and benefits, health insurance costs are 10 to 40 percent higher for small businesses.[7]

To recap, transitions to self-employment from the wage-and-salary sector entail even higher costs than transitions between employers within the wage-and-salary sector because of the higher premia and less favorable tax treatment of those premia in the self-employment sector. Several proposals have been made to reduce the costs of such transitions. For example, various parties have urged the Congress and the Administration to enact legislation that would allow self-employed individuals to deduct the full value of their health insurance premiums to avoid "putting small businesses out of business."[8] Many of the proposals for health insurance reform contain elements intended to lower the cost of health insurance to small firms. Most of these proposals rely on government-encouraged risk-pooling arrangements for small businesses and others that would increase the power of the this group in the market for health insurance, thereby lowering their cost of coverage. A premise of such policies is that lowering the costs of making a transition to entrepreneurship would increase the supply of entrepreneurs. However, the existence and magnitude of the response is ultimately an empirical question.[9]

3. THE MODEL

In the simplest case, let the probability of making the transition to entrepreneurship be given by[10]

$$p(entrepreneur) = \phi(z) + \alpha_1 d_1 + \alpha_2 d_2 + \alpha_3 d_3 + \alpha_4 d_4, \qquad (1)$$

where z is a vector of non-insurance variables that affect the propensity to become an entrepreneur; d_1 is a dichotomous variable equal to one if the individual is the only person in

the household to have insurance and equal to zero otherwise; d_2 is defined similarly and indicates that only the individual's spouse has insurance; d_3 equals one if both the individual and the spouse are insured; d_4 indicates that neither has insurance; and the α's are parameters. (For purposes of exposition, assume that the spouse's insurance policy provides coverage for the individual.) If the lack of portable insurance impedes transitions to entrepreneurship, then individuals whose employment and insurance are tied should have a lower probability of making a transition, *ceteris paribus*. In terms of equation (1), this corresponds to having $d_1=1$. Whenever $d_1 = 0$, an individual's access to insurance is independent of his or her wage-earning employment. For example, if $d_2 = 1$, then the individual is covered by the spouse's policy, which provides coverage whether or not there is a transition to entrepreneurship. Or if $d_4 = 1$, the individual has no job-related insurance to lose, and it is therefore not a factor when starting a new business.

Following Holtz-Eakin [1994] and Madrian [1994], it turns out to be useful to express equation (1) in a slightly different form:

$$p(entrepreneur) = \phi(z) + \beta_0 + \beta_1 Self + \beta_2 Spouse + \beta_3 Both, \qquad (2)$$

where *Self* indicates that the individual has employer-provided insurance, *Spouse* indicates that the spouse has insurance, and *Both* is the interaction (product) of these two variables. A bit of algebra reveals the correspondence between equations (1) and (2):

$$p(entrepreneur) = \phi(z) + (\beta_0+\beta_1)d_1 + (\beta_0+\beta_2)d_2 + (\beta_0+\beta_1+\beta_2+\beta_3)d_3 + \beta_0 d_4. \qquad (3)$$

Consider now equation (1). As argued above, the discouraging effect of the potential loss of health insurance comes into play only when $d_1=1$. Note that the other possibilities are equivalent from the perspective of health insurance — the individual loses no insurance if

he or she leaves the job. Hence, one would expect $\alpha_2 = \alpha_3 = \alpha_4$. Thus, the notion that lack of portability affects transitions amounts to testing the null hypothesis that $\alpha_1 = \alpha_2(=\alpha_3=\alpha_4)$. This hypothesis has several implications for the parameters in equation (3): (i) $\alpha_2 = \alpha_3$ implies that $\beta_1+\beta_3 = 0$; (ii) $\alpha_3 = \alpha_4$ implies that $\beta_1+\beta_2+\beta_3 = 0$, so that these together require that $\beta_2 = 0$; and (iii) $\alpha_1 = \alpha_2$ implies that $\beta_1 = \beta_2$, so that β_1 must also be zero. Collecting results, this requires that β_3, the coefficient on the interaction variable (Both) be zero. Thus, the model suggests the (not surprising) result that one should test whether all of the coefficients on the insurance variables in (2) are equal to zero. If they are, this is consistent with the notion that health insurance has no effect on transitions to entrepreneurship. On the other hand, rejection of this null hypothesis is consistent with the notion that lack of health insurance portability restricts the supply of new entrepreneurs.

However, as stressed above, one could argue that the presence of an employer-provided plan is really serving as an indicator of whether the individual has a "good job." If so, all that finding $\alpha_1 < 0$ establishes is that people are less likely to leave "good jobs" than "bad jobs," a result that tells us little about the importance of the insurance portability issue. However, we can use information on the spouse's insurance status to deal with this problem. To see how, consider two individuals, both of whom have employer-provided plans, and only one of whom has a spouse with insurance coverage. To the extent that insurance portability is a consideration in starting a new firm, then an individual who could be covered by the spouse's policies should be more likely to make a transition to entrepreneurship, *ceteris paribus*. Moreover, if the spouse has insurance coverage, then the impact should be greater for those with higher expected health care expenses. In short, looking at differences within

the group of people who have employer-provided plans should provide a much more convincing test.[11]

In terms of equation (1), the "good jobs" argument essentially says that $\phi(\cdot)$ does not control completely for attributes of the job that are correlated with the presence of insurance. It is likely, then, that the coefficients on d_1 and d_3 are contaminated by these job-related attributes. In the same way, one could imagine a scenario in which $d_2 = 1$ reflects the fact that the spouse has skills sufficient to command a good job, skills that also make it easier for the individual to become an entrepreneur independent of insurance considerations. Thus the coefficients on d_2 and d_3 would be contaminated in a similar fashion by the spouse's unobserved attributes. One may therefore write equation (1) as:

$$p(entrepreneur) = \phi(z) + (\alpha_1 + j)d_1 + (\alpha_2 + s)d_2 + (\alpha_3 + j + s)d_3 + \alpha_4 d_4 \qquad (1')$$

or

$$p(entrepreneur) = \phi(z) + \gamma_1 d_1 + \gamma_2 d_2 + \gamma_3 d_3 + \gamma_4 d_4, \qquad (4)$$

where j is the contamination due to incomplete characterization of the individual's job and s is the corresponding contamination due to spouse-effects. Because of the presence of s and j, it is not possible to use estimates of the coefficients in (4) to test the relevant hypotheses regarding the coefficients in equation (1). Indeed, one cannot even learn about health insurance effects by looking at $(\gamma_2-\gamma_1)$, $(\gamma_3-\gamma_1)$, or $(\gamma_4-\gamma_1)$, because each contains either s or j. However, comparing the "differences of the differences," allows us to eliminate the various unobserved attributes. Algebraically, $(\gamma_3-\gamma_2)-(\gamma_1-\gamma_4) = (\alpha_3-\alpha_2)-(\alpha_1-\alpha_4)$, which does not depend on s or j. Under the null hypothesis, this should equal zero. Returning to equation (3), it is straightforward to verify that $(\alpha_3-\alpha_2)-(\alpha_1-\alpha_4) = \beta_3$. Thus, testing the null hypothesis in the presence of job-effects and spouse-effects involves testing whether the

coefficient on the interaction variable differs from zero. Intuitively, if health insurance has no effect on transitions, the impact of having an employer-provided plan should not depend on whether the worker can be covered by a spouse's plan.

It might be possible that whether the spouse has insurance is itself endogenous to the transition — one spouse might obtain insurance in anticipation of the other becoming self-employed. As discussed below, in addition to information on the health insurance available to individuals, our data contain self-reported measures of the health status of individuals as well as other variables that might measure expected future health care costs. Such variables can also be used to compute another type of differences in differences estimator. For example, individuals who are in poor health should put a higher value on having insurance, *ceteris paribus*. Hence, within the group of people who have employer-provided plans, we expect those who are in poor health and lack portable coverage (e.g., through their spouse) to be less likely to make the transition to entrepreneurship.

Our discussion so far has ignored the role of laws that relate to health insurance portability. In 1985. the United States Congress passed the Consolidated Omnibus Budget Reconciliation Act (COBRA), which contained provisions whose purpose was to ease the problem of job-lock. Essentially, COBRA mandated that when an employee leaves a firm for any reason other than gross misconduct, he or she must be allowed the opportunity to purchase health insurance from the firm for up to 18 months. (See Flynn [1992].) COBRA did not go into effect until after our sample period. However, prior to 1985 a number of states passed their own COBRA-like statutes. This provides a "natural experiment" that can be used to help us assess whether lack of portability affects entrepreneurship. Our data provide information on the individual's state of residence. Hence, we can determine whether

each individual had the option to purchase health insurance after separating from his job, and whether this influenced the probability of making a transition to entrepreneurship.

4. DATA

We use both the Survey of Income and Program Participation (SIPP) and the Panel Study of Income Dynamics (PSID). The SIPP data contain a richer set of variables relating to insurance status and health. Hence, we rely primarily on the SIPP data, and use the PSID mainly to confirm certain of the results.

