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**The State Children's Health Insurance Program and Job Mobility: Identifying Job Lock  
among Working Parents in Near-Poor Households**

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## **Abstract**

We use the introduction of the State Children's Health Insurance Program (SCHIP) to assess whether the job mobility and wages of near-poor parents are suppressed through job lock. We exploit differential take up rates among eligible households and stratify adults in these households into quasi-experimental treatment and control groups. Using data from the 1996 and 2001 Survey of Income and Program Participation (SIPP), we first identify working adults whose children meet the SCHIP eligibility criteria