Health Status, Health Insurance, and Worker Mobility: A Study of Job Lock in California

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1. Introduction

A majority of Americans and Californians receive their health insurance through employment. Job lock is the phenomenon in which workers who hold employer provided health insurance suffer reduced job mobility due to either pre-existing conditions exclusion or aversion to waiting periods. In other words, a worker may be averse to switching to a new job if the new employer requires a mandatory waiting period, which is typical for most jobs, before the new health coverage begins. Additionally, job lock involves chronically ill workers who may not be inclined to switch jobs if it means losing coverage due to a pre-existing conditions clause. Thus, job lock hampers workers mobility because of the non-portability of employer provided health insurance. Job lock is an important phenomenon to study because it can discourage workers from moving to more suitable employment where they can be more productive and receive better pay and working conditions. As such, job lock tends to undermine overall social and economic development.

The empirical evidence for the existence and extent of job lock is still subject to debate in the United States.[1] Using a sample of married men 20-55 years of age from the National Medical Expenditure Survey (NMES), Brigitte Madrian (1994) found that job lock reduced workers' mobility by 30-67%, depending on the type of proxy used for expected medical expenses. Holtz-Eakin (1994) found little evidence of job lock using a

[1] Insofar as other industrial capitalist economies have universal health care insurance, the problem of job lock remains particular to the United States.

sample from the Panel Study of Income Dynamics (PSID) of workers 25-55 years of age. Cooper and Monheit (1993) found job lock decreased mobility by 23-38.8%, depending on whether the individual was single or married, male or female. Kapur (1998) replicated Madrian's study correcting flaws in her methodology and found that the effect of job lock was no longer statistically significant. In particular, Kapur divided individuals into two groups: those who were sick or who had family members that were sick, and those individuals who were healthy and had family members that were healthy. Therefore, he used family sickness as the measure of health status and argued that job lock should be greater for those individuals with sick families. Hence, the empirical evidence of the effect of job lock depends not only on the group being studied but also on the measure of health status employed or expected medical expenses.

In this paper, we report on our study of the presence and magnitude of job lock in California, which differs from previous research in a number of ways. We employed a research design that departs from the quasi-experimental "difference in difference" approach typically used by job lock researchers. In addition, we generated a measure of health status that incorporates both objective and subjective measures of health. Finally, we used a new data set, the California Work and Health Survey (CWHS). This report is organized as follows. In section 2, we will discuss and provide the rationale for our methodology. We will offer a discussion of our CWHS sample in section 3. Analyses and findings will be reported in Section 4. We will conclude with a discussion of our findings in section 5.

2. Methods

Empirical studies of job lock have generally divided the sample into healthy (or those with expected low medical expenses) and unhealthy (or those with expected high medical expenses) and examined job mobility given original employer provided health insurance. Madrian, for example, compared the employment mobility of men with large families, expected to have higher medical expenses, with the mobility of men with small families, expected to have lower medical expenses. The "difference in difference" approach is then employed to compare the treatment and control groups.[2] One of the problems with dividing the data into different comparison groups is that the groups tend to be assigned based on some arbitrary definition of health status, and thus expected health care costs. In Madrian's study, a small family was defined as one with one child while a large family was defined as one with 5 children or more. But some may consider a 2-child family as small and a 4-child family as large. Kapur's research attempts to deal with important methodological deficiencies of earlier studies including Madrian's, yet he adopts an arbitrary definition of health to divide families into healthy and sick comparison groups. In addition to arbitrarily defining comparison groups, these studies all suffer from the fact that health is a latent, or unobservable, variable. Since health cannot be measured directly, other measurable variables must be used as indicators of health status.

