Employer-provided health insurance and long-term employment choice[+]

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Abstract

While over 70% of U.S. wage earners and their families are covered by employer-provided health insurance, self-employed individuals have limited access to it and face higher participation costs. As a result, social commentators and policy makers have long argued that many people are "locked" into their current jobs because of fear of losing their health coverage even though they could be more productive in self-employment. Using a large set of data from the Medical Expenditure Panel Survey (MEPS) for the period 2000-2008, we investigate whether employer-provided health insurance influences employment choices in the long term. Our results show that, under certain conditions, the ability to retain health insurance is, in fact, important for employment choices even after the passage of COBRA and HIPAA. However, we find the relationship between demand for health-insurance and employment choice to be significantly mediated by risk tolerance and individual and family health status. This suggests that, ceteris paribus, the relationship between tolerance for risk and willingness to buy insurance is non-linear and that the risk associated to the lack of insurance is highly discounted.

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1. Introduction

Over 70% U.S. wage earners age 18-64 and their families are covered by employer-provided health insurance (Census Bureau 2007).[1] By having a large group of diverse employees, large firms are able to reduce adverse selection and administrative costs, and negotiate lower premia with insurance companies. Small businesses, on the other hand, cannot benefit from such diversification effects and, on average, pay 18 percent higher premia than large businesses for an equal level of coverage, and have 3 to 4 times higher administrative costs (Office of the Press Secretary 2010). Also, large firms enjoy various tax benefits and exemptions not shared by small firms. According to Selden and Gray (2006), for example, the average subsidy per worker in firms with 1,000 or more employees is $1,886, about two and a half times the $770 subsidy per worker received by firms with fewer than ten employees. As a result, the non-portability of employer provided health insurance has been suggested as one of the main reasons for this alleged "lock-in" phenomenon, and social commentators and policy makers have long argued that many people are "locked" in their current jobs even though they could be more productive starting their own businesses.[2]

Although these claims are intuitive and supported by anecdotal stories and public opinion surveys, a surprisingly small amount of empirical research exists on this topic. Up to date, HoltzEakin et al. (1996), Wellington (2001), and Fairlie et al. (2010) are among the few studies in this area. Yet, the evidence they provide is somewhat mixed. While HoltzEakin et al. found no evidence of a relationship between health-insurance and

[1] In 2007, for example, 56.8% children under age 18 were covered by employer-provided health plans (Fronstin, 2008).

[2] After the House passed the recent healthcare bill in 2010, former Speaker Nancy Pelosi stated that "this legislation will unleash tremendous entrepreneurial power into our economy."

employment choice, Wellington and Fairlie et al. did so. This apparent inconsistency is in part due to the use of different data and approaches across those works. Thank to a new and large data set, we are able to combine and expand the approaches taken in the past in a single coherent study. We contribute to this literature by investigating whether employer-provided health insurance influences employment choices in the long term using evidence provided by cross section data as well as from transition rates from wage employment to self-employment.

Specifically, we combine nine years (2000-2008) of Medical Expenditure Panel Survey (MEPS) data to analyze the impact, if any, of employer-provided health insurance on employment choice. To our knowledge, MEPS data have not been used in this context before. Similarly to other data sets used in past studies (CPS, SIPP and PSID), MEPS provides data on demographic, socioeconomic and job-related information. In addition, however, MEPS also provides detailed data on family and individual health expenses and medical conditions based on the International Classification of Diseases - 9th Revision (ICD9) codes. These additional data allow us to measure the impact of health insurance on self-employment decisions more accurately than previously done.

Also, given the period we cover, our data allows us to take into account the potential effect of COBRA and HIPAA, two legislations that have become effective recently as a direct response to concerns over the non portability of employer provided health insurance. The 1986 Consolidated Omnibus Budget Reconciliation Act (COBRA) requires employers to continue providing health insurance coverage for up to 18 months after the employment contract is terminated. In addition, effective in January 1997, the Health Insurance Portability and Accountability Act (HIPAA) greatly restricts the ability

of health insurance companies and employers to deny coverage because of employees' preexisting medical conditions. The implementation of these two Acts may have had an impact on employment choices and, as a result, a look at more recent data, such as those used by Fairlie et al. (2010), may prove useful.[3]

Overall, our results suggest that the medical status of the household is very significantly associated to employment choice in general and self-employment choice in particular. We show that, under certain conditions, the ability to retain health insurance is, in fact, important for employment choices even after the passage of COBRA and HIPAA. Importantly, we find the relationship between demand for health-insurance and employment choice to be significantly mediated by risk tolerance and individual and family health status. These important elements were not captured in previous studies due to the lack of accurate and detailed measures of health status, as well as failure to control for risk tolerance.

Our work has clear relevant implications for health care and entrepreneurship policy in the United States. However, it contributes also to a much more general debate. Namely, the one addressing how risk tolerance really influences the way individuals make decisions in general and employment decisions in particular. Ceteris paribus, risk tolerance serves as a deterrent toward options that are perceived as being riskier than others. Our results suggest that this deterrence effect may kick in only when other conditions are present and that, absent these complementary factors (i.e., having poor health), individuals tend to discount risk heavily (i.e., lack of health insurance deters

[3] For instance, although former employees can still have the same insurance coverage from former employers under COBRA, they need to pay the premiums by themselves. Although HIPAA increases access to health insurance by people with preexisting conditions, insurance companies can still charge higher premiums for these conditions and lower payouts for these conditions.

them from starting a business only when they or someone in their family are in poor health to begin with).

2. Literature Review

2.1 Studies on "Job Lock"

Much of the research focusing on the relationship between health insurance and employment choice focuses on "job lock." That is, the hypothesis that employer-provided health insurance may "lock" employees in their current jobs. Pre-existing medical conditions, differences between employers sponsored health plans and other regulatory constraints reduce wage earners' ability to transfer health insurance when switching jobs. Consequently, it is argued that the non-portability of health insurance reduces labor mobility and ultimately lowers the economy's overall productivity (Madrian 2006). Empirical findings on the presence and magnitude of job-lock are mixed.

In one of the most cited studies on "job lock," Madrian (1994) found that people with other source of health insurance, such as insurance from one's spouse, are 25% more likely to change jobs than those who do not have other sources of coverage. He also found that expected medical expenses such as, for example, a pregnancy, decrease job mobility by as much as 30 to 40 percent. Along similar lines, Cooper and Monheit (1993) found that workers with higher probability of losing health insurance are much less likely to change job. Buchmueller and Valletta (1996) included pension and job tenure in their models to correct omitted variable biases and confirmed a substantial "job lock" effect for sole earner married and single men (17-31%) although their estimates exhibited large standard errors and were not robust across subgroups. More recently, Royalty and

Abraham (2006) studied how a husband's (wife's) health insurance affects the wife's (husband's) employment choice and, consistently with the job loch hypothesis, found that a spouse's insurance significantly decreases the probability of full time employment of the partner.