4.1 SIPP Data

In the SIPP data, we focus on transitions to self-employment between 1984 and 1986, which correspond to waves 3 and 9[12]. To be in our sample, individuals must be between 16 and 62 years of age, and not be employed in the agricultural sector.[13] Selecting on these criteria left us with 21,467 observations in wave 3. Individuals were classified as being wage-earners or self-employed according to the mode in which they spent the most hours. This gave us 2,078 self-employed people, about 9.7 percent of the total, a figure quite close to that found in other studies of the incidence of self-employment. Alternatively, one might classify an individual as being self-employed only if he or she has no wage-employment at all. This alternative definition leads to substantially the same results as those reported below.[14]

The SIPP data contain a rich set of variables relating to the economic and demographic status of the individuals (corresponding to the z vector in equation 1). Table 4.1 shows the means of these variables in wave 3 for both employed (column (1)) and self-employed (column (2)) individuals. The table also provides the same information for the

variables relating to health and insurance status. *Inter alia*, the table suggests that the self-employed are on average older, better educated, and more likely to be white and male than wage earners, findings that echo earlier studies. (See, e.g., Meyer [1990].) More interesting for our purposes are the comparisons with respect to health and insurance status toward the bottom of the table. The health status of self-employed individuals and their families does not appear to differ markedly from that of their wage earner counterparts. For example, 69.7 percent of the wage-earners characterize their health as "excellent" or "good;" the figure for the self-employed is 68.9 percent. For our purposes, perhaps the most striking result to emerge from Table 4.1 is that the self-employed are much more likely to lack health insurance than wage and salary workers — 17.9 percent of the self-employed have no coverage, versus 10.4 percent of wage and salary workers.[15]

Although our emphasis is on transition issues, it is of some interest to explore a bit further this cross-sectional difference in the propensity to lack insurance. Is it a consequence of correlations between various socioeconomic variables and self-employment status, or does employment status have an independent effect, even after taking other variables into account? To investigate this issue, we estimated a simple linear probability model in which the left-hand side variable takes a value of one if the individual lacks insurance and zero otherwise. The right-hand side variables include a set of economic and demographic variables as well as a dichotomous variable SELF, which equals one if the individual is self-employed and zero otherwise. The results are reported in Table 4.2. The coefficient on SELF is 0.0883 (s.e. = 0.00717), indicating that self-employment raises the probability of being uninsured by 8.8 percentage points, which actually exceeds the 7.4 percentage point raw difference

from Table 4.1. Thus, the difference in the insurance rates does not appear to be due to the correlation between self-employment and the individual's characteristics.[16]

Returning now to Table 4.1, columns (3) and (4) examine the 1986 employment status of individuals who were wage and salary workers in 1984.[17] Column (3) shows the 1984 values of variables for individuals who stayed wage and salary workers in 1986, and column (4) shows the same variables for those who made a transition to self-employment. Individuals who were white, not in a union, and with relatively short job tenures were more likely to make a transition to self-employment.[18] On the other hand, there appear to be no systematic differences in the health status of those who make a transition to self-employment and those who do not. Those who were not covered by any insurance in 1984 were more likely to make a transition to self-employment, as were those whose spouses were covered by an employer-provided plan. These tabulations seem consistent with the notion that lack of insurance portability does have an impact — those with no plan or a spouse with a plan (and hence, "nothing to lose") are more likely to become entrepreneurs. Indeed, the transition rate for those with an employer-provided plan (0.0209, s.d. = 0.143) is significantly less than that for those without such a plan (0.0326, s.d. = 0.178).[19] Of course, a multivariate analysis of the kind described above is required to make more definitive statements. In this context, one should remember the importance of finding "differences in differences" before ascribing significant effects to health insurance.

4.2 PSID Data

As noted earlier, we employ data from the PSID to as check on the robustness of our results. Like the SIPP, the PSID contains a rich array of the demographic and economic variables. Unlike the SIPP, however, the information concerning health insurance

arrangements is quite limited. In the 1984 wave of the PSID, individuals (and their spouses) were asked the question:

> "Does your employer pay for any medical, surgical, or hospital insurance that covers any illness or injury that might happen to you when you are not at work?"

We classify those individuals who answered "yes" as having employer-provided health insurance, and similarly for spouses of married individuals. Also, we proceed under the assumption that individuals are eligible for coverage under their spouse's plan, if present.[20]

With respect to health status, the PSID includes two self-assessment measures. In the first, individuals rated their health in 1984. We classified those responding "good," "very good," or "excellent" as being in good health. Roughly 64 percent of the sample falls in this classification, quite close to the value in the SIPP data. The second self-assessment question asked individuals to rate their health in 1984 versus that in 1982; we use these responses to identify those individuals who are in "worse" health. In addition, the PSID provides information on nights spent in the hospital by each individual (and his or her spouse, if married) during 1984 and hours of work lost by each individual (and, by spouses, where appropriate) due to illness.

Sample statistics for those individuals who were wage and salary workers (and thus form the sample for our multivariate analysis) are shown in Table 4.3.

4.3 The Mandate Data

As noted above, during our sample period several states imposed mandates that required employers to allow employees to purchase health insurance from them for a certain period of time after the employees were separated from the firm. The sources of the mandate data were Hewitt Associates [1986], Gruber [1992], and, in some cases, the state statutes themselves. Seventeen states had continuation mandates that covered voluntary separations and became effective during 1984 or before. The length of eligibility was typically less than the 18-month continuation subsequently mandated by the federal COBRA law; the length of eligibility varied from 1.5 to 18 months.[21]

In wave 3 of the 1984 SIPP panel, 28 percent of wage and salary workers lived in states mandating continuing coverage. Of those that lived in covered states, the average length of mandated coverage was 6.7 months.

5. RESULTS

5.1 Results from the SIPP

The Baseline Sample. Our baseline sample consists of the entire group of wage-earners in 1984 for whom we can make matches in 1986, provided that they were either employed or self-employed in 1986. This is a rather heterogeneous sample, so to assess the robustness of our results we also estimated the model for various sub-samples. At the outset, we estimated a logit model of the probability of making a transition from wage-earning to self-employment as a function of a set of conditioning variables and EMPPLAN, the dichotomous variable indicating the presence of an employer-provided health insurance plan in 1984.[22] The idea was to see if the suggestive negative relationship between EMPPLAN

and the probability of making a transition from Table 4.1 continued to hold in a multivariate framework. The results, reported in column (1) of Table 5.1 indicate that a negative and statistically significant impact is present — the coefficient on EMPPLAN exceeds its standard error by a factor of more than four. However, as stressed above, the fact the EMPPLAN is a significant determinant of transitions to self-employment may not be telling us very much about the importance of health insurance portability. Therefore, along the lines suggested in Section 3 above, we augment this equation with the following variables: SPLAN (= 1 if the individual's spouse had family insurance coverage), and SPLAN*EMPPLAN (the interaction of SPLAN and EMPPLAN).[23] The coefficient on the interaction term is the differences-in-differences estimator — it indicates whether the presence of a spouse with a health insurance plan has a differential impact that depends on the individual's own insurance status. If health insurance affects transitions, then the incremental effect of being covered on a spouse's plan should be to generate a greater probability of making a transition for an individual with an employer-provided plan than for an individual without such a plan. Thus, the interaction term should have a positive coefficient.

The results are presented in column (2) of Table 5.1. The addition of SPLAN and its interaction with EMPPLAN barely changes any of the other coefficients from their values in column (1). The key observation, however, is that the coefficient on the interaction term is statistically insignificant at conventional levels. Thus, using the differences-in-differences approach, one cannot reject the null hypothesis that the absence of health insurance portability does not affect transitions into entrepreneurship.

The specifications in columns (1) and (2) implicitly embody the assumption that the processes governing transitions from wage-earning to self-employment are the same for those

with and without an employer plan. To the extent that the processes differ, the estimates in column (2) — including the estimate on the interaction term — may be inconsistent. We therefore divided the sample on the basis of the value of EMPPLAN, estimated separate logits for the two subsamples, and tested the hypothesis that all of the slope coefficients were equal across the subsamples. The results for the individuals with EMPPLAN = 0 are in column (3), and those for EMPPLAN = 1 are in column (4). The chi-square test statistic was 54, while the critical level at the 0.01 level is 52.2. Hence, we can reject the hypothesis that the same process generates transitions for those with and without employer-provided plans.

The fact that it is inappropriate to pool individuals with and without employer-provided plans suggests that we should try to develop a differences-in-differences estimator that may be applied to the two groups separately. Our approach is to look only at those with employer provided plans, who are the individuals of interest in this context. We generate a differences-in-differences estimator through co-variation in expected health care costs and spousal insurance coverage within this group. To illustrate this approach, suppose we augment the regression from column (4) of Table 5.1 with the following variables: SPLAN (= 1 if the individual's spouse has family insurance coverage), BED (= number of days that the individual and the spouse were bedridden due to illness during the last 4 months), and SPLAN * BED (the interaction of these variables). If health insurance portability is an important phenomenon, then individuals whose spouses have insurance that covers them should be more likely to make a transition, because giving up their current plan imposes a smaller cost. Moreover, to the extent that BED is a good measure of expected future health care costs, then the incremental effect of SPLAN on the probability of a transition should

increase with BED — higher expected health costs make the spouse's insurance a more important component of the decision. Put differently, a person with very low expected health costs may not care much one way or the other if he or she would be covered by the spouse's plan. The coefficient on the interaction term is thus analogous to β_3 in equation (2), and is the differences-in differences-estimator of health insurance portability effects. If such effects are present, it should be positive.

The results of this experiment are reported in column (5) of Table 5.1. Like the results in column (2), they are not consistent with the importance of health insurance portability. The differences-in-differences estimator is again positive (0.007), but the associated t-statistic is less than one. The coefficient on SPLAN, while positive, exceeds its standard error by only a factor of 1.6 — even the simple "differences" estimator is insignificant. Moreover, BED, SPLAN, and their interaction are jointly insignificant — the associated F(3,8173)-statistic is 1.87, which is significant only at the 0.13 level.