In this study we developed a health status index that benefits from advances offered by the class statistical models of health called Multiple Indicator Multiple Causes (MIMIC).[3] MIMIC was motivated by the concern that health is not an easily quantifiable

[2] The "difference in difference" is a technique typically used to assess the impact of policy on a particular group; a control group is used to measure the relative change in the variable of interest.
[3] For an introduction to MIMIC, see Van de Van and Hooijmans (1991)

category, as it has no natural unit of measurement. For our purpose, this approach offers a superior measure of health status because it does not suffer from the arbitrary definitions noted earlier. As such, it does not divide the sample into two arbitrary groups. It also employs a new measure of health that combines objective and subjective measures of health. Objective measures of health include such events as diagnosis of heart disease or asthma. Subjective measures of health include self-reported health status. Both objective and subjective measures of health present problems in estimation. Objective measures are limited in that they may be correlated with health seeking behaviors. Individuals who actively seek medical attention will be more likely to know whether or not they suffer from certain health conditions. Subjective measures suffer from error of a different form. There is no reason to expect that subjective measures will be comparable across respondents. Therefore, using a self-reported measure of health alone will bias estimates of the effect of health status on the probability of job change and, ultimately, the estimate of job lock.

A sensible way to deal with these problems is to weight each of the more objective measures of health and establish a health status index. This index can be defined as:

$$HSI = \sum_{i=1}^{I} \hat{f}_i HI_i ,$$

where *H Ii* are the individual indicators of health and $\hat{f}_i$ represents the weight assigned to each indicator. A problem that arises in Van de Ven and Hooijmans' discussion of health status indexes is how to determine the weights. We define *HSI* as the fitted values from an OLS regression of the subjective measure of health on the more objective measures of health. Therefore, *HSI* is a weighted aggregation of all the

indicators of health in the model and can be used as a measure of health status. In this model we are assuming that an individual with inferior health status is less likely to leave her current job and that an individual with employer provided insurance is also less likely to leave her current job.

Using the panel portion of the California Work and Health Survey (CWHS), we can observe changes made from 1998 to 1999. We will estimate the following logit model:

$$\text{JOB CHANGE} = \beta_0 + X\beta_1 + \text{EMPINS}\beta_2 + \text{HSI}\beta_3 + (\text{HSI*EMPINS})\beta_4 + \varepsilon$$

where ε has the logistic distribution with mean 0 and variance $\pi^2/3$.

JOB CHANGE is a dummy variable (changed jobs = 1 and did not change jobs = 0 given the individual is working in 1998 and 1999), X is a matrix of demographic and job characteristics variables, HSI is the health status index, and EMPINS is a dummy variable for employer provided insurance (yes =1, no = 0). We would expect superior health status to be positively correlated with the probability of a job change, and employer provided insurance to be negatively correlated with the probability of job change, and the interaction to be negatively correlated. If individuals with lower health status and employer provided insurance are less likely to change jobs we can conclude that there is evidence of job lock. Thus, if the estimated coefficient on the interaction of health status and employer provided insurance is *negative and significant, we have evidence of job lock*. This estimation procedure departs from the prevalent methodologies in the literature in that we are interested only in associations. Because this specification does not define control and treatment groups we cannot utilize the "difference-in-difference" technique,

which is typical in previous job lock research. However, we are able to determine on the average whether job lock is present.

3. Data

The panel portion of the 1998-99 California Work and Health Survey consists of 909 observations. In order to estimate the presence of job lock we first restricted our sample to individuals who were working in both waves of the panel, 1998 and 1999. This is necessary because individuals who were not working in both years would have been subject to job lock. Individuals who changed jobs are identified in the following way: if the variable CHANGE99 takes on a value of 1 or 2 we know that a change took place between the 1998 and 1999 waves. Only individuals who have worked at their current job for less than a year responded to this question. Therefore, a change must have occurred since the previous year interview. After restricting our sample to those working in both 1998 and 1999 our sample size was 458. Of these, 56, or about 12% of the total sample, changed jobs. The subjective measure of health, which we used in order to establish our health status index, is the variable HEALTH98, which is the self reported health status in 1998. The objective measures of health comprise responses to questions such as "Has your doctor ever told you that you had high blood pressure?" The health conditions included are high blood pressure, heart disease, diabetes, cancer, asthma, migraine headaches, chronic lung disease, ulcer, kidney or bladder problems, back pain, repetitive strain injury or carpal tunnel syndrome, and arthritis. The objective measures are all dummy variables which are coded as one (1) if a doctor has ever told the individual that he/she has a certain condition or zero (0) if not.