Among studies that found significant job lock effects, some focus on subgroups of the working population such as older workers or women. Kevin et al. (2001) examined workers with chronic illness or workers who have family members with chronic illness and, not surprisingly, found that within this group employer provided health insurance reduces job mobility by 40%. Using Health and Retirement Survey data, Blau and Gilleskie (2001) and Zissimopoulos and Karoly (2009) found large and significant job lock effects for older workers age 51 to 69. Finally, Wellington and Cobb-Clark (2000) and Buchmueller and Valletta (1999) investigated married women's employment choices and found employer provided health insurance to have a significant effect.

Other empirical studies, however, did not find significant "job lock" effects. Kapur (1999), for example, argued that early findings of significant job lock effects resulted from the mismatch of control and treatment groups, and from the incorrect measurement of family's medical information. After choosing correct control and treatment groups, and after constructing three different measure of family health status, he found no job lock effects. Gilleskie and Lutz (2002) suggested that early findings may be biased due to the omission of the positive correlation of employer provided health insurance, other job characteristics, and unobserved individual characteristics. After accounting for these omitted variables, they found no evidence of job lock effects. Similarly, studies by Berger et al. (2004), Spaulding (1997), and Mitchell (1982) found

no or very little evidence of job lock. Thus, to date, the evidence is mixed and the debate remains open.

2.2 Studies on Wage Employment and Self-Employment

Within the context of the general topic of "job lock," so far less than a handful of works has focused directly on the impact, if any, of employer-provided health insurance on self employment. An extensive literature research found only three published studies focusing directly on the impact of employer provided health insurance on the decision to switch from wage-employment to self-employment and, as in the case of job lock in general, results are somewhat mixed.

HoltzEakin et al. (1996) examined the one-year transition from wage-employment to self-employment using data from the Survey of Income and Program Participation (SIPP) 1984-87 panel. Out of 39,306 individuals, they identified 763 wage earners who made the transition to self-employment. Using a difference in difference estimator as in Madrian (1994) and Buchmueller and Valletta (1996), HoltzEakin and his coauthors found no evidence that non-portability of employer-provided health insurance deterred wage earners from switching to self-employment. To test the robustness of their result, they replicated the study using the 1984 Panel Study of Income Dynamics (PSID) and, after identifying 151 transitions, they reached conclusions similar to those obtained with SIPP data although, given the small sample, the accuracy of the PSID estimates may be low. HoltzEakin and his coauthors explained their results arguing that since the transition to self-employment is inherently risky, perhaps it should not be surprising that individuals who are willing to undertake such a transition are undeterred by the prospect of not having health insurance.

Wellington (2001) focused also on the relationship between health insurance and self-employment but took a different approach. Instead of focusing on transitions, she used 1993 Current Population Survey (CPS) data to compare wage earners and self-employed individuals at a specific point in time. Wellington's cross-section data included 1,665 self-employed men and 934 self-employed women, thus a significantly larger sample than both the SIPP and PSID data used by HoltzEakin and his coauthors. Unlike HoltzEakin et al. (1996), her results showed that the system used to deliver health care insurance maters and that universal health insurance coverage to increase the percentage of self-employment in the workforce by 2 to 3.5 percent.

More recently, Fairlie et al. (2010) revisited the issue of transitioning from wage employment to self-employment using data from the Annual Demographic and Income Surveys of the CPS over the period 1996-2006. By matching the surveys across two consecutive years, Fairlie and his coauthors created a large dataset which included observations for more than 160,000 wage earners in the first year and 5,100 transitions to self-employment in the second year. Similarly to HoltzEakin et al (1996), Fairlie et al. (2010) used difference-in-difference estimator to measure the potentially deterrent impact of employer-provided health insurance on self-employment.[4] Their results, however, differ from HoltzEakins et al. (1996) and suggest that the current system does, in fact, have a deterrent effect. In the same study, Fairlie and his co-authors also used a regression discontinuity model to analyze whether becoming eligible for Medicare at age 65 increases the propensity for older workers to start own businesses. The results showed again that a deterring effect exists.

[4] Specifically, they used three different measures capturing various aspects of the demand for healthcare services. Namely, having a family member in bad health, the number of family members in bad health, and whether the spouse has employer-provided health insurance.

To sum up, the evidence on job lock effect and health insurance is mixed, even among the very few studies that address directly the impact of non-portable employer provided health insurance on self-employment. While HoltzEakin et al. (1996) and Fairlie et al. (2010) looked at transition rates, Wellington (2001) looked at cross section data. Thus, because of different data sources and different approaches, their results are not entirely comparable. Our data let us address this apparent inconsistency because they allow us to look at both transition rates and cross sectional behavior. Importantly, our cross-section of population allows us to include individuals who have just entered self-employment as well as individuals who have been self-employed for an extended period of time. The latter are necessarily excluded from studies of transition rates. However, we believe including this group is important because only by including individuals who have been self-employed for an extended period of time it is possible to establish whether employer provided health insurance has effects on employment choices (and possibly productivity) in the long-run.

3. Data and Variables

We use a large sample of individual level data extracted from the latest 9 panels of the Medical Expenditure Panel Survey (MEPS) over the period 2000-2008. Merging multiple years of data is necessary to create a large enough sample for analysis. Each panel interviews the same household and non-institutionalized individuals five times over a two and a half year period. MEPS data are exceptionally well suited for the study of the relationship between health insurance and employment choice because they provide accurate and detailed information on the medical status of individuals and their families.

Previous studies analyze the impact of health insurance on self-employment by relying primarily on labor surveys. These surveys provide rich information on job-related characteristics but tend to be weak in providing accurate measurements of individual and family health status. For example, PSID and SIPP (used by HoltzEakin) have information related to one's demographic and job information, but not enough information to measure interviewees' family medical background. On the other hand, the 1987 National Medical Expenditure Survey used in Kapur (1998), Cooper and Monheit (1993), and Madrian (1994) have detailed medical information but not enough job related information such as benefits.

In addition, MEPS data allow us to control for individuals' risk tolerance. This variable is very important for explaining employment decisions as well as reconciling the different results obtained by HoltzEakin et al. (1996) on one side and Wellington (2001) and fairly et al. (2010) on the other.

MEPS data are collected from three major sources. The household component (HC) is the core survey collecting data on family and individual demographic characteristics, employment status and health insurance status for each month including medical expenses, medical conditions, health service utilization including ER visits, physician services and prescribed medications. Second, the medical provider component (MPC) collects information from hospitals, doctors, home health care providers, and pharmacies to compare with and supplement the information obtained from the HC. Last,the insurance component (IC) is an independent survey of employers on the health insurance they provide to their employees.[5]

[5] Details about MEPS can be found at http://www.meps.ahrq.gov.