One could argue that the failure for insurance portability to emerge as a significant phenomenon is that BED is not a very good proxy for expected health costs. For example, an individual may have spent quite a bit of time sick at home, but these spells might not have been associated with substantial medical costs (a bout with the flu comes to mind). Or, whatever illness that occurred in the past may not be expected to recur in the future. As Table 4.1 illustrated, we have at our disposal a number of alternative proxies for expected future health costs. To determine whether the results in column (5) of Table 5.1 are robust, we re-estimate the equation several times, each time replacing BED with a different proxy for expected health care costs. Specifically, we estimate the equation replacing BED with:

NUMCOV (the number of people in the family covered by the employer- provided plan),

CHILDDIS (= 1 if there is a child under 18 in the family who is mentally or physically disabled),

GOODHLTH (= 1 if the person reports him- or herself as being in excellent or good health),

NTS12 (number of nights in the last 12 months that the individual or spouse spent in the hospital),

NTS4 (defined analogously for last 4 months),

DOC12 (number of doctor visits by individual and spouse in last 12 months),

DOC4 (defined analogously for last 4 months),

EXP12 (medical expenditures associated with individual's and spouse's nights in the hospital during the past 12 months),[24]

EXP4 (defined analogously for last 4 months),

NEWCHILD (number of babies in the family born between waves 3 and 9), and

PREDEXP (an index of predicted future health expenditures, based on data from the National Medical Care Utilization and Expenditure Survey.)[25]

Each of these variables in some way proxies for expected health care costs; or alternatively, for the value that the worker puts upon his or her employer-provided plan, *ceteris paribus*. We expect families with more members (NUMCOV) or families with potential health problems (CHILDDIS and the negative of GOODHLTH) to put a higher value on insurance. To the extent that people form their expectations about future health care use and expenses on the basis of their recent past experiences, it is appropriate to

examine NTS12, NTS4, DOC12, DOC4, EXP4, and EXP12.[26] To the extent that new babies and the associated medical expenses are anticipated, NEWCHILD should also serve as a proxy for expected health care costs.[27] PREDEXP represents a more explicit attempt to estimate future health care costs, because it is based on the relationship between an individual's characteristics and future health care costs.

To conserve space, we report in Table 5.2 only the three coefficients from each regression that are our main focus — SPLAN, the particular measure of expected health insurance costs from the list above, and the interaction of the two variables. We also report the significance level (p) for the joint test that all three coefficients are equal to zero.

For the most part, these experiments confirm the results in column (5) of Table 5.1 — one cannot reject the hypothesis that insurance portability effects are absent. The two exceptions are NTS4 (number of nights spent in the hospital in the past 4 months) and EXP4 (the estimated cost associated with hospital stays and doctor visits in the last 4 months). What are we to make of these findings? One possibility is that the significance of NTS4 and EXP4 is a statistical fluke. After all, if one tries enough proxies for a certain variable, sooner or later one will find a significant result. Alternatively, perhaps the reason that NTS4 and EXP84 "work" is that they really are superior measures of expected future health costs. This would be consistent with a "theory" which says that individuals form their expectations about future health costs as some function of their very recent health costs.

At least for the moment, let us assume that the significance of NTS4 and EXP84 is not merely a statistical fluke, and examine the quantitative significance of NTS4. To begin, one should note that only 4 percent of the sample had <u>any</u> nights in the hospital in the last four months. Thus, for 96 percent of our sample, this variable is zero, and there is no effect

at all on transition probabilities. To determine the effect of alternative coverage, we compute for each person their estimated probability of making a transition (on the basis of the logit estimates), and compare it to the probability if each person had alternative coverage.

The latter probability is computed by setting each right-hand side variable to its actual value, except that in the interaction term SPLAN*NTS4, SPLAN is set equal to 1 for everyone. We find that the transition probability increases from 2.086 percent to 2.178 percent, or 0.092 percentage points. This is not a substantial increase.

It is also helpful to interpret the results using our differences-in-differences framework. To do this, we consider the effect of alternative coverage on the transition probabilities of those with one night in the hospital in the last four months. Specifically, we compute the transition probabilities for the sample four times, each time using one of the four combinations of spouse plan or no spouse plan and 0 or 1 nights in the hospital. The four transition rates are reported in the following table.

		Spouse Plan	
		0	1
Nights in Hospital in Last Four Months	0	0.019551	0.026538
	1	0.019834	0.029155

The difference-in-difference estimator is 0.23 percentage points, that is, the transition probability of those who had a night in the hospital but no alternative coverage would be 0.23 percentage points greater if alternative coverage were available. However, since less than 5 percent of the sample experienced a stay in the hospital during the last four months

and many of these already had spousal coverage, the effect on the overall transition rate into self-employment is slight.

In summary, support for the hypothesis that insurance portability affects transitions to entrepreneurship appears weak at best. When we use a conventional differences-in-differences approach that pools individuals with and without employer-provided plans, we find no effect. When we use an alternative estimator that relies on differences in expected health care costs among those who have employer-provided plans, no statistically discernable effect is present for most of our measures of expected health care costs. For the one measure where it is present, the quantitative significance is slight, except perhaps for a very small segment of the population. Perhaps it is the experience of this small segment which accounts for the anecdotal evidence that lack of health insurance is an impediment to becoming an entrepreneur.

Alternative Specifications. In virtually any regression model, various control variables can be challenged on the basis that they are really endogenous. One can imagine, for example, that people choose a particular occupation as a wage earner because it will facilitate a future transition to entrepreneurship. While we do not think that we have too many problems in this respect, it is nonetheless useful to determine whether the various triples of variables presented in Table 5.2 are significant when they are entered into the equation without any other controls. If so, we need to investigate the endogeneity issue more carefully. If not, the issue is moot. The results are reported in Table 5.3. They indicate that the absence of the control variables does not have much effect on our substantive results — the only difference is that NTS4 and EXP4 are also statistically insignificant. Thus, even

if some of the controls may be suspect because of endogeneity, this does not appear to be driving our results.

Another possible objection to the analysis is the heterogeneous nature of the sample, which includes men, women, blacks, whites, singles and marrieds. It could be that the processes governing the transition into entrepreneurship are different for various groups, and pooling them together obscures the effects of health insurance portability. We therefore re-estimated the model of Table 5.1 using the following sub-samples: males, white males, white married males, individuals who usually work full time (more than 35 hours per week) in both periods, males who usually work full time in both periods, individuals who are not looking for a job or on layoff during the sample period, and married males who usually work full time.[28] In effect, this gives us nine sets of results like those in Table 5.2.[29] To conserve space, we do not include those nine tables here. What the results show is that the findings in Table 5.2 are quite robust with respect to the choice of sample. Generally, with the exception of the NTS4 and EXP4 variables, there is no evidence for health insurance portability effects.[30, 31]

Another issue relates to the length of transition period. Our analyses thus far look at the period 1984 to 1986. One can argue that portability effects might be more likely to be present during a shorter transition period. To see why, imagine an earner, currently covered by an employer-provided plan, who unexpectedly suffers a deterioration in his health, leading to an unexpected increase in his future health costs. To the extent that it is difficult for the employer to make rapid changes in the individual's wages, then the value of his employment *package* increases in the short run — his insurance is worth more to him, while his wages have not fallen. Thus, the inducement to stay at the current job is relatively large. Over a

longer period, however, the employer can reduce the individual's wages (or some other component of the employment package) to bring the value of the package into line with its value before the shock occurred. If so, the inducement to stay will disappear. Thus, according to this story, insurance portability effects might be more pronounced over a shorter time period.

We therefore re-estimated the models in Table 5.2 using one-year transitions. An advantage of using one-year transitions is that it permits us to incorporate into the analysis additional observations, giving us more employment to self-employment changes with which to identify potential portability effects. Specifically, we pooled data for transitions from 1984 to 1985 with data for transitions from 1986 to 1987.[32] The resulting sample includes 13,247 people, about 50 percent more observations than those used to compute the estimates in Table 5.2. Using these data changed none of the results in Table 5.2 — there is no evidence of portability effects.

The Role of State Laws. As noted in Section 3 above, during our sample period a number of states had laws which mandated that when an employee left a firm for any reason other than gross misconduct, he or she had to be given the option to purchase health insurance from the firm for some length of time. Although the specific provisions varied from state to state, generally the employee was supposed to be charged 100 percent of the premium paid on the employee's behalf by the firm, and the period of time was three to twelve months, depending on the state. To the extent that insurance portability effects are present, we would expect individuals in states with mandates to have higher probabilities of making a transition to self-employment, *ceteris paribus*. Thus, along the lines suggested above, we test for portability effects by augmenting the basic equation in column (5) of

Table 5.1 with the variables SPLAN and MAND84, where MAND84 is a dichotomous variable equal to one if the individual's state had a mandate in place in 1984, and zero otherwise.

The results are presented in the first column of the top panel of Table 5.4. The coefficient on MAND84 is not significantly different from zero, suggesting that workers who live in states with health insurance mandates are no more likely to become self-employed than individuals who do not. However, this specification may ignore an important aspect of mandates. It might not be the presence of a mandate *per se*, but rather the number of months of coverage provided by the mandate that affects transitions to entrepreneurship. We therefore created the variable MOS84, equal to the number of months of coverage mandated by the individual's state. We then augmented the basic equation with SPLAN and MOS84. The results are in the second panel of Table 5.4. Again, the mandate variable is statistically insignificant.

Of the mandates in effect in 1984, some had been recently enacted, while others had existed for a number of years. It is possible that there are lags between the time a law mandating benefits for former employees is passed and the time when firms and employees become fully aware of the law and comply with it.[33] If such is the case, then the specification in column (1) of the first panel in Table 5.4 may be incorrect. To investigate this possibility we created the variables MAND83 and MAND82, dichotomous variables for the presence of a mandate law in 1983 and 1982, respectively. Similarly, in analogy to MOS84, we created MOS83 and MOS82 for the number of months for which coverage was mandated in 1983 and 1982, respectively. The results using MAND83 and MAND82 are in the second and third columns of the first panel, respectively; those for MOS83 and MOS82

are in the second panel. The mandate variables continue to be statistically insignificant. Thus, the results in column (1) of the table are not a consequence of lags in compliance with mandate laws.

A potential problem with these results is that states whose residents have high transition propensities might be more likely to enact mandates, *ceteris paribus*. In that case, the coefficient on the respective mandate variables might not be telling us anything about the effects of health insurance portability.[34] To deal with this possibility, we adopt the now familiar strategy of interacting the mandate variables with SPLAN. The test of the importance of mandates then becomes whether the interaction term is significant and negative — in the presence of a mandate, presumably the incremental benefit of the spouse having a plan is less.