The demographic and socioeconomic characteristics of the sample were as follows. The average age was 40 and 45% of the sample is female. About 57% were married or cohabitating. About 64% were white, 17% Hispanics, 11% Asian, and 9% Black. On average, respondents in the sample had one or no children. On average respondents had some college education and reported annual income of $20,000 to $40,000.

Table 1 gives means of outcome, insurance, and health variables used in the analyses to follow. Twelve percent of the sample reported changing jobs. Some 58% of the sample had employer provided health insurance and an additional 24% of the sample reported having some other type of health insurance. On average individuals defined their health status as "very good."[4] Of the potentially expensive chronic or acute illnesses the following are notable: 3% reported heart conditions, 5% cancer, and 3% lung disease.

[4] Self reported health is coded as 1 = excellent, 2 = very good, 3 = good, 4 = fair, 5 = poor.

Table 1. Means of Analysis Variables

Variable	*Description*	*Mean*	*Standard Deviation*
CHANGE99	Changed jobs between interviews	0.12	0.33
EMPINS98	Employer provided health insurance	0.58	0.49
OTHINS98	Other health insurance	0.25	0.43
HBP98	High blood pressure	0.14	0.35
HEART98	Heart condition	0.03	0.18
CANCER98	Cancer	0.05	0.23
ASTHMA98	Asthma	0.09	0.29
MIGRAI98	Migraine headaches	0.11	0.31
LUNG98	Lung condition	0.03	0.16
ULCER98	Ulcer	0.05	0.22
BACK98	Back problem	0.22	0.42
CARPAL98	Carpal tunnel condition	0.06	0.24
ARJNT98	Pain, swelling around joint	0.35	0.48
ARTHRITIS98	Arthritis	0.13	0.34
LIMACT98	Long term impairment	0.11	0.32
HEALTH98	Self Reported health	2.04	0.93

Source: CWHS 1998, 1999, N=458

4. Findings

Table 2 shows the results of the regression of HEALTH98 on the objective measures of health, which is used to establish the health status index (HSI). Nearly all of the objective measures have the expected positive sign: the presence of a certain chronic or acute condition implies inferior self reported health status. Only asthma and back problem have the incorrect sign but the coefficient estimates are almost zero and neither of

them is significant. At the same time, the size of the R-square statistic indicates that the objective health measures can explain only about 25% of the variation in the self reported measure of health.

Table 2. Regression Results of Log HEALTH98 on Objective Health Variables

Variable	*Parameter Estimate*	*Standard Error*	*T-Statistic*
INTERCEPT	1.87	0.05	39.07
HBP98	0.45	0.09	5.16
HEART98	0.47	0.13	3.64
CANCER98	0.06	0.13	0.44
ASTHMA98	-0.0	0.11	-0.04
MIGRAI98	0.19	0.11	1.77
LUNG98	0.52	0.16	3.25
ULCER98	0.03	0.13	0.27
BACK98	-0.0	0.08	-0.01
CARPAL98	0.15	0.12	1.20
ARJNT98	0.12	0.08	1.63
ARTHRITIS98	0.32	0.10	3.28
LIMACT98	0.72	0.92	7.78

N=887, R^2=0.25

Using the fitted values from this regression as our health status index, we estimated the logit model described in the methods section. The results for the most basic model are reported in columns 2-4 of Table 3.

Note that employer provided health insurance has a negative sign and is significant. The health status index (HSI) has a negative sign and is not significant. Non-employer provided health insurance ("other health insurance"), which we would expect to increase job mobility, has a negative sign and is not significant. However, the estimate on the interaction term (EMPINS98*HSI) has a positive sign and is insignificant, which implies there is no evidence of job lock in this sample. Adding demographic variables to the regression does not identify the presence of job lock (Table 3, columns 5-7). Notice that

the variable AGE is significant at the 1% level, which is reasonable given that older workers are less likely to switch jobs.