Our data and variables come from the household component (HC) and medical provider component (MPC) of the MEPS data set. We limit our sample to married working adults age 18-62, and exclude individuals working in agriculture and in the military. This yields a sample of 20,136 individuals. Because our focus is the self-employment decision among married individuals, only married people are included in the analysis.

Our dependent variable is *Self-employed,* a dummy that equals one if the respondent is self-employed. To correct for the fact that some respondents may use self-employment as a part-time job, we identify self-employed individuals as those who report it as their main job *and* spend 40 hours or more per week on it. For each of these individuals, MEPS data provide rich information on demographic, socioeconomic, and job-related variables, and on individual and family medical conditions.

Marital status is classified into two categories: married or not married (single, widowed, divorced, and separated). *Age* reports the age of the respondent. *Gender* is a dummy variable that equals 1 if the respondent is a woman. *Race* identifies the respondent's race as white, black, or other, with other race used as the reference category in the model. Family income (*Fincome)* is measured in thousands of dollars and converted to 2005 constant dollars. *Education* is measured as the years of schooling divided in five categories: less than high school (as the reference group), high school graduate, some college, college graduate and post college education. A person's attitude toward risk (*Atrisk*) is measured based on the respondents' belief to be self-evaluation of

his(her) ability to tolerate risks compared to an average person.[6] We also control for census region (*Region)* and for whether the individual resides within a Metropolitan Statistical Area (*MSA*). Census regions are divided into Northeast, Midwest, West and South, with South as the reference group in the model.

Our study includes detailed variables of health status. Unlike previous works that had used fairly general measures of family or individual health status, we are able to construct three variables based on detailed individual and family medical information. To do so, we create health indexes for individuals and for their families. We use data from the MPC component of MEPS and, following Koç (2005), we measure health status by considering the presence of disease, illness and disability. An individual is classified by ICD-9 as having a disease if a chronic condition (e.g., arthritis), a serious long-term health problems (e.g., diabetes), or certain mental problems (e.g., Alzheimer's) is present. An individual is classified as having an illness if his/her self-assessment of health in general is poor or fair. Finally, an individual is classified as having a disability if he/she suffers from one or more limitations in daily activities.[7] Given these three dimensions, to correct for multicollinearity and calculate the change of self-employment probability under different health status, we create an individual health index (*IH*) which ranges from 3 if all three dimensions are present to 0 if no dimension is present. A family health index (*FH*) is created by summing IHs across family members.

[6] Specifically, the data are obtained through a self-administered questionnaire in which respondents, among other things, are asked whether they believe to be more likely to take risks compared to an average person following the scale 1 Disagree Strongly, 2 Disagree Somewhat, 3 Uncertain, 4 Agree Somewhat, and 5 Agree Strongly.

[7] These definitions are also indicated in MEPS MPC as Priority Conditions by the Agency for Healthcare Research and Quality (2005a).

In our analysis of transition, we control also for job characteristics by assessing the quality of the job previously held by a respondent who transitioned to self-employment. This is done by including measures of whether the wage employment offers pension and retirement plan (*Pension*), paid sick days (*PSIC*) and paid vacation days (*PVAC*). Other job-related information includes the number of years spent on previous job (*Tenure*), whether a person belongs to a union (*Union*) and the size of the firm (*Firmsize*).

Finally, our key independent variables are *SPHPRI* in the cross section analysis and *HPRI* in the transition analysis. *SPHPRI* is a dummy variable that equals one if the spouse is the primary policyholder of a health insurance policy from his/her main job that allows coverage of family members. *HPRI*, instead, equals one if a person himself/herself is the primary policy holder. Intuitively, if a person is the policy holder, he/she should be less likely to be self-employed because the change to self-employment could cause the loss of the policy for the entire family.[8]

Notice that these two variables, *SPHPRI* and *HPRI*, are different from whether the respondent himself/herself currently has insurance from the employer. When a person has insurance from current employer, his/her insurance plan may or may not cover other family members and the spouse. Thus a respondent who is self-employed can still have no insurance if the spouse's insurance does not cover family members. Table 1 summarizes all the variables used in our study.

Table 1 about here

[8] Interestingly, about 17% of the sample is dual holders, that is, both the wife and the husband hold a private health insurance policy that can cover the family members.

Summary statistics for the overall sample, the sample for husband, and the sample for wife are summarized in Table 2. 11.6% of all full-time employed individuals in our sample are self-employed. A slightly higher percentage than those found in previous studies. Men are more likely to be self-employed (13.7%) than women (7.7%). Women are more dependent on their spouse for health insurance policy than men since 54.5% of the husbands are primary policy holders while only 32.5% of wives are primary policy holders. On average, with an average score of 2.416, men are more risk tolerant than women whose average risk score is 1.992. Family incomes vary greatly ranging from negative 64 thousand dollars (i.e. families in debt) to 472 thousand dollars. Annual family medical expenditures are also highly skewed, ranging from zero to 347 thousand dollars.

Table 2 about here

Finally, thank to MEPS's panel data nature (each respondent is interviewed five times in a two-year period), we are able to identify 312 married individuals who made the transition to full-time self-employment, about 1.62% of the entire sample. These individuals are used to carry out the analysis of transitions from wage employment to self-employment.

4. Empirical Models

First, we analyze MEPS cross-section data. A simple probit model for self-employment takes the form:

$$Pro\ (Self\text{-}employed) = \Phi(\beta_0 + \beta_1\ SPHPRI + \beta_2\ H + \gamma\ Z) \qquad (1)$$

Where *SPHPRI* is a dummy variable that equals one if the respondent's spouse is the primary policy holder of health insurance,. *Z* is a vector of control variables listed in

Table 1, and *H* is health-related information measured, alternatively, by a respondent's health status, her family health status, or her family's total annual medical expenditure. Thus, depending on the health status measurement adopted in the model, we have three different model specifications. If employer-provided health insurance decreases the probability of self-employment, we would expect β_1 to be positive and significant. That is, if the respondent's spouse is the policy holder, the respondent should be more likely to be self-employed since he/she can be covered by the spouse's insurance. The problem with this interpretation, as pointed out by previous studies, (HoltzEakin et al. 1996, Wellington 2001, and Fairlie et al. 2010), is that *SPHPRI* is likely to be correlated with other job characteristics and, therefore, the coefficient β_1 is likely to be biased.[9] Thus, following previous studies, we use difference-in-difference estimator in the following probit model:

$$Pro(Self\text{-}employed)=\Phi(\beta_0+\beta_1 SPHPRI+\beta_2 H+\beta_3 SPHPRI*H+\gamma Z) \quad (2)$$

The difference-in-difference estimator, β_3, is the coefficient of the interaction term between *SPHPRI* and *H*. The intuition is that if health insurance is an important factor in one's decision to be self-employed, then it should be even more important for people with worse individual or family health status, or for people with higher medical expenditure. That is, we would expect β_3 to be significant and positive. Equation 2 is estimated separately for the sample of husbands and the sample of wives.