The results are reported in the bottom two panels of Table 5.4. In all cases, the interaction terms have the wrong sign and are insignificant. Once again, health insurance portability effects appear to be absent.

5.2 Results from the PSID

We conduct our analysis of the data from the PSID in parallel to that of the SIPP data reported above. We begin by analyzing a sample of individuals who were wage and salary workers in 1984; excluding those in agriculture, those who worked under five hours per week on average, and those younger than 16 or older than 62. We then estimate a logit model in which the dependent variable is equal to one if the individual made the transition to entrepreneurship in the 1986 wave of the PSID, and zero otherwise.

Column (1) of Table 5.5 reports the parameter estimates of a specification that mimics the SIPP specification as closely as possible. The key variable of interest, EMPPLAN, has a

negative coefficient. This is another example of the empirical regularity that those with employer-provided insurance are less likely to move into entrepreneurship.

An advantage of the PSID is that it has more information on fringe benefits than the SIPP. Thus, we have more *observable* indications of "good jobs" versus "bad jobs." We conjectured earlier that the EMPPLAN variable might simply be a proxy for a "good job." If this conjecture were correct, then the inclusion of additional job quality variables should reduce the importance of EMPPLAN. Column (2) shows the results when these variables — LIFEINS, DENTAL, and PENSION (defined in Table 4.3) — are included. The coefficient on EMPPLAN falls in magnitude, and is no longer statistically significant, a finding that confirms the notion that looking at EMPPLAN alone is not a suitable strategy for investigating job-lock.

As before, we examine several differences-in-differences estimators. In column (3) we present the first one, which augments the basic specification with SPLAN and the interaction of SPLAN with EMPPLAN. As the table shows, the estimated coefficient is incorrectly signed from a job-lock perspective. Moreover, it is statistically insignificant.

As in the SIPP, one can reject the hypothesis that the transition processes of those with and those without employer-provided plans are the same.[35] As before, we focus on the sample of individuals with employer-provided insurance. Recall from above that among these individuals, the ones with more nights in the hospital, and presumably greater expected costs, will put a greater value on insurance provided by a spouse. Hence, if job-lock is an important consideration, one would expect the coefficient on the interaction between the spouse plan variable and number of nights in the hospital to be positive. However, as shown

in column (4) of Table 5.5, although the point estimate is positive, it is statistically insignificant.

One could argue that the failure for insurance portability to emerge as a significant phenomenon is that NIGHTS is not a very good proxy for expected health costs. As discussed earlier, the PSID provides alternative proxies for expected future health costs. Thus, to determine whether the results in column (4) of Table 5.5 are sensitive to the choice of variables, we re-estimate the equation several times, each time replacing NIGHTS with a different proxy for expected health care costs. Specifically, we use the variables:

GOODHLTH (= 1 if the person reports him- or herself as being in excellent or good health),

WORSEHLTH (= 1 if the person reports him- or herself as being in worse health than two years previously), and

HLOST (number of hours of work lost due to illness of the individual and his or her spouse).

We conserve space by reporting in the left column of Table 5.6 only the three coefficients from each logit that are our main focus — SPLAN, the variable measuring expected health insurance costs, and the interaction of the two variables. We also report the significance level (p) for the joint test that all three coefficients are equal to zero. In each case, these experiments confirm the results Table 5.5. One cannot reject the hypothesis of no job-lock.

Also shown in Table 5.6 (right column) are the results of estimating our transition equations using only the three variables of interest (and a constant). As noted earlier, omitting the other covariates provides a rough check of the influence of endogeneity on our

results. Comparing the two panels indicates little reason for concern; the only noticeable change is the greater significance of GOODHLTH in the right panel.

Finally, we examined whether our results are the artifact of a highly heterogeneous sample by conducting separate analyses for: males, white males, white married males, individuals who usually work full time (more than 35 hours per week), males who usually work full time, and married males who usually work full time. The results uniformly indicate that the findings in Tables 5.5 and 5.6 are quite robust with respect to the choice of sample. Similarly, we investigated whether the results are sensitive to the length of the transition period by repeating our analyses of the PSID using transitions between 1984 and 1985, instead of the longer period 1984 to 1986. Again, the qualitative nature of our results is unchanged.

In summary, the PSID provides no more support for the hypothesis that insurance portability reduces transitions to entrepreneurship than does the SIPP. A conventional differences-in-differences approach that pools individuals with and without employer-provided plans indicates no effect. Also, alternative estimates that rely on variations in expected health care costs among those who have employer-provided plans show no statistically significant effect.

6. CONCLUSION

In the current debate over the U.S. health care system, one of the most important issues is the effect of the system on labor market outcomes. In particular, because most individuals receive their insurance as part of their employment packages, and this insurance is generally not portable, there have been fears that the system locks people into their current

jobs, reducing mobility in the labor market. The focus of this paper is on one important type of labor market transition that might be impeded by the lack of health insurance portability — the movement from wage-earning to self-employment.

Our empirical strategy is guided by a very simple idea. If one looks at a wage earner who has employer-provided health insurance, then the greater the cost to the worker of losing that insurance, the less likely he or she is to become self-employed, *ceteris paribus*. Thus, for example, people with higher expected health costs should be less likely to give up their current jobs to strike out on their own. We used this framework to analyze the decisions made by individuals in two panel data sets, The Survey of Income and Program Participation, and the Panel Study of Income Dynamics. Except for a very small segment of the population, we were able to find no evidence for this phenomenon in either data set. We also examined the impact of state mandates requiring that, when an employee leaves a firm, he or she has to be given the option to purchase health insurance from the firm for some length of time. Again, we found no evidence that the presence of such laws affects transitions to self-employment. In short, contrary to the anecdotal evidence and the assertions of some policymakers, the lack of health insurance portability does not appear to affect the propensity to leave wage employment and strike out on one's own. Whatever its other merits, there is no reason to believe that the introduction of universal health insurance would significantly enhance entrepreneurial activity.

Is this result plausible? Two considerations are relevant here. First, as noted above, even in the literature on job-to-job transitions, there is considerable ambiguity about the importance of job-lock. Second, by its very nature, the transition to entrepreneurship is very risky. A survey by the National Federation of Independent Business found a new business

failure rate of 15 percent after three years; the Small Business Administration found an even higher failure rate: 23.7 percent after two years, 51.7 percent after four years and 62.7 percent after six years (Johnson [1991]). Perhaps it should not be surprising that individuals who are willing to undertake such risky ventures are unimpeded by the prospect of not having health insurance.

Endnotes

1. Robin Toner, "Promising Peace of Mind," *New York Times*, September 23, 1993, p.A1.

2. Recent legislative developments have enhanced the portability of insurance. We return to these developments below.

3. *Daily Labor Report*, October 7, 1993.

4. To the extent term-of-service limitations are present, the loss of insurance may only be temporary.

5. According to one survey, about 57 percent of employers' policies contain exclusions for pre-existing conditions. See A. Foster Higgins & Co., Inc. [1987].

6. In fact, for the 1992 tax year, even this exclusion was permitted to lapse. Special legislation passed in 1993 made the self-employed retroactively eligible for the deduction if they file an amended return.

7. See United States General Accounting Office [1992].

8. See Bureau of National Affairs Pension Reporter [1993, p.858].

9. Although the costs of making a transition to entrepreneurship exceed the costs of a job-to-job transition, the existence of conventional job-lock does not imply the existence of an effect on transitions to entrepreneurship, because the decision to become an entrepreneur may be fundamentally different from the decision to take another job.

10. One may think of this relationship as having been generated by an underlying process in which the individual compares the expected utilities associated with wage-earning and entrepreneurship. See Evans and Jovanovic [1989] or Holtz-Eakin, Joulfaian, and Rosen [1994].

11. Such a "difference within differences" approach is used by Gruber and Poterba [1993] to estimate the demand for health insurance.

12. Each wave of the SIPP corresponds to a four month reference period. Wave 3 of the 1984 panel is of particular interest because it included a special "topical module" that included health and health care utilization data. For a general discussion of the structure of the SIPP data, see United States Department of Commerce, Bureau of the Census [1987].

13. In addition, we drop observations if the individual is not in the sample during the entire wave, if the individual cannot be matched with his or her spouse, etc.

14. About 20 percent of the self-employed also reported wage and salary income.

15. This is similar to Gruber and Poterba's [1993] finding that in the Current Population Survey data for the years 1986-1990, the percentage of self-employed individuals with insurance coverage was nine points below the percentage for employed individuals.

16. This result continues to hold when different subsamples are examined. When we restricted the sample to married males only, the raw difference in the propensity to be uninsured was 9.1 percentage points; the regression corrected difference was 9.6 percentage points.

17. The number of wage and salary earners represented in columns (3) and (4) of Table 4.1 is less than that in column 1 because of the inability to match some individuals in waves 3 and 9. Some of the attrition is due to the fact that, in response to budgetary problems, the sample was randomly reduced by 17.8 percent from wave 3 to wave 5. (See Herriot and Kasprzyk [1986].) To determine whether there was any nonrandomness in the sample used for the transition analysis, we estimated a regression in which the left-hand side variable equalled one if there was a match in wave 9 and zero otherwise, and the right-hand side variables included most of the set in Table 4. We found that while the probability of attrition was significantly related to several right-hand side variables (e.g., the owner-occupied housing variable), the quantitative effects were rather small.

18. As will be seen below, the job tenure variable consistently shows up as a significant determinant of the probability of making a transition from wage-earning to self-employment. The NMES data used by Cooper and Monheit [forthcoming] and Madrian [1992] to investigate job-to-job transitions do not include years on the current job.

19. Similarly, the transition rate for individuals whose spouses are covered (0.0335, s.d. = 0.180) is significantly greater than those whose spouses are not covered (0.0219, s.d. = 0.147).