Table 3. Logistic Regression Using Health Status Index (HSI), Dependent Variable: Job Change

1. *Variable*	*2.* *Estimate*	*3.* *Standard Error*	*4.* *P-Value*	*5.* *Estimate*	*6.* *Standard Error*	*7.* *P-Value*
INTERCEPT	-0.35	0.87	0.69	-0.15	1.12	0.89
EMPINS98	-1.76	0.64	0.01	-1.55	0.71	0.03
HSI	-0.39	0.39	0.32	0.36	0.42	0.40
EMPINS98 * HSI	0.25	0.25	0.30	0.33	0.26	0.21
OTHINS98	-0.62	0.39	0.11	-0.37	0.44	0.40
KIDS	-	-	-	0.0	0.16	0.99
MARRIED	-	-	-	-0.29	0.37	0.44
GENDER	-	-	-	0.13	0.32	0.68
AGE98	-	-	-	-0.09	0.02	0.01
BLACK	-	-	-	0.03	0.51	0.95
EDUC98	-	-	-	0.20	0.10	0.04
	N=451			N=447		

As a consequence of these results we estimated a similar logit model with HEALTH98, the self reported measure of health, in place of the health status index. These results are given in Table 4.

Again, we find no evidence of job lock. The coefficient of the interaction term is positive and not significant. Employer provided health insurance has a negative sign and is nearly significant at the 5% level. However, the self reported health and other insurance variables have coefficients that are positive and negative respectively, neither of which are significant. Again, adding demographic variables does not change the results (Table 4, columns 5-7).

Table 4. Logistic Regression Using Self Report Measure of health (HEALTH98), Dependent Variable: Job Change

1. Variable	*2. Estimate*	*3. Standard Error*	*4. P-Value*	*5. Estimate*	*6. Standard Error*	*7. P-Value*
INTERCEPT	-1.37	0.52	0.01	-0.29	0.97	0.77
EMPINS98	-1.45	0.76	0.06	-1.18	0.85	0.17
HEALTH98	0.08	0.19	0.67	0.22	0.23	0.33
EMPINS98*	0.12	0.31	0.70	0.16	0.34	0.64
HEALTH98						
OTHINS98	-0.58	0.39	0.13	-0.24	0.44	0.57
KIDS	-	-	-	-0.44	0.17	0.24
MARRIED	-	-	-	0.03	0.31	0.86
GENDER	-	-	-	0.11	0.02	0.72
AGE98	-	-	-	-0.09	0.02	0.00
BLACK	-	-	-	0.56	0.38	0.15
WHITE	-	-	-	0.27	0.58	0.65
EDUC98				0.20	0.10	0.04
	N=455			N=451		

In light of these results, we tested the job lock hypothesis using single objective measures of health as proxy for health status. We replaced HEALTH98 with HEART98, CANCER98, and other measures. Again, we found no evidence of job lock in any of these regressions. These results are surprising because one would expect the presence of particularly expensive conditions such as cancer or heart disease to serve as strong indicators of job lock. The limited activity variable--an answer to the question: "Are you limited in any way in any activities because of a long term physical or mental impairment or medical condition?"--should also be a strong indicator of job lock because it is an impairing and long-term condition. The results of this regression are presented in Table 5.

Table 5. Logistic Regression Using LIMACT98 as the Health Measure

Dependent Variable: Job Change

Variable	*Estimate*	*Standard Error*	*P-Value*
INTERCEPT	-1.20	0.28	0.00
EMPINS98	-1.27	0.37	0.00
LIMACT98	0.00	0.54	0.99
LIMACT98 *EMPINS98	0.57	0.85	0.50
OTHINS98	-0.60	0.38	0.12

N=458

Although various regressions did not show any evidence of job lock in the CWHS sample, we cannot conclude that there is no job lock in California. It may be that the small size of the CWHS sample precludes a proper test of our hypothesis. In other words, the probability that we reject the null hypothesis (that job lock is not present), given that job lock is actually present, is too low to capture the presence of job lock given the sample size of 458 respondents.