A shortcoming of estimating the two samples separately is that husbands and wives may make decisions jointly and the same unobservable factors may affect their joint decisions on self-employment (Wellington 2001). To incorporate the joint decision

[9] For example, having a job with family benefits could indicate a higher fmily income and high family income is positively correlated to the likelihood of self-employment.

making process into the difference-in-difference estimator, we estimate a bivariate probit model with interaction terms. Error terms ε from the regression for husbands and *u* from the regression for wives are assumed to follow a bivariate normal distribution with zero means and variance covariance matrix of the following form:

$$\Sigma_{\varepsilon u} = \begin{pmatrix} \sigma_{\varepsilon}^2 & 0 \\ \sigma_{\varepsilon u} & \sigma_u^2 \end{pmatrix}$$

The correlation coefficient between ε and *u*, $\rho = \frac{\sigma_{\varepsilon u}}{\sigma_{\varepsilon}\sigma_u}$ needs to be significant for the assumption of bivariate probit model, i.e. joint decision making on employment, to be valid.

Second, we use MEPS data to analyze individuals' transitions from employment to self-employment. To analyze transition rates, we again use the difference-in-difference estimator for the transition probability:

$$Pro\ (Transition) = \Phi(\beta_0 + \beta_1\ HPRI + \beta_2\ H + \beta_3\ HPRI*H + \gamma\ Z) \qquad (3)$$

Where *HPRI* is a dummy variable that equals to one if, *prior* to the transition, the respondent is the primary holder of health insurance. *H* and *Z* are defined the same way as in equation (2). If employer-provided health insurance decreases the transition probability, we should observe β_1 to be negative and significant. The difference-in-difference estimator is β_3. If the non-portability of employer-provided health insurance limits people's ability to become self-employed, we should expect the negative effect to be larger for individuals with weaker health or whose family has worse health or higher medical expenses. Therefore, β_3 should be negative and significant.

5. Results

5.1 Cross Section Analysis

Table 3 shows results from the probit models for the samples of husbands (columns 1 to 3) and wives (column 4 to 6) separately. To facilitate interpretation and comparison, we report marginal effects. For each gender, the covariates are the same across all three columns, except for the use of different health indexes and expense measures. The first column uses the family health index, the second column uses the individual health index, and the third column uses the log of annual family health expenditure because of its highly skewed distribution. Also, in each column, the health status or expense measure is interacted with *SPHPRI* as the difference-in-difference estimator.

Table 3 about here

For the sample of husbands, consistently with results from previous studies, blacks are less likely to be self-employed compared to white and other races, older respondents are more likely to be self-employed although the probability decreases as age increases (the coefficient for squared age quared is negative and significant), and college education is associated to higher probability of self-employment. Also, men in higher income households and with larger families are more likely to be self-employed. Interestingly, previous studies found a negative association between likelihood of self-employment and family size. We believe this is due to the fact that they did not account properly for family medical expenditure or overall family health status. Failure to do so may have implied that family size could be capturing the effect of health related factors. When health related factors are controlled for, larger family size may indicate a stable

family income or the presence of multiple earners which are both associated positively to the likelihood of self-employment. Importantly, across all three columns, attitude toward risk is significantly associated to the probability of self-employment for men: A one unit increase in the level of tolerance toward risk increases the marginal probability of self-employment by about 1.1%.

Also, in all three columns referring to husbands, we find that when the wife is the primary policy holder, the husband has a significantly higher probability of being self-employed. The marginal effect ranges from 3.4% to 6%. Furthermore, all three health-related variables are negative and significant: Higher family or individual health indexes (indicating worse health status) as well as higher family medical expenditure are all associated to a lower probability of self-employment. The interaction terms, i.e. difference-in-difference estimators, have the correct sign and are significant except in column one. For the significant coefficients, the marginal effect of employer-provided health insurance ranges from 1.58% to 1.8%. This range is remarkably close to the 1.75% to 2% range reported in Fairlie et al. (2010) for the analogous variable.

For the sample of wives, similar to the husbands' sample, blacks are less likely to be self-employed. Education, however, seems to play a different role for wives. In fact, we find no difference in the probability of self-employment based on education, except that wives with post-college education are more likely to be wage earners. Importantly, risk attitude is a significant factor albeit smaller in magnitude. The impact of whether husbands are policy holders, however, is mixed. The coefficients are positive in columns four and five, but significant only in column five, and negative in column six. This is probably due to the traditional different role that men and women still play in the

household. Health-related factors, on the other hand, still exert significant impacts on self-employment and all interaction terms are significant even for the wives' sample.

Finally, for both genders, there does not appear to be any year specific effect on self-employment since all "year" dummy variables are insignificant. Table 4 shows results from bivariate probit models that estimate the self-employment decisions of husbands and wives jointly. Columns are arranged as in Table 3 with columns one to three showing the marginal effects for husbands, and columns four to six those for wives. Correlations of error terms are significant in all specifications, thus validating the use of bivariate probit models.

Table 4 about here

Similar to Table 3, attitudes towards risk are still a significant factor for self-employment but the marginal effect is slightly smaller. It is, however, not significant for women anymore. Blacks have lower probability to be self-employed and the coefficients are very close to their counterparts in Table 3. Age is still positively and significantly associated to self-employment for the sample of husbands. Although we do not observe significant geographic differences in Table 3, in Table 4 we find women in the West to be less likely to be self-employed. Family income and family size still have positive marginal effects.

When a spouse holds a private health insurance policy, the other spouse is more likely to be self-employed. A higher family or individual health index (worse health status) or a higher amount of family medical expenses significantly reduce the probability of self-employment. The interaction terms of all three variables (family or individual health index and family medical expenses) with spouse holding insurance policy are

positive and significant, with only one exception in column one. The marginal effects of the significant interaction terms range from 1.5% to 3.2%, which is again close to the range reported in Fairlie et al. (2010).

To sum up, the results from our probit models suggest that health insurance is a significant factor for self-employment choices and that this is true for both genders, in spite of differences in magnitude between our samples of husbands and wives.

5.2 Transition analysis

Our cross-section analysis has the advantage of exploiting the large size of our sample, thereby yielding efficient estimations. Another advantage is its ability to nanlyze a representative sample of population by allowing for the inclusion of both new entrepreneurs as well as established entrepreneurs, in other words, individuals who stay self-employed in the long-run. Our cross-section analysis, however, does not explain an individual decision to switch from wage-employment to self-employment. Thus, we complement our cross section analysis with an analysis of the transition decisions of individuals who switched from wage employment to self-employment in our sample. Table 5 shows the results of our transition probability model.