20. In the SIPP data, the individual is explicitly asked if he or she is covered under the spouse's plan. No such question is present in the PSID.

21. However, in contrast to the current COBRA law, firms with fewer than 20 employees were typically covered by the state mandates.

22. More precisely, EMPPLAN indicates whether there was an employer-provided plan any time during wave 3. We also constructed a variable that indicated whether there was an employer-provided plan during the last month of wave 3. The two variables led to essentially the same substantive results.

23. Alternatively, one could define SPLAN in terms of whether the spouse had any insurance coverage (as opposed to family coverage). When we re-estimated our basic specification using this definition, the results were substantially the same as those reported below.

24. The expenditure indices were generated by summing the estimated hospital expenses — the average cost of a night in the hospital in the individual's state in 1984 times the number of nights spent — and the estimated physician expenses — a nationwide average physician visit charge times the number of doctor visits. The hospital costs were obtained from the *Statistical Abstract of the United States 1987* [1986], and the physician charge data were obtained from the *Source Book of Health Insurance Data*, 1984-1985.

25. To formulate this index, one uses the NMCUES data to estimate a regression of total health expenses in a given year on variables observed at the beginning of the year. The regression included only the insured individuals, although the substantive results

are unchanged when the entire sample is used. The regressors include the health status and demographic variables that are common to both data sets. The results from this regression are used to impute a value of expected health care expenditures for each individual in the SIPP data. For further details, see Penrod [1993].

26. Note, however, that according to Ellwood and Adam [1990, p. 126], past medical expenditures explain very little of the variance in current medical expenditures.

27. This is similar to Madrian's [1992] use of a pregnancy variable in her analysis of job-to-job transitions.

28. The married group is restricted to those with stable marriages over the relevant time period.

29. The set of control variables changes slightly as we move from sample to sample. For example, it makes no sense to control for race in a regression using a sample that is exclusively white.

30. Another possible issue is that some people in the sample may receive portable insurance from their union; our data give us no direct information on this phenomenon. In one experiment, we excluded from the sample those individuals who were employed in the trucking and construction industries, reasoning that they were the most likely to have such coverage. Their exclusion did not affect our main results.

31. In the subsample consisting only of individuals who were never looking for a job or on layoff during the sample period, DOC4 is significant at the 0.03 level. However, the quantitative effect is rather small—a simulation of the kind discussed above suggests an increase in the transition probability of 0.0035 for this part of the population.

32. The 1986 to 1987 transitions are from the 1986 SIPP panel, a shorter panel that was not of use for the earlier analysis. This set of equations omits the job tenure variable since it is not available in the 1986 SIPP panel. Due to small cell sizes, models using child disability could not be estimated.

33. Thus, for example, Flynn [1992] finds that the take-up rate of the federal COBRA increased from 11.2 percent in 1989 to 20.5 percent in 1991, although the increase was not monotonic.

34. This point is made by Gruber and Madrian [1993].

35. The p-value is 0.009.

Bibliography

A. Foster Higgins & Co., *Foster Higgins Health Care Benefits Survey*, New York, 1987, p. 11A.

Aaron, Henry, *Serious and Unstable Condition*, Washington, DC: The Brookings Institution, 1991.

Asinof, Lynn, "Going Solo? Pack Insurance Policies in Your Pocket," *Wall Street Journal*, March 19, 1992, p. C1.

Bureau of National Affairs Pension Reporter, "Congress Urged to Allow Self-Employed to Deduct Full Health Insurance Costs," vol. 20, April 19, 1993.

Congressional Budget Office, *Economic Implications of Rising Health Care Costs*, U.S. Congress, October 1992.

Cooper, Philip F. and Alan C. Monheit, "Does Employer-Related Health Insurance Inhibit Job Mobility?" *Inquiry*, forthcoming.

Ellwood, David T. and E. Kathleen Adams, "Medical Mysteries: Transitional Benefits, Medicaid Coverage, and Welfare Exits," *Health Care Financing Review*, 1990 Annual Supplement, pp. 119-131.

Evans, David and Boyan Jovanovic, "An Estimated Model of Entrepreneurial Choice under Liquidity Constraints," *Journal of Political Economy*, 1989, pp. 808-827.

Evans, David and L. Leighton, "Some Empirical Aspects of Entrepreneurship," *American Economic Review*, 1989, pp. 519-535.

Flynn, Patricia, "Employment-Based Health Insurance: Coverage Under COBRA Continuation Rules," mimeo, Urban Institute, 1992.

Gruber, Jonathan, "State Mandates and Employer Provided Insurance," mimeo, Massachusetts Institute of Technology, July, 30 1992.

Gruber, Jonathan and Brigette C. Madrian, "Limited Insurance Portability and Job Mobility: The Effects of Public Policy on Job Lock," Mimeo, MIT, 1993.

Gruber, Jonathan, and James Poterba, "The Elasticity of Demand for Health Insurance: Evidence from the Self-Employed," mimeo, Massachusetts Institute of Technology, 1993.

Health Insurance Association of America, *Source Book of Health Insurance Data*, Washington, DC, p. 61.

Herriot, Roger A. and Daniel Kasprzyk, "Some Aspects of the SIPP," SIPP Working Paper No. 8601, Bureau of the Census, Washington, DC, April 1986.

Hewitt Associates, "Continuation of Group Medical Coverage — A Study of State Laws," Hewitt Associates, Lincolnshire, IL, 1986.

Holtz-Eakin, Douglas, "Health Insurance Provision and Labor Market Efficiency In the United States and Germany," in Blank, Rebecca and Richard Freeman (eds.), *Social Protection Versus Economic Flexibility: Is there a Tradeoff?*, Chicago: University of Chicago Press, 1994, pp. 157-188.

Holtz-Eakin, Douglas, David Joulfaian and Harvey S. Rosen, "Entrepreneurial Decisions and Liquidity Constraints," *Rand Journal of Economics*, 1994, pp. 334-347.

Johnson, Michelle Laque, "Some Displaced Executives Buy Their Own Franchises", *Investor's Daily*, August 28, 1991.

Madrian, Brigitte, "Employment-Based Health Insurance and Job Mobility: Is There Evidence of Job-Lock?", *Quarterly Journal of Economics*, CIX. February 1994, pp. 27-54.

Meyer, Bruce, "Why Are There So Few Black Entrepreneurs?" National Bureau of Economic Research, Working Paper No. 3537, 1990.

Penrod, John R., "Health Care Costs, Health Insurance, and Job Mobility," mimeo, Princeton University, 1993.

United States Department of Commerce Bureau of the Census, *Statistical Abstract of the United States* 1987, U.S. Department of Commerce Bureau of the Census, Washington, 1986.

United States Department of Commerce, Bureau of the Census. "Survey of Income and Program Participation User's Guide." Washington, DC: U.S. Department of Commerce Bureau of the Census, July 1987.

TABLE 4.1
Means in the SIPP Data[a]

VARIABLE	(1) Wage-Earners Wave 3	(2) Self-Employed in Wave 3	(3) Remain Wage-Earners	(4) Transition to Entrepreneurship
Economic and Demographic Variables				
AGE	35.3 (12.3)	41.5 (11.1)	35.6 (11.9)	35.3 (10.6)
EDUC (Years of Education)	12.8 (2.74)	13.3 (2.98)	12.9 (2.73)	13.7 (2.67)
BLACK (=1, if black)	0.0972 (0.296)	0.0356 (0.185)	0.0863 (0.281)	0.0236 (0.152)
SPOUSEWK[b] (=1, if spouse works full time)	0.619 (0.486)	0.559 (0.497)	0.618 (0.486)	0.636 (0.482)
KIDNUM (number of children under 18)	0.638 (1.03)	0.937 (1.18)	0.676 (1.05)	0.804 (1.05)
METRO (=1, if lives in metropolitan area)	0.750 (0.433)	0.684 (0.465)	0.744 (0.436)	0.713 (0.453)
UNION (=1, if union membership or contract)	0.204 (0.403)	0.00770 (0.0874)	0.212 (0.409)	0.0946 (0.293)
EARNINGS (earned income)	5,333 (4,308)	6,177 (8,048)	5,663 (4,257)	6,530 (5,614)
HOURS (usual hours of work per week)	38.4 (11.2)	42.9 (17.7)	38.9 (10.7)	40.2 (12.5)
FAMINC[b] (family income)	3,000 (4,610)	4,280 (6,030)	3,100 (4,540)	3,710 (4,770)
REG2 (=1, if Midwest)	0.223 (0.416)	0.234 (0.424)	0.277 (0.447)	0.250 (0.434)
REG3 (=1, if South)	0.261 (0.439)	0.353 (0.478)	0.318 (0.466)	0.345 (0.476)
REG4 (=1, if West)	0.327 (0.469)	0.217 (0.412)	0.182 (0.386)	0.230 (0.421)
OCC1 (=1, if manufacturing)	0.216 (0.411)	0.331 (0.471)	0.232 (0.422)	0.294 (0.456)
OCC2 (=1, if technical, sales, administration)	0.318 (0.466)	0.300 (0.458)	0.320 (0.467)	0.331 (0.471)