One way to explore this possibility is to replicate our analyses using an alternative, larger data set. We used the Current Population Survey (CPS) for March 1997 and March 1998 for the United States to investigate whether our specifications would pick up the presence of job lock with a much larger data set. We did not use the California sub-sample of the CPS because it might again have been too small and we have no reason to believe that, from the perspective of this study, California is different in any essential way from the United States as a whole.

In our CPS sample 68.5 % of the individuals are male, 88.1% are White, 8% are Black, 0.9% are Native American, and 2.9% are Asian. Thus individuals in the CPS sample are more likely to be White and male and less likely to be Asian or Hispanic compared to our CWHS sample. The average educational attainment is some college

which is the same level found in our CWHS sample. The average age in the CPS sample is 43, which is slightly higher than the age of 40 found in the CWHS sample. The average gross income of $47,459 is much higher than the level reported in the CWHS. On average, individuals defined their health status as "very good" which is the same level reported in the CWHS. About 3% reported a limiting disability which is smaller than that reported in the CWHS (11%).

Table 6. Means of Analysis Variables in the CPS Data

Variable	Description	Mean	Standard Deviation
CHANBO	Both industry and occupation code changed	0.21	0.41
CHANEI	Either industry o r occupation code changed	0.53	0.50
CHANIND	Industry code changed	0.30	0.46
CHANOCC	Occupation code changed	0.45	0.50
DISHP97	Disability (1=yes,0=no)	0.03	0.17
DHEA97	Self reported health	2.00	0.94
DHI97	Employer provided health insurance	0.68	0.46
DPRIV97	Other insurance	0.09	0.28

Source: CPS March 1997 and March 1998, N=11,872

The CPS does not contain all of the objective measures of health that are available in the CWHS data and that we used to establish our health status index. However, it does contain a subjective measure of health, which is similar to the one in the CWHS data set, and an objective measure of health similar to the limited activity variable in the CWHS data set. Hence we can compare our results to the regressions above using the HEALTH98 variable and LIMACT98 variables as the measure of health status.

Defining a job change is more difficult because there are many possible ways to identify an individual who switched jobs. The CPS contains detailed industry and

occupation codes, which may be used to identify a job change. Unfortunately neither industry nor occupation codes are perfectly suited for this purpose. If change in industry is used we will miss job changes by individuals who found new jobs in the same industry. If change in occupation is used we could mistakenly identify as a job change those situations when a worker takes another position within the same firm, with no change in health insurance status. As a consequence, we chose to define job change in four different ways: 1) a change of both industry and occupation, 2) a change of industry or occupation, 3) a change of industry, and 4) a change of occupation. We analyzed our results separately for each of these four definitions of job change. Since the CWHS data set only contains health information on the individual interviewed we used only the reference persons in the CPS.

Column 1 shows the logistic regression results, using the subjective measure of health, for individuals who are identified as job changers by either their industry or occupation codes. Under this definition 53.8% of individuals changed jobs. The interaction term of health and employer provided health insurance has a positive sign and is insignificant. The other insurance variable is the only one that is significant at the 5% level. There is no evidence of job lock from these results.

Column 2 shows the regression results for job changers identified as those whose industry and occupation codes were changed. Under this definition of job change 21.5% of the 11,872 individuals in the sample changed jobs between the March 1997 and March 1998. Employer provided insurance and other health insurance have the expected sign and are highly significant. However, neither the health variable nor the interaction of health

and employer provided health insurance is significant at the 5% level. Thus, under this definition of job change there is no evidence of job lock in the CPS data.