Table 5 about here

Age and race have no significant impact on the probability of transition to self-employment. Gender, however, does and men have a significantly higher marginal probability of making the transition than women. Because of the small sample size, we do not further divide the sample into husbands and wives. As in the cross-sectional analysis, attitude toward risk is significant and has the correct sign, and college and higher

education are associated with higher marginal probability of transition. The characteristics of previous wage employment also have significant effect on transition: Individuals working for large firms that offer retirement plans, or paid vacation plans, are less likely to switch to self-employment. Furthermore, the longer a person has been a wage earner, the less likely her transition is. Other "good job" characteristics such as union status and paid sick days have correct signs but the coefficients are not significant. There does not appear to be year-to-year variation for the probability of transition.

Being the policy holder prior to transition significantly reduces the marginal probability of switching to self-employment because quitting the current job could mean losing health insurance for the entire family. The interaction terms between health insurance policy holder status and each of the three health status measures are negative. As expected, this suggests that holding health insurance policy is even more important for family or individuals with weaker health. However, the interaction terms are not significant. The tabulation between transition and being the primary holder of health insurance is consistent with the results: The majority of the 312 transitions (200 out of 312) are for non primary holders of health insurance.

Interestingly, family health index, individual health index and family medical expenditure have the wrong signs and are all insignificant. However, we do not think this suggests that health status is not a factor in one's decision to become self-employed. In fact, the tabulation of transition and health status shown in Table 6 reveals that the majority of the people who made the transition have lower health indexes, i.e. better health status. For example, of the 312 individuals who made the transition, 267 have HI $\leq$ 1 and 277 have FH $\leq$ 3.

Table 6 about here

6. Conclusion

Our paper contributes to the existing scanty literature on the impact of employer-provided health insurance on employment choice. Our results suggest that, under certain conditions, the ability to retain health insurance is, in fact, important for employment choices even after the passage of COBRA and HIPAA. We also find the relationship between demand for health-insurance and employment choice to be significantly mediated by risk tolerance and individual and family health status. By doins so, we resolve the alleged contradictions in results generated by previous studies.

Several hypotheses were proposed in Wellington (2001) to explain why she found a strong relationship between health insurance and self-employment while HoltzEakin et al. (1996) did not but, because of different sample designs among their data sources, and different sampling periods, these hypotheses could not be verified empirically. By using the same database and sampling period to analyze both cross-sectional evidence and transition rates, we are able to reconcile this apparent inconsistency. We think the main reason for the difference between cross-sectional analysis and transition analysis is that the former focuses on the long-run effect of health insurance on self-employment while the latter focuses on the short-run transition decision. Although health insurance has a long-run effect on whether one remains self-employed, it may not have a strong impact on one's initial decision to start a business since starting a business is risky to begin with. In fact, the majority of businesses fail during the first three years from inception and, as

suggested by HoltzEakin et al. (1996), health insurance may not be a significant factor for the short-run transition decision.

Another reason for the difference is the relative small sample of people making the transition. Even for large labor survey such as SIPP, HoltzEakin et al. (1996) can only identify 763 observations out of 39,306 (1.9%) observations that made the transition from wage employment to self-employment. Similarly, in our study, 312 individuals made the transition. The absolute number of transition meets the typical requirement of sample size, but compared to the overall non-transition sample it falls short. In fact, the sample size requirement test indicates that the number of transitions does not meet the sample size requirement for measuring the effect of health insurance.

In conclusion, we find that even after the passage of COBRA and HIPAA, the current employer-based health-insurance system has a long-term effect on self-employment but that such effect is smaller for short-term transition decision.

Two other interesting facts emerge from our study. First, it is clear that employment choice in general, and self-employment choices in particular, have to be evaluated using the family as decisional unit. As a result, an interesting extension of our research could investigate whether differences exist between the choices of single and married individuals. Second, and most important, the attitude of individuals toward risk in general emerges as an important element of the puzzle. This is the case since the importance of health insurance seems to stem from the presence of individual or families' health problems whereas the expected value of health insurance in the absence of existing condition is highly discounted. In other words, our results suggest that individuals discount heavily the value of insurance unless they or someone in their family are in poor

health to begin with. In turn, this could imply that the relationship between employment choice (or risky choices in general) and an individual's willingness to pay for insurance is non-linear but, instead, is characterized by a critical threshold level of risk tolerance only past which people are willing to buy insurance. Given the limited number of studies in this area, this is a promising and important venue we plan to explore in future research.

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Table 1 - Variables Used in the Study

Variable	Definition
SPHPRI	Dummy variable that equals one if spouse is primary holder of health insurance
HPRI	Dummy variable that equals one if respondent is primary holder of health insurance
Age	Respondent age
Female	Dummy variable that equals one if respondent is female
White	Dummy variable that equals one if respondent is white (other race is reference group)
Black	Dummy variable that equals one if respondent is black
MSA	Dummy variable indicating whether respondent lives in a metropolitan statistical area
Region	Respondent geographic location (Northeast, Midwest, West, and South as reference group)
Fincome	Respondent annual family income (constant 2005 dollars)
Famsize	Family size
Education	Less than high school (as reference group), high school graduate, some college, college graduate, post college education
Atrisk	Attitude towards risk (Whether respondent is more likely to take risks than average person. Range "1-Disagree strongly" to "5-Agree strongly")
IH	Individual health status based on disease, disability and illness
FH	Family health status based on disease, disability and illness
Famhexp	Total annual family medical expenditure (constant 2005 dollars)
Pension	Dummy variable that equals one if firm offers pension and retirement plan
Tenure	Number of years respondent has worked in current job
PSIC	Dummy variable that equals one if firm offers paid sick days
PVAC	Dummy variable that equals one if firm offers paid vacation days
Union	Dummy variable that equals one if respondent belongs to a union.
Firmsize	Size of firm measured by number of employees