TABLE 4.1 (continued)
Means in the SIPP Data*

	(1) Wage-Earners Wave 3	(2) Self-Employed in Wave 3	(3) Remain Wage-Earners	(4) Transition to Entrepreneurship
OCC3 (=1, if service)	0.149	0.131	0.133	0.111
	(0.356)	(0.337)	(0.339)	(0.315)
OCC4 (=1, if craft, repair)	0.198	0.0707	0.121	0.149
	(0.399)	(0.256)	(0.326)	(0.356)
OCC5 (=1, if operator, laborer)	0.198	0.0707	0.194	0.115
	(0.398)	(0.256)	(0.396)	(0.319)
MANUF (=1, if in manufacturing industry)	0.235	0.0486	0.251	0.172
	(0.424)	(0.215)	(0.434)	(0.378)
HOME (=1, if individual or spouse owns home)	0.518	0.751	0.552	0.581
	(0.500)	(0.433)	(0.497)	(0.494)
TENURE (number of years on main job)	6.75	9.16	7.07	5.00
	(7.75)	(9.15)	(7.67)	(6.83)
CHILD (own children under 18)	0.637	0.937	0.676	0.804
	(1.03)	(1.18)	(1.05)	(1.05)
KIDAGE<1 (number of children less than 1)	0.0382	0.0337	0.0396	0.0507
	(0.193)	(0.180)	(0.197)	(0.220)
KIDAGE1-2 (number of children between ages 1 and 2	0.0826	0.101	0.0835	0.319
	(0.288)	(0.319)	(0.288)	(0.374)
KIDAGE3-5 (number of children between ages 3 and 5)	0.121	0.164	0.129	0.319
	(0.366)	(0.426)	(0.377)	(0.401)
FEMALE (=1, if female)	0.470	0.339	0.457	0.348
	(0.499)	(0.473)	(0.498)	(0.477)
MARRIED (=1, if married and spouse present)	0.598	0.798	0.628	0.743
	(0.490)	(0.401)	(0.483)	(0.438)
PREVMAR (=1, if previously married, but not currently married)	0.132	0.109	0.124	0.0878
	(0.338)	(0.312)	(0.330)	(0.284)
DIVORCE (=1, if divorced or separated between waves 3 and 9)	0.0348	0.0309	0.0348	0.0541
	(0.183)	(0.173)	(0.183)	(0.227)
NEWCHILD (=1, if child born between waves 3 and 9)	0.0885	0.0790	0.0809	0.0946
	(0.295)	(0.282)	(0.282)	(0.304)
WED (=1, if got married between waves 3 and 9)	0.0563	0.0371	0.0548	0.0709
	(0.231)	(0.189)	(0.228)	(0.257)

TABLE 4.1 (continued)
Means in the SIPP Data[a]

	(1) Wage-Earners Wave 3	(2) Self-Employed in Wave 3	(3) Remain Wage-Earners	(4) Transition to Entrepreneurship
Health and Insurance Variables				
EMPPLAN (=1, if H.I. is through employer)	0.636 (0.481)	0.263 (0.441)	0.678 (0.467)	0.571 (0.496)
SPLAN[b] (=1, if spouse has a family H.I. plan)	0.379 (0.485)	0.418 (0.493)	0.373 (0.484)	0.432 (0.496)
NOPLAN (=1, if no H.I.)	0.104 (0.305)	0.179 (0.383)	0.0800 (0.271)	0.132 (0.339)
NUMCOV (=number of persons covered in individual's plan)	1.68 (1.64)	1.57 (1.68)	1.68 (1.64)	1.57 (1.68)
BED (= combined days in bed during last 4 months)	2.19 (8.83)	2.55 (10.1)	2.05 (8.27)	2.25 (7.45)
CHILDDIS (= number of children with a disability)	0.0248 (0.156)	0.0327 (0.178)	0.0249 (0.156)	0.0372 (0.189)
GOODHLTH (=1, if self-reported health is excellent or good)	0.697 (0.459)	0.689 (0.463)	0.712 (0.453)	0.767 (0.423)
NTS4 (= combined nights in hospital in last 4 months)	0.358 (2.76)	0.218 (1.36)	0.287 (2.38)	0.345 (2.12)
NTS12 (= combined nights in hospital in last 12 months)	1.46 (5.99)	1.20 (4.41)	1.34 (5.43)	1.05 (3.62)
DOC4 (= combined doctor visits in last 4 months)	1.35 (3.23)	1.27 (2.91)	2.49 (4.40)	2.36 (3.22)
DOC12 (= combined doctor visits in last 12 months)	3.50 (7.05)	3.33 (6.93)	6.40 (9.53)	6.50 (9.73)
EXP4 (= combined expenses in last 4 months)	207 (1190)	151 (643)	178 (994)	192 (856)
EXP12 (= combined expenses in last 12 months)	751 (2600)	649 (1940)	702 (2290)	588 (1560)
PREDEXP[d] (=predicted medical expenses over the next 12 months)	2265 (1750)	2546 (1895)	2259 (1568)	2438 (2431)
N	19,391	2,078	11,697	296

[a] Means are taken from wave 3 of the 1984 panel. The sample in column (1) is all individuals who were wage-earners in wave 3. The sample in column (2) is all individuals who were self-employed in wave 3. The column (3) sample is individuals who were wage-earners in wave 3 and remained wage-earners in wave 9. The column (4) sample is individuals who were wage-earners in wave 3 and self-employed in wave 9. Figures in parentheses are standard deviation.

[b] Mean conditional on the individual being married with spouse present.

[c] Sum of unearned income of individual and spouse plus the earned income of the spouse.

[d] Method of calculation explained in text. Due to missing information, this variable could not be constructed for 7 percent of the sample.

TABLE 4.2
Linear Probability Model of Health Insurance Status[a]

VARIABLE		VARIABLE (cont'd)	
SELF	0.0883 (0.00717)	OCC5	0.04870 (0.007805)
AGE	0.01035 (0.00137)	MANUF	-0.06238 (0.005423)
AGE^2	-0.0001273 (0.000017)	HOME	-0.07029 (0.005473)
EDUC	-0.008861 (0.000906)	TENURE	-0.002553 (0.0003306)
BLACK	0.03278 (0.007235)	CHILD	0.003307 (0.01084)
SPOUSEWK	-0.04202 (0.006436)	KIDAGE1-2	0.01032 (0.007473)
KIDNUM	0.002559 (0.002545)	KIDAGE3-5	-0.006236 (0.006139)
METRO	-0.01236 (0.004754)	FEMALE	-0.02634 (0.005062)
UNION	-0.07652 (0.005614)	MARRIED	-0.001381 (0.008300)
EARNINGSx10^{-6}	-5.67 (0.565)	PREVMAR	0.02122 (0.008255)
HOURS	-0.0000633 (0.00000940)	CONSTANT	0.1737 (0.02602)
FAMINCx10^{-6}	-2.85 (0.597)	N	21,469
REG2	0.02318 (0.005856)		
REG3	0.04481 (0.005679)		
REG4	0.06237 (0.006296)		
OCC2	-0.02548 (0.006039)		
OCC3	0.05809 (0.007836)		
OCC4	0.05094 (0.008120)		

[a] Dependent variable equals one if the individual was covered by no health insurance plan at all in Wave 3 of the SIPP, and zero otherwise. SELF = 1 if the individual was self-employed, and zero otherwise. Other variables are defined in Table 4.1. Numbers in parentheses are standard errors.

TABLE 4.3
Means in the PSID Data[a]

EMPLAN (=1, if employer-provided insurance)	0.688 (0.463)
SPLAN (=1, if spouse employer-provided insurance)	0.355 (0.478)
EMPLAN x SPLAN	0.248 (0.432)
AGE	36.3 (10.4)
AGE^2	1428 (832)
EDUC (years of education)	12.6 (2.40)
FEMALE (=1, if female)	0.449 (0.497)
BLACK (=1, if black)	0.314 (0.464)
MARRIED (=1, if married and spouse present)	0.752 (0.432)
HOME (=1, if homeowner)	0.613 (0.487)
KIDNUM (number of children under 18)	1.12 (1.19)
KIDAGE0-2 (=1, if child aged 0-2)	0.179 (0.383)
KIDAGE3-5 (=1, if child aged 3-5)	0.193 (0.395)
REG2 (=1, if North Central)	0.228 (0.420)
REG3 (=1, if South)	0.446 (0.497)
REG4 (=1, if West)	0.151 (0.358)
REG5 (=1, if Alaska or Hawaii)	0.00327 (0.0571)
REG6 (=1, if foreign country)	0.00392 (0.0625)

TABLE 4.3 (continued)
Means in the PSID Data

OCC2 (=1, if professional)	0.286 (0.452)
OCC3 (=1, if sales)	0.214 (0.410)
OCC4 (=1, if blue-collar)	0.343 (0.475)
UNION (=1, if union membership or contract)	0.201 (0.400)
MANUF (=1, if manufacturing)	0.250 (0.433)
LN(EARN) (log of earned income in 1984)	9.52 (0.839)
LN(HOURS) (log of hours in 1984)	7.54 (0.357)
FAMINC (family income in 1984)	35,369 (25,912)
SHOURS (spouse hours in 1984)	1,154 (1,048)
TENURE (months with current employer, 1984)	87.4 (87.6)
LIFEINS (=1, if employer life insurance)	0.564 (0.496)
DENTAL (=1, if employer dental plan)	0.447 (0.497)
PENSION (=1, if pension plan)	0.534 (0.499)
NIGHTS (nights in hospital, self and spouse, 1984)	8.72 (13.4)
NIGHTS x SPLAN	5.50 (11.5)
HLOST (hours of work lost, self and spouse, 1984)	139.1 (297.0)
HLOST x SPLAN	58.8 (199)
GOODHLTH (=1, if good health)	0.639 (0.480)

TABLE 4.3 (continued)
Means in the PSID Data

GOODHLTH x SPLAN	0.238 (0.426)
WORSEHLTH (=1, if health worse 1982-84)	0.0939 (0.292)
WORSEHLTH x SPLAN	0.0264 (0.160)
N	4,588

[a] Means are taken from the 1984 wave of the PSID. Figures in parentheses are standard deviations.