Table7. Logistic Regression with Self-Reported Health as Independent Variable for Four Definitions of Job Change

	1. Industry or Occupation		*2. Industry and Occupation*		*3. Industry Only*		*4. Occupation Only*	
Variable	Estimate	P-Value	Estimate	P-Value	Estimate	P-Value	Estimate	P-Value
Intercept	-0.13	0.38	-1.57	0.00	0.27	0.00	-0.63	0.00
Health	-0.03	0.31	-0.02	0.56	-0.02	0.36	-0.01	0.82
Employer Provided Insurance	-0.15	0.11	-0.35	0.00	-0.05	0.00	-0.14	0.14
Health* Employer Provided Insurance	0.04	0.34	-0.00	0.96	-0.00	0.79	0.01	0.89
Other Health Insurance	0.21	0.00	0.29	0.00	0.03	0.03	0.28	0.00

Source: CPS March 1997 and March 1998, Data, N=11,872

Using the subjective measure of health, column 3 shows the results for individuals who are identified as job changers if changes in their industry codes were reported. Under this criterion 30.5% of the individuals changed jobs. Again the coefficients of employer provided insurance and other health insurance have the expected signs and are highly significant. Health status has a negative sign but is not significant. However, the

interaction of health and employer provided insurance has a negative sign and is not significant, implying no evidence of job lock.

Finally, column 4 shows the results for individuals who are identified as job changers based on their occupation codes only. Under this definition 44.9 % of individuals changed jobs, which is surprisingly high. This may imply that a large number of individuals had a job change within the same firm. Again, these results show no evidence of job lock.

Adding demographic and other variables did not change the results in any of the regressions (results not shown).

In the next set of regressions, we used the disability variable as our measure of health status. This variable, which is the answer to the question "Does [respondent] have a health problem or a disability which prevents work or which limits the kind or amount of work?," should be a strong indicator of job lock. Individuals with employer provided health insurance and a health problem limiting their work would not be expected to change jobs. Since our sample includes only individuals who were working in both years, individuals with a condition that prevents them from working are not included. Thus, we are left with individuals who are limited in their work.

The results of these logistic regressions with the different definitions of job change are included in table 8. Notice that we obtain strong evidence of job lock for nearly all of the different definitions of job change. The interaction of health status and employer provided health insurance is significant at the 5% level when job change is defined as a change in either industry or occupation and when job change is defined as a change in occupation codes only.

Table 8. Logistic Regression Using Disability as the Health Status Variable, for Four Definitions of Job Change

	1. Industry or Occupation		2. Industry and Occupation		3. Industry Only		4. Occupation Only	
Variable	Estimate	P-Value	Estimate	P-Value	Estimate	P-Value	Estimate	P-Value
Intercept	-0.14	0.38	-1.47	0.00	-0.73	0.00	-0.71	0.00
Disability	0.08	0.56	0.08	0.59	0.08	0.61	0.08	0.57
Employer Provided Insurance	-0.08	0.09	-0.32	0.00	0.20	0.00	-0.13	0.00
Disability* Employer Provided Insurance	-0.48	0.02	-0.50	0.06	-0.38	0.10	-0.50	0.02
Other insurance	0.20	0.00	0.29	0.00	0.16	0.03	0.27	0.00
Pension	0.04	0.18	-0.05	0.18	-0.04	0.23	0.04	0.19
Gender	-0.04	0.28	-0.07	0.17	-0.12	0.01	0.01	0.75
White	-0.01	0.95	-0.06	0.61	-0.09	0.36	0.03	0.72
Black	0.07	0.53	0.14	0.29	0.05	0.66	0.13	0.26

CPS Data, N=11,872

When job change is defined as a change in both industry and occupation codes, the interaction is nearly significant at the 5% level. Job change defined as a change in industry codes yielded the only non-significant result. However, even here the interaction term is nearly significant at the 10% level. Adding demographic and other variables did not significantly alter the results (results not shown).

5. Discussion

Our analyses of the CPS data set suggest two things. First, the CWHS sample is not adequately large to test our hypotheses for job lock in California. Second, the self reported measure of health in both the CPS and CWHS does not seem to predict the presence of job lock well. Each of these issues requires further elaboration.