Table 2 - Summary Statistics

	Entire Sample: n = 20,136					Husband Sample: n = 12,978					Wife Sample: n = 7,158			
Variable	Mean	Std. Dev.	Min	Max		Mean	Std. Dev.	Min	Max		Mean	Std. Dev.	Min	Max
Full-Time Self-Employed	*0.116*	*0.320*	*0*	*1*		*0.137*	*0.344*	*0*	*1*		*0.077*	*0.267*	*0*	*1*
SPHPRI	*0.404*	*0.491*	*0*	*1*		*0.325*	*0.469*	*0*	*1*		*0.545*	*0.498*	*0*	*1*
White	*0.837*	*0.369*	*0*	*1*		*0.852*	*0.355*	*0*	*1*		*0.810*	*0.392*	*0*	*1*
Black	*0.093*	*0.291*	*0*	*1*		*0.083*	*0.275*	*0*	*1*		*0.112*	*0.316*	*0*	*1*
Other	*0.070*	*0.255*	*0*	*1*		*0.065*	*0.247*	*0*	*1*		*0.077*	*0.267*	*0*	*1*
Age	*42.523*	*9.996*	*18*	*62*		*42.706*	*9.976*	*18*	*62*		*42.192*	*10.025*	*18*	*62*
Male	*0.645*	*0.479*	*0*	*1*		*1.000*	*0.000*	*1*	*1*		*0.000*	*0.000*	*0*	*0*
Atrisk	*2.265*	*1.268*	*1*	*5*		*2.416*	*1.298*	*1*	*5*		*1.992*	*1.161*	*1*	*5*
Elementary	*0.173*	*0.378*	*0*	*1*		*0.196*	*0.397*	*0*	*1*		*0.131*	*0.337*	*0*	*1*
High school	*0.311*	*0.463*	*0*	*1*		*0.314*	*0.464*	*0*	*1*		*0.305*	*0.460*	*0*	*1*
Some college	*0.218*	*0.413*	*0*	*1*		*0.206*	*0.405*	*0*	*1*		*0.239*	*0.427*	*0*	*1*
College	*0.174*	*0.379*	*0*	*1*		*0.165*	*0.371*	*0*	*1*		*0.190*	*0.392*	*0*	*1*
Post college	*0.119*	*0.324*	*0*	*1*		*0.112*	*0.316*	*0*	*1*		*0.132*	*0.338*	*0*	*1*
MSA	*0.803*	*0.398*	*0*	*1*		*0.805*	*0.396*	*0*	*1*		*0.799*	*0.401*	*0*	*1*
Northeast	*0.135*	*0.342*	*0*	*1*		*0.138*	*0.345*	*0*	*1*		*0.130*	*0.337*	*0*	*1*
Midwest	*0.217*	*0.412*	*0*	*1*		*0.214*	*0.410*	*0.000*	*1.000*		*0.223*	*0.416*	*0*	*1*
South	*0.389*	*0.488*	*0*	*1*		*0.379*	*0.485*	*0*	*1*		*0.408*	*0.491*	*0*	*1*
West	*0.258*	*0.438*	*0*	*1*		*0.269*	*0.444*	*0*	*1*		*0.239*	*0.426*	*0*	*1*
Fincome	*79.548*	*52.831*	*-64.233*	*472.982*		*77.051*	*52.328*	*-31.724*	*472.982*		*84.075*	*53.439*	*-64.233*	*469.9474*
Famsize	*3.614*	*1.423*	*2*	*15*		*3.729*	*1.449*	*2*	*15*		*3.406*	*1.350*	*2*	*13*

FH	*1.817*	*1.579*	*0*	*14*		*1.800*	*1.586*	*0*	*14*		*1.848*	*1.565*	*0*	*13*
IH	*0.675*	*0.766*	*0*	*3*		*0.662*	*0.759*	*0*	*3*		*0.700*	*0.778*	*0*	*3*
Famhexp	*7.525*	*12.742*	*0*	*347.644*		*7.452*	*12.794*	*0*	*347.644*		*7.659*	*12.646*	*0*	*318.001*
Pension	*0.642*	*0.479*	*0*	*1*		*0.628*	*0.483*	*0*	*1*		*0.666*	*0.472*	*0*	*1*
Union	*0.133*	*0.339*	*0*	*1*		*0.140*	*0.347*	*0*	*1*		*0.120*	*0.325*	*0*	*1*
PVAC	*0.827*	*0.379*	*0*	*1*		*0.814*	*0.389*	*0*	*1*		*0.847*	*0.360*	*0*	*1*
PSIC	*0.711*	*0.453*	*0*	*1*		*0.670*	*0.470*	*0*	*1*		*0.779*	*0.415*	*0*	*1*
Firm Size	*150.331*	*184.540*	*1*	*500*		*143.755*	*182.812*	*1*	*500*		*161.802*	*186.975*	*1*	*500*
Year2000	*0.093*	*0.290*	*0*	*1*		*0.092*	*0.289*	*0*	*1*		*0.094*	*0.292*	*0*	*1*
Year2001	*0.184*	*0.388*	*0*	*1*		*0.182*	*0.385*	*0*	*1*		*0.190*	*0.392*	*0*	*1*
Year2002	*0.125*	*0.331*	*0*	*1*		*0.126*	*0.332*	*0*	*1*		*0.123*	*0.328*	*0*	*1*
Year2003	*0.125*	*0.331*	*0*	*1*		*0.124*	*0.329*	*0*	*1*		*0.127*	*0.333*	*0*	*1*
Year2004	*0.126*	*0.332*	*0*	*1*		*0.128*	*0.334*	*0*	*1*		*0.122*	*0.327*	*0*	*1*
Year2005	*0.118*	*0.323*	*0*	*1*		*0.120*	*0.325*	*0*	*1*		*0.116*	*0.320*	*0*	*1*
Year2006	*0.129*	*0.335*	*0*	*1*		*0.130*	*0.336*	*0*	*1*		*0.127*	*0.333*	*0*	*1*
Year2007	*0.100*	*0.300*	*0*	*1*		*0.099*	*0.299*	*0*	*1*		*0.101*	*0.302*	*0*	*1*

Table 3 – Results of Probit Models

	Husband Sample			Wife Sample		
	(1)	(2)	(3)	(4)	(5)	(6)
Attitude Toward Risk	0.0107***	0.0107***	0.0101***	0.00480*	0.00489*	0.00424*
	(4.70)	*(4.71)*	*(4.48)*	*(1.87)*	*(1.91)*	*(1.67)*
White	0.00832	0.00869	0.0133	-0.0186	-0.0189	-0.0160
	(0.71)	*(0.74)*	*(1.16)*	*(-1.56)*	*(-1.58)*	*(-1.37)*
Black	-0.0411***	-0.0407***	-0.0391***	-0.0407***	-0.0410***	-0.0397***
	(-3.12)	*(-3.09)*	*(-2.94)*	*(-4.37)*	*(-4.41)*	*(-4.30)*
Age	0.0115***	0.0112***	0.0107***	0.000156	0.000143	-0.000276
	(4.21)	*(4.13)*	*(3.94)*	*(0.06)*	*(0.06)*	*(-0.11)*
Age Squared	-0.0000826***	-0.0000794***	-0.0000747**	0.0000235	0.0000232	0.0000296
	(-2.65)	*(-2.55)*	*(-2.40)*	*(0.80)*	*(0.79)*	*(1.01)*
MSA	-0.0256***	-0.0262***	-0.0271***	-0.0190**	-0.0188**	-0.0194**
	(-3.16)	*(-3.23)*	*(-3.33)*	*(-2.28)*	*(-2.26)*	*(-2.34)*
Northeast	0.0176*	0.0168	0.0224**	-0.00184	-0.00164	0.0000183
	(1.68)	*(1.61)*	*(2.11)*	*(-0.18)*	*(-0.16)*	*(0.00)*
Midwest	0.00446	0.00449	0.0102	-0.0121	-0.0119	-0.00966
	(0.50)	*(0.50)*	*(1.12)*	*(-1.45)*	*(-1.42)*	*(-1.15)*
South	0.0142*	0.0133*	0.0148*	-0.00628	-0.00611	-0.00561
	(1.79)	*(1.68)*	*(1.88)*	*(-0.80)*	*(-0.78)*	*(-0.73)*
High school	0.0155*	0.0155*	0.0237**	0.00857	0.00817	0.0137
	(1.66)	*(1.66)*	*(2.50)*	*(0.81)*	*(0.77)*	*(1.28)*
Some college	0.00611	0.00625	0.0168	0.00954	0.00918	0.0162
	(0.60)	*(0.61)*	*(1.59)*	*(0.85)*	*(0.82)*	*(1.40)*
College	0.0274**	0.0272**	0.0411***	-0.0126	-0.0129	-0.00642
	(2.33)	*(2.31)*	*(3.33)*	*(-1.17)*	*(-1.20)*	*(-0.57)*
Post college	0.0213	0.0216	0.0359**	-0.0320***	-0.0323***	-0.0267***
	(1.59)	*(1.61)*	*(2.54)*	*(-3.27)*	*(-3.29)*	*(-2.58)*
Family Income ($000)	0.0000842	0.0000907	0.000137**	0.000205***	0.000206***	0.000225***
	(1.35)	*(1.45)*	*(2.19)*	*(3.52)*	*(3.53)*	*(3.91)*
Family Size	0.00770***	0.00579**	0.00843***	0.00173	0.00132	0.00241
	(3.36)	*(2.54)*	*(3.69)*	*(0.68)*	*(0.53)*	*(0.97)*