Table 5.1
Logit Analysis of Transitions from Wage Earnings to Entrepreneurships*

VARIABLE	(1)	(2)	(3)	(4)	(5)
EMPPLAN	-0.6398	-0.6422	---	---	---
	(0.1499)	(0.1901)	---	---	---
SPLAN	---	0.1506	---	---	0.3296
	---	(0.2359)	---	---	(0.2422)
EMPPLANxSPLAN	---	0.1570	---	---	---
	---	(0.2805)	---	---	---
BED	---	---	---	---	0.005376
	---	---	---	---	(0.007821)
BEDxSPLAN	---	---	---	---	0.007334
	---	---	---	---	(0.01839)
AGE	0.09242	0.09169	0.1601	0.05286	0.05340
	(0.04663)	(0.04691)	(0.07632)	(0.06315)	(0.06330)
AGE^2	-0.001075	-0.001067	-0.002107	-0.0005175	-0.0005274
	(0.0005855)	(0.0005883)	(0.001005)	(0.0007663)	(0.0007681)
EDUC	0.07900	0.08016	0.1482	0.03442	0.03594
	(0.02912)	(0.02918)	(0.04595)	(0.03757)	(0.03771)
FEMALE	-0.6843	-0.7039	-0.4179	-0.9672	-1.005
	(0.1589)	(0.1601)	(0.2421)	(0.2254)	(0.2270)
BLACK	-1.051	-1.059	-2.291	-0.5054	-0.5119
	(0.3896)	(0.3897)	(1.012)	(0.4264)	(0.4265)
MARRIED	0.6616	0.6552	0.7803	0.5080	0.4862
	(0.2654)	(0.2663)	(0.4212)	(0.3426)	(0.3438)
PREV. MAR	0.2532	0.2626	0.3235	0.1186	0.1255
	(0.2829)	(0.2832)	(0.4422)	(0.3650)	(0.3651)
SPOUSEWK	0.1696	0.09964	0.2263	0.09797	0.03669
	(0.1781)	(0.1876)	(0.3156)	(0.2244)	(0.2351)
KIDNUM	-0.09373	-0.09671	-0.1549	-0.08097	-0.09024
	(0.07629)	(0.07652)	(0.1245)	(0.1009)	(0.1017)
METRO	-0.2223	-0.2279	-0.03333	-0.3998	-0.4171
	(0.1367)	(0.1368)	(0.2158)	(0.1785)	(0.1790)
UNION	-0.7256	-0.7260	-0.3371	-0.8644	-0.8672
	(0.2103)	(0.2104)	(0.4089)	(0.2468)	(0.2470)
LN(EARN)	0.2246	0.2304	0.3926	0.04466	0.06217
	(0.1298)	(0.1299)	(0.1858)	(0.1831)	(0.1831)
LN(HOURS)	-0.2019	-0.2106	-0.3096	-0.2672	-0.2838
	(0.1819)	(0.1819)	(0.2401)	(0.3137)	(0.3127)
$FAMINCx10^{-6}$	-7.37	-11.7	-18.0	2.11	-5.40
	(17.9)	(18.7)	(25.8)	(25.8)	(27.5)
REG2	0.1379	0.1444	0.2790	0.07163	0.08506
	(0.1858)	(0.1859)	(0.3068)	(0.2356)	(0.2360)

Table 5.1 (continued)
Logit Analysis of Transitions from Wage Earnings to Entrepreneurships*

	(1)	(2)	(3)	(4)	(5)
REG3	0.2061	0.2165	0.5066	0.02802	0.3532
	(0.1779)	(0.1783)	(0.2935)	(0.2269)	(0.2273)
REG4	0.3335	0.3415	0.6539	0.1537	0.1552
	(0.1894)	(0.1897)	(0.3068)	(0.2470)	(0.2473)
OCC2	0.1209	0.1172	0.3863	-0.04114	-0.04893
	(0.1674)	(0.1676)	(0.2846)	(0.2119)	(0.2122)
OCC3	0.03274	0.03309	0.3806	-0.1940	-0.2065
	(0.2441)	(0.2443)	(0.3500)	(0.3719)	(0.3721)
OCC4	0.2282	0.2237	0.9274	-0.2805	-0.2932
	(0.2262)	(0.2265)	(0.3669)	(0.3030)	(0.3031)
OCC5	-0.2768	-0.2829	-0.1905	-0.3629	-0.3902
	(0.2469)	(0.2474)	(0.4129)	(0.3173)	(0.3182)
MANUF	-0.2803	-0.2848	-0.2663	-0.2967	-0.3020
	(0.1581)	(0.1682)	(0.3534)	(0.1948)	(0.1947)
HOUSE	-0.07522	-0.09024	-0.07979	-0.02731	-0.04233
	(0.1526)	(0.1537)	(0.2381)	(0.2013)	(0.2021)
TENURE	-0.05297	-0.05225	-0.08423	-0.04496	-0.04426
	(0.01212)	(0.01213)	(0.02768)	(0.01376)	(0.01377)
DIVORCE	0.1743	0.1756	0.1277	0.1983	0.1902
	(0.2750)	(0.2751)	(0.4250)	(0.3661)	(0.3661)
WED	0.5976	0.5999	0.6946	0.4811	0.4833
	(0.2576)	(0.2577)	(0.3842)	(0.3532)	(0.3534)
NEWCHILD	-0.2020	-0.2041	-0.4706	-0.06576	-0.06606
	(0.2142)	(0.2143)	(0.3546)	(0.2727)	(0.2723)
KIDAGE<1	0.04592	0.02810	0.1049	0.04746	0.01147
	(0.2823)	(0.2827)	(0.4542)	(0.3665)	(0.3684)
KIDAGE1-2	0.3310	0.3300	-0.02036	.5095	0.5128
	(0.1857)	(0.1854)	(0.3127)	(0.2325)	(0.2323)
KIDAGE3-5	-0.07574	-0.07366	0.2267	-0.3030	-0.2957
	(0.1764)	(0.1764)	(0.2607)	(0.2459)	(0.2460)
CONSTANT	-6.420	-6.406	-9.654	-3.275	-3.320
	(1.113)	(1.115)	(1.578)	(2.152)	(2.153)
LOGLIKELIHOOD	-1296.6	-1295.6	-504.5	-774.1	-772.5
N	11,993	11,993	3,890	8,103	8,103

* in each column, the left-hand side variable is the log of the odds of making a transition from wage-earning to self employment. The results in columns (1) and (2) are for the entire sample. The column (3) results are for the sample of individuals who did not have an employer-provided insurance plan, and those in columns (4) and (5) are for individuals who had an employer-provided plan. Figures in parentheses are standard errors. Variables are defined in Table 4.1.

Table 5.2
Alternative Measures of Expected Health Care Costs*

NUMCOV	0.001346 (0.1020)	NTS4	0.01485 (0.01781)	EXP4	0.0000394 (0.0000433)	EXP12	0.0000131 (0.0000269)
SPLAN	0.5942 (0.4770)	SPLAN	0.3175 (0.2374)	SPLAN	0.3022 (0.2389)	SPLAN	0.3103 (0.2446)
NUMCOV*SPLAN	-0.1009 (0.1640)	NTS4*SPLAN	0.08367 (0.04916)	EXP4*SPLAN	0.0002075 (0.0001245)	EXP12*SPLAN	0.000048 (0.0000721)
p	0.406	p	0.0461	p	0.0465	p	0.327
CHILDDIS	-0.5810 (0.7254)	DOC12	0.003958 (0.01045)	NEWCHILD	-0.2246 (0.3293)	PREDEXP	0.0000879 (0.000039)
SPLAN	0.3406 (0.2381)	SPLAN	0.2244 (0.2686)	SPLAN	0.2717 (0.2505)	SPLAN	0.6394 (0.5065)
CHILDDIS*SPLAN	0.5169 (1.270)	DOC12*SPLAN	0.01484 (0.01555)	NEWCHILD*SPLAN	0.5745 (0.5458)	PREDEXP*SPLAN	-0.000094 (0.000166)
p	0.413	p	0.154	p	0.323	p	0.055
GOODHLTH	0.1897 (0.2241)	DOC4	0.005406 (0.02227)	NTS12	0.004837 (0.01153)		
SPLAN	0.04991 (0.4719)	SPLAN	0.2804 (0.2595)	SPLAN	0.3229 (0.2420)		
GOODHLTH*SPLAN	0.3931 (0.5060)	DOC4*SPLAN	0.02168 (0.03484)	NTS12*SPLAN	0.01705 (0.03120)		
p	0.188	p	0.323	p	0.377		

* These are the coefficients from a series of logit models in which the left-hand side variable is the log of the odds of making a transition from wage earning to self-employment, and the other right-hand side variables are the same as in column (4) of Table 5.1. Figures in parentheses are standard errors, and p is the significance level of a joint test of the hypothesis that all three coefficients are zero. Variables are defined in Table 4.1. The sample used to estimate the equation with PREDEXP has about 5 percent fewer observations than the rest of the equations because some of the observations lacked data on family characteristics that were required to generate the predicted expenditure amounts.

Table 5.3
Alternative Measures of Expected Health Care Costs
(No Other Covariates in Transition Equation)[a]

NUMCOV	0.08125 (0.05591)	NTS4	0.01921 (0.01830)	EXP4	0.0000491 (0.0000438)	EXP12	0.000016 (0.0000263)
SPLAN	0.7001 (0.3797)	SPLAN	0.2186 (0.1973)	SPLAN	0.2105 (0.1989)	SPLAN	0.2153 (0.2038)
NUMCOV*SPLAN	-0.1891 (0.1405)	NTS4*SPLAN	0.04650 (0.04807)	EXP4*SPLAN	0.0001132 (0.0001207)	EXP12*SPLAN	0.0000289 (0.0000667)
p	0.235	p	0.297	p	0.291	p	0.534
CHILDDIS	-0.6417 (0.7163)	DOC12	0.006459 (0.008827)	NEWCHILD	0.1390 (0.2953)	BED	0.00507 (0.007277)
SPLAN	0.2283 (0.1969)	SPLAN	0.1415 (0.2271)	SPLAN	0.1726 (0.2109)	SPLAN	0.2262 (0.2015)
CHILDDIS*SPLAN	0.6826 (1.253)	DOC12*SPLAN	0.009855 (0.01412)	NEWCHILD*SPLAN	0.4576 (0.5353)	BED*SPLAN	0.005676 (0.01751)
p	0.479	p	0.298	p	0.353	p	0.522
GOODHLTH	0.4123 (0.2113)	DOC4	0.009114 (0.01949)	NTS12	0.005904 (0.01171)	PREDEXP	0.0000876 (0.0000324)
SPLAN	0.01195 (0.4519)	SPLAN	0.1854 (0.2173)	SPLAN	0.2239 (0.2008)	SPLAN	0.4826 (0.4456)
GOODHLTH*SPLAN	0.2928 (0.5006)	DOC4*SPLAN	0.01541 (0.03180)	NTS12*SPLAN	0.01018 (0.02874)	PREDEXP*SPLAN	-0.000112 (0.000149)
p	0.0393	p	0.488	p	0.576	p	0.0909

[a] These are the coefficients from a series of logit models in which the left-hand side variable is the log of the odds of making a transition from wage earning to self-employment, and the only other right-hand side variable is a constant. Figures in parentheses are standard errors, and p is the significance level of a joint test of the hypothesis that all these coefficients are zero. Variables are defined in Table 4.1, and the sample in Table 5.2.