It appears that the relatively small sample size of the CWHS (n=458) may be the cause of the insignificant results obtained. In contrast, the CPS sample (n=11,872), almost twenty times larger, produced some evidence of job lock in the U.S. Comparing our regression results using LIMACT98 in the CWHS with our regression results using the disability variable in the CPS illustrates this lack of power. Both variables are similar and yet we find no evidence of job lock using LIMACT98 but obtain results highly suggestive of job lock using the disability variable in the CPS. In addition, the other variables in the CPS, such as employer provided health insurance and other insurance, are typically of the expected sign and significant, suggesting that our measurements are better in the CPS. It is possible to calculate the adequate CWHS sample size for testing our hypotheses, but the procedure is complicated and the exercise not beneficial, as we cannot increase the CWHS sample.

There are other limitations in the CWHS data set for the purpose of studying job lock in California. The data set does not offer any information regarding the health status of the interviewee's family members, a serious limiting factor because job lock can also

occur due to adverse health conditions among family members. The CPS offers such information.[5]

Our findings suggest that the self reported measure of health does not capture the presence of job lock. When the self reported health variable was used as our measure of health, none of the interaction terms from the regressions using either the CPS or the CWHS were significant. The self reported health coincides with concerns with waiting periods as the source for job lock. A worker may feel that continuous access to medical care is essential for her and her family and therefore is adverse to episodes of no health insurance when changing jobs. The second source for job lock is the presence of pre-existing conditions and the potential for employers to exclude such workers when hiring.

The 1985 Consolidated Omnibus Budget Reconciliation Act (COBRA) sought to address the issue of non-portability of employer provided health insurance by requiring employers to allow workers to continue coverage for up to 18 months after terminating their employment. By effectively eliminating the waiting periods associated with new employment, COBRA did alleviate the distortion of job lock. Gruber and Madrian (1994) provide empirical evidence for this by showing that continuation of coverage mandates did indeed increase job mobility. However, COBRA did not provide increases in job mobility for chronically ill workers because the legislation did not limit the ability of employers to exclude employees with preexisting conditions.

The 1996 Health Insurance Portability and Accountability Act (HIPPA), which took effect in July of 1997, sought to increase job mobility for chronically ill workers by addressing the issue of pre-existing conditions. HIPPA aimed to increase mobility for sick

[5] From the perspective of the methodology used in this study, the CWHS data set offers the advantage of

individuals and families by: 1) mandating that insurers could not refuse to cover a pre-existing condition for longer than 12 months from the date of enrollment into the health plan, 2) limiting the maximum lookback period in which an employer could define a condition as pre-existing to 6 months, and 3) allowing individuals who held continuous coverage prior to their job change to reduce or eliminate pre-existing condition exclusion periods associated with the new employer. From the perspective of covering workers with pre-existing conditions, HIPPA is limited because it does not place a ceiling on insurance premium charged to them. While employers cannot exclude coverage for pre-existing conditions, they can set the price sufficiently high to discourage chronically ill workers from obtaining jobs in their firm.

This background sheds light on our results. Our data are from recent years when COBRA and HIPPA have been in effect. COBRA may have been rather successful in limiting the waiting period and reducing episodes of job lock. Thus self-reported measures of health and some objective measures of health with lower economic costs may not be suitable for identifying the presence of job lock. At the same time, because HIPPA a newly implemented policy and limited in its effectiveness to lower the financial burden of costly pre-existing conditions, some objective measures of heath can capture the presence of job lock.

Ideally, our measure of health status would reflect the total expected medical cost of all of the individual's health conditions. One way to create such a measure would be to assign weights, based on expected costs, to objective measures of health, such as asthma or heart disease. By aggregating these weighted measures of health one could obtain an

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an array of objective measures of health.

index that reflects the total expected medical expense. One might employ the Diagnosis Related Groups (DRGs) developed by the Health Care Financing Administration as a guide, for example, to assign expected medical costs to given conditions. However, development of such cost measures is not straightforward as there can be significant variation in costs for a given health condition. For example, severe cases of asthma may be very expensive while mild cases may be relatively cheap to treat. Since the objective measures of health in the California Work and Health Survey simply involve answers to the question, ”Has a doctor ever told you that you had [heart disease] it is not clear how severe a given condition may be. Consequently, for the purposes of this paper we chose to focus on finding a superior measure of health rather than one that accurately reflects expected medical costs.

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