Spouse Holds Policy (*SPHPRI*)	0.0604***	0.0537***	0.0340**	0.0148	0.0219***	-0.00709
	(5.76)	*(5.89)*	*(2.48)*	*(1.55)*	*(2.67)*	*(-0.57)*
Family Health Index (*FH*)	-0.00978***			-0.00751**		
	(-4.07)			*(-2.44)*		
*SPHPRI*FH*	0.00197			0.00921**		
	(0.49)			*(2.36)*		
Individual Health Index (*IH*)		-0.0270***			-0.0128**	
		(-5.14)			*(-2.03)*	
*SPHPRI * IH*		0.0158**			0.0149*	
		(1.96)			*(1.89)*	
Log family med. expense (*famhexp*)			-0.0315***			-0.0275***
			(-7.43)			*(-5.08)*
*SPHPRI** Log of *famhexp*			0.0180***			0.0254***
			(2.68)			*(3.76)*
Year2001	*0.0112*	*0.0108*	*0.0151*	*0.00149*	*0.00155*	*0.00291*
	(0.91)	*(0.88)*	*(1.21)*	*(0.12)*	*(0.13)*	*(0.24)*
Year2002	*0.0174*	*0.0166*	*0.0236**	*0.00789*	*0.00771*	*0.0107*
	(1.28)	*(1.23)*	*(1.71)*	*(0.58)*	*(0.56)*	*(0.77)*
Year2003	*-0.00553*	*-0.00580*	*-0.000281*	*0.00970*	*0.0103*	*0.0122*
	(-0.44)	*(-0.46)*	*(-0.02)*	*(0.71)*	*(0.74)*	*(0.88)*
Year2004	*0.00616*	*0.00617*	*0.0129*	*0.00630*	*0.00604*	*0.00909*
	(0.47)	*(0.47)*	*(0.96)*	*(0.46)*	*(0.44)*	*(0.66)*
Year2005	*0.00586*	*0.00496*	*0.00953*	*-0.00185*	*-0.00206*	*-0.0000839*
	(0.44)	*(0.38)*	*(0.71)*	*(-0.14)*	*(-0.16)*	*(-0.01)*
Year2006	*-0.00683*	*-0.00703*	*-0.00105*	*-0.00145*	*-0.00182*	*0.000361*
	(-0.55)	*(-0.56)*	*(-0.08)*	*(-0.11)*	*(-0.14)*	*(0.03)*
Year2007	*-0.00570*	*-0.00377*	*0.00351*	*-0.00697*	*-0.00680*	*-0.00345*
	(-0.43)	*(-0.28)*	*(0.25)*	*(-0.54)*	*(-0.52)*	*(-0.26)*
N	12978	12978	12978	7158	7158	7158
t statistics in parentheses						
* p<.1 ** p<.05 *** p<.010						

Table 4 - Results of Bivariate Probit Models

	Husband Sample			Wife Sample		
	(1)	(2)	(3)	(4)	(5)	(6)
Attitude Toward Risk	0.00841***	0.00839***	0.00792***	0.00190	0.00196	0.00186
	(3.14)	(3.13)	(2.96)	(1.07)	(1.11)	(1.05)
White	0.00249	0.00289	0.00691	-0.00517	-0.00483	-0.00416
	(0.17)	(0.20)	(0.49)	(-0.42)	(-0.39)	(-0.34)
Black	-0.0406***	-0.0399**	-0.0405***	-0.0388***	-0.0379***	-0.0389***
	(-2.60)	(-2.54)	(-2.60)	(-2.99)	(-2.90)	(-3.03)
Age	0.00903***	0.00875***	0.00834**	0.000502	0.000571	0.000387
	(2.70)	(2.62)	(2.49)	(0.19)	(0.21)	(0.14)
Age Squared	-0.0000529	-0.0000486	-0.0000455	0.0000257	0.0000264	0.0000281
	(-1.39)	(-1.28)	(-1.20)	(0.80)	(0.83)	(0.88)
MSA	-0.0287***	-0.0293***	-0.0306***	-0.0191**	-0.0196**	-0.0197**
	(-2.91)	(-2.96)	(-3.09)	(-2.19)	(-2.26)	(-2.27)
Northeast	0.0156	0.0150	0.0205	-0.0192**	-0.0192**	-0.0170*
	(1.23)	(1.19)	(1.59)	(-2.02)	(-2.02)	(-1.77)
Midwest	0.00873	0.00901	0.0143	-0.0182**	-0.0180**	-0.0151*
	(0.79)	(0.82)	(1.28)	(-2.10)	(-2.08)	(-1.72)
South	0.00221	0.00201	0.00325	-0.0221***	-0.0222***	-0.0213***
	(0.22)	(0.20)	(0.33)	(-2.68)	(-2.70)	(-2.59)
High school	0.00166	0.00189	0.00778	0.00367	0.00425	0.00715
	(0.15)	(0.17)	(0.68)	(0.34)	(0.39)	(0.66)
Some college	-0.00501	-0.00488	0.00302	-0.00224	-0.00157	0.00256
	(-0.42)	(-0.41)	(0.25)	(-0.20)	(-0.14)	(0.23)
College	0.00583	0.00572	0.0156	-0.00618	-0.00596	-0.00202
	(0.44)	(0.43)	(1.14)	(-0.53)	(-0.51)	(-0.17)
Post college	-0.00794	-0.00833	0.00221	-0.0214*	-0.0214*	-0.0173
	(-0.55)	(-0.58)	(0.15)	(-1.77)	(-1.77)	(-1.39)
Family Income	0.000140*	0.000142*	0.000190***	0.000110*	0.000108*	0.000136**
(in thousand dollars)	(1.91)	(1.94)	(2.59)	(1.73)	(1.70)	(2.14)
Family Size	0.00865***	0.00675**	0.00964***	0.00806***	0.00756***	0.00860***
	(2.91)	(2.28)	(3.25)	(2.99)	(2.84)	(3.21)
Spouse Holds Health	0.0931***	0.0916***	0.0773***	0.0673***	0.0686***	0.0345***
Insurance Policy	(8.22)	(9.26)	(5.04)	(7.33)	(8.56)	(2.69)
Family Health Index	-0.0115***			-0.00659*		
	(-3.27)			(-1.71)		
Spouse Holds Policy*	0.00491			0.00744*		
Family Health Index	(1.04)			(1.68)		
Individual Health						
Index		-0.0290***			-0.0205***	
		(-4.04)			(-2.65)	
Spouse Holds Policy*		0.0150*			0.0172*	
Individual Health						
Index		(1.62)			(1.92)	
Log of total family			-0.0323***			-0.0329***
medical expenditure			(-5.41)			(-4.90)
Spouse Holds Policy*			0.0146*			0.0316***