Table 5.4
Health Insurance Mandates*

	(1)		(2)		(3)
MAND84	0.0195	MAND83	0.0386	MAND82	0.1128
	(0.1364)		(0.1429)		(0.1638)
SPLAN	0.4154	SPLAN	0.4146	SPLAN	0.4133
	(0.1727)		(0.1727)		(0.1726)
p	0.0544	p	0.0529	p	0.0432
MOS84	0.0120	MOS83	0.0129	MOS82	0.0145
	(0.0159)		(0.0155)		(0.0162)
SPLAN	0.4140	SPLAN	0.4136	SPLAN	0.4147
	(0.1729)		(0.1727)		(0.1727)
p	0.0412	p	0.0389	p	0.0367
MAND84	-0.04844	MAND83	-0.0550	MAND82	0.0938
	(0.1651)		(0.1747)		(0.1967)
SPLAN	0.3517	SPLAN	0.3386	SPLAN	0.4019
	(0.1933)		(0.1905)		(0.1844)
MAND84*SPLAN	0.2078	MAND83*SPLAN	0.2803	MAND82*SPLAN	0.05733
	(0.2769)		(0.2879)		(0.3242)
p	0.0913	p	0.0729	p	(0.0961)
MOS84	-0.002304	MOS83	-0.003381	MOS82	0.0016
	(0.02021)		(0.02031)		(0.0209)
SPLAN	0.3352	SPLAN	0.3356	SPLAN	0.3642
	(0.1843)		(0.1823)		(0.1793)
MOS84*SPLAN	0.03845	MOS83*SPLAN	0.0426	MOS82*SPLAN	0.03410
	(0.03008)		(0.0303)		(0.03089)
p	0.0382	p	0.0292	p	0.0416

* These are the coefficients from a series of logit models in which the left-hand side variable is the log of the odds of making a transition from wage earning to self-employment, and the other right-hand side variables are the same as in column (4) of Table 5. MAND84 = 1 if in 1984 the individual's state mandated that former employees be allowed to purchase health insurance, and zero otherwise; MAND83 and MAND82 are defined analogously for 1983 and 1982. MOS84 is the number of months of coverage mandated by law in 1984; MOS83 and MOS82 are defined analogously. Figures in parentheses are standard errors, and p is the significance level of a joint test that the three coefficients are equal to zero.

Table 5.5
Logit Analyses of Transitions from Wage Earning to Entrepreneurship in the PSID*

VARIABLE	(1)	(2)	(3)	(4)
EMPLAN	-0.8335	-0.3787	-0.3594	—
	(0.2002)	(0.2355)	(0.2749)	—
SPLAN	—	—	-0.06150	-0.3122
	—	—	(0.2856)	(0.3323)
EMPLAN x SPLAN	—	—	-0.05491	—
	—	—	(0.3602)	—
NIGHTS	—	—	—	-0.01364
	—	—	—	(0.02085)
NIGHTS x SPLAN	—	—	—	0.008682
	—	—	—	(0.02022)
AGE	-0.03944	-0.02623	-0.02588	-0.07854
	(0.07135)	(0.07082)	(0.0708)	(0.1059)
AGE^2	0.0007412	0.0005633	0.0005555	0.001190
	(0.0008847)	(0.0008791)	(0.0008795)	(0.001311)
EDUC	0.05556	0.07926	0.07951	0.03586
	(0.04541)	(0.04599)	(0.04606)	(0.06652)
FEMALE	-0.7948	-0.7566	-0.7533	-0.3978
	(0.2203)	(0.2232)	(0.2244)	(0.4715)
BLACK	-0.7831	-0.7082	-0.7010	-0.6804
	(0.2531)	(0.2566)	(0.2573)	(0.3966)
MARRIED	-0.1062	-0.1160	-0.1002	0.1002
	(0.2671)	(0.2703)	(0.2730)	(0.4204)
HOME	0.04148	0.07436	0.07682	-0.1877
	(0.2096)	(0.2100)	(0.2102)	(0.2888)
KIDNUM	0.1521	0.1367	0.1341	0.2055
	(0.09267)	(0.09334)	(0.09361)	(0.1337)
KIDAGE0-2	-0.6988	-0.7145	-0.7167	-0.8065
	(0.2943)	(0.02963)	(0.2964)	(0.3842)
KIDAGE3-5	-0.2504	-0.2315	-0.2335	-0.01891
	(0.2607)	(0.2620)	(0.2620)	(0.3424)
REG2	-0.6149	-0.5741	-0.5758	-0.7242
	(0.2803)	(0.2820)	(0.2822)	(0.4141)
REG3	-0.1479	-0.08292	-0.08724	0.05166
	(0.2366)	(0.2390)	(0.2393)	(0.3298)
REG4	-0.2541	-0.1790	-0.1811	0.2289
	(0.2771)	(0.2812)	(0.2813)	(0.3560)
REG5	-10.29	10.29	10.28	-9.998
	(18.35)	(17.99)	(18.00)	(19.37)

Table 5.5 (continued)
Logit Analyses of Transitions from Wage Earning to Entrepreneurship in the PSID[a]

VARIABLE	(1)	(2)	(3)	(4)
REG6	0.5706 (1.102)	0.5116 (1.114)	0.5262 (1.114)	-8.863 (18.38)
OCC2	-0.03042 (0.3066)	0.0005292 (0.3104)	0.0006490 (0.3110)	0.3861 (0.5857)
OCC3	0.1199 (0.2955)	0.1343 (0.2982)	0.1352 (0.2991)	0.2111 (0.5859)
OCC4	-0.1480 (0.2947)	-0.1660 (0.2960)	-0.1644 (0.2970)	-0.06721 (0.5936)
UNION	-0.8920 (0.3637)	-0.4893 (0.3933)	-0.4904 (0.3733)	-0.4000 (0.4348)
MANUF	-0.4760 (0.2538)	-0.4332 (0.2570)	-0.4367 (0.2577)	-0.2873 (0.3022)
LN(EARN)	0.08466 (0.1358)	0.1771 (0.1402)	0.1778 (0.1403)	0.3629 (0.2617)
LN(HOURS)	0.6030 (0.2743)	0.5811 (0.2704)	0.5772 (0.2703)	0.7817 (0.5229)
FAMINC x 10^{-5}	0.006810 (0.003035)	0.007427 (0.002933)	0.007431 (0.002960)	0.006411 (0.002859)
SHOURS x 10^{-5}	0.1078 (0.1024)	0.1111 (0.1028)	0.1292 (0.1099)	0.2913 (0.1514)
TENURE	-0.006374 (0.001503)	-0.004127 (0.001514)	-0.004134 (0.001515)	-0.004805 (0.001975)
LIFEINS	— —	-0.05898 (0.2260)	-0.05159 (0.2266)	0.1246 (0.2832)
DENTAL	— —	-0.5209 (0.2384)	-0.5252 (0.2386)	-0.5491 (0.2602)
PENSION	— —	-1.059 (0.2334)	-1.059 (0.2333)	-0.8841 (0.2671)
CONSTANT	-7.566 (2.526)	-8.796 (2.519)	-8.784 (2.518)	-11.70 (4.530)
LOGLIKELIHOOD	-591.4	-575.3	-575.2	-318.40
N	4588	4588	4588	3157

[a] In each column, the left-hand side variable is the log of the odds of making a transition from wage-earning to self-employment. The results in column (1), (2), and (3) are for the entire sample. The column (4) results are for the sample of individuals who had an employer-provided insurance plan. Variables are defined in Table 4.3

Table 5.6
Alternative Measures of Expected Health Care Costs in the PSID[a]

	(1) CONTROLS	(2) NO CONTROLS
SPLAN	-0.5230	-0.1632
	(0.5735)	(0.5433)
GOODHLTH	0.2953	0.6282
	(0.3664)	(0.3438)
SPLAN x GOODHLTH	0.3723	0.1543
	(0.6204)	(0.6048)
p	0.57	0.07
SPLAN	-0.2283	-0.01433
	(0.2950)	(0.2535)
WORSEHLTH	0.4069	0.4571
	(0.4368)	(0.4144)
SPLAN x WORSEHLTH	-0.06546	-0.03446
	(0.7787)	(0.7472)
p	0.40	0.68
SPLAN	-0.3366	-0.09181
	(0.3186)	(0.2710)
HLOST	-0.0006795	-0.0021068
	(0.0009770)	(0.009315)
SPLAN x HLOST	0.0008763	0.0008429
	(0.001228)	(0.001158)
p	0.27	0.58

[a] Column (1) contains the coefficients from a series of regressions in which the left-hand side variable is the log of the odds of making a transition from wage-earning to self-employment, and the other right-hand side variables are the same as in column (4) of Table 5.5. The column (2) results are from equations with no additional right-hand side variables other than a constant.