Log of total family medical expenditure			(1.87)			(4.12)
year2001	0.0170	0.0169	0.0206	0.00672	0.00680	0.00794
	(1.12)	(1.12)	(1.35)	(0.51)	(0.52)	(0.61)
year2002	0.0244	0.0237	0.0310*	0.00543	0.00564	0.00773
	(1.44)	(1.40)	(1.78)	(0.38)	(0.40)	(0.54)
year2003	0.00538	0.00583	0.0107	0.000932	0.00113	0.00208
	(0.34)	(0.36)	(0.65)	(0.07)	(0.08)	(0.15)
year2004	0.00628	0.00653	0.0122	0.0172	0.0176	0.0197
	(0.39)	(0.40)	(0.74)	(1.16)	(1.18)	(1.31)
year2005	0.0182	0.0179	0.0218	0.0104	0.0104	0.0116
	(1.07)	(1.05)	(1.26)	(0.69)	(0.70)	(0.78)
year2006	-0.00541	-0.00497	0.000338	-0.00868	-0.00869	-0.00676
	(-0.35)	(-0.32)	(0.02)	(-0.65)	(-0.65)	(-0.50)
year2007	0.0000182	0.00239	0.00940	0.0108	0.0110	0.0141
	(0.00)	(0.14)	(0.55)	(0.71)	(0.72)	(0.91)
Rho	0.611***	0.610***	0.607***	0.611***	0.610***	0.607***
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
N	8471	8471	8471	8471	8471	8471

Marginal effects; t statistics in parentheses; * p<.1 ** p<.05 *** p<.010

Table 5 - Probability of Transition to Self-Employment

	(1)	(2)	(3)
White	0.00317	0.00316	0.00330
	(1.37)	(1.34)	(1.43)
Black	0.00152	0.00147	0.00149
	(0.36)	(0.35)	(0.36)
Age	0.000148	0.000159	0.000161
	(0.26)	(0.28)	(0.28)
Age Squared	-0.00000127	-0.00000163	-0.00000150
	(-0.19)	(-0.24)	(-0.22)
Male	0.00796***	0.00811***	0.00809***
	(5.22)	(5.28)	(5.28)
Attitude Toward Risk	0.00107**	0.00107**	0.00106**
	(2.02)	(1.99)	(1.98)
MSA	-0.000847	-0.000806	-0.000897
	(-0.47)	(-0.44)	(-0.49)
High School	0.00370	0.00365	0.00381
	(1.48)	(1.45)	(1.50)
Some College	0.00862***	0.00857***	0.00886***
	(2.57)	(2.55)	(2.59)
College	0.0163***	0.0165***	0.0170***
	(3.39)	(3.40)	(3.42)
Post College	0.0132**	0.0133**	0.0139**
	(2.42)	(2.42)	(2.47)
Family Income	0.0000132	0.0000142	0.0000147
(in thousand dollars)	(0.87)	(0.93)	(0.97)
Family Size	-0.000241	-0.000287	-0.000200
	(-0.45)	(-0.53)	(-0.37)
Years of Previous	-0.000461***	-0.000468***	-0.000464***
Wage-Employment	(-3.90)	(-3.92)	(-3.91)
Weekly Hours of	-0.00000424	-0.00000534	-0.00000735
Previous Wage-Employment	(-0.06)	(-0.08)	(-0.11)
Number of Employees		-	-
	-0.00000966**	0.00000967**	0.00000945**
of Previous Wage-Employment	(-2.20)	(-2.19)	(-2.14)
Union Status of Previous	-0.00330	-0.00339	-0.00336
Wage-Employment	(-1.59)	(-1.62)	(-1.61)
Paid Vacation of Previous	-0.00407*	-0.00421*	-0.00420*
Wage-Employment	(-1.75)	(-1.79)	(-1.79)
Retirement Plan of	-0.00469**	-0.00466**	-0.00452**
Previous Wage-Employment	(-2.35)	(-2.32)	(-2.26)
Paid Sick Days of	-0.00233	-0.00229	-0.00224
Previous Wage-Employment	(-1.11)	(-1.09)	(-1.07)

Family Health Index	0.000263		
	(0.45)		
Individual Health Index		0.000385	
		(0.32)	
Log of total family medical expenditure			-0.000291
			(-0.29)
Policy Holder of Insurance Prior to Transition	-0.00860***	-0.0113***	-0.00891**
	(-3.14)	(-4.24)	(-2.38)
Policy Holder of Insurance Prior to Transition* Family Health Index	-0.00148		
	(-1.62)		
Policy Holder of Insurance Prior to Transition* Individual Health Index		-0.000798	
		(-0.43)	
Policy Holder of Insurance Prior to Transition* Log of total family medical expenditure			-0.000291
			(-0.29)
year2001	0.000689	0.000647	0.000820
	(0.24)	(0.23)	(0.28)
year2002	0.00154	0.00148	0.00178
	(0.48)	(0.46)	(0.54)
year2003	0.00102	0.000957	0.00120
	(0.33)	(0.31)	(0.38)
year2004	0.000861	0.000826	0.00118
	(0.28)	(0.27)	(0.37)
year2005	-0.00204	-0.00213	-0.00196
	(-0.77)	(-0.80)	(-0.73)
year2006	0.000732	0.000707	0.000933
	(0.24)	(0.23)	(0.30)
year2007	-0.00241	-0.00237	-0.00212
	(-0.90)	(-0.87)	(-0.77)
N	15839	15839	15839

Marginal effects; t statistics in parentheses
* p<.1 ** p<.05 *** p<.010

Table 6 - Distribution of Health Index among Transitions

	Individual Health Index			
Transition	0	1	2	3
1	164	103	42	3
	Family Health Index			
Transition	0	1	2	3
1	81	86	72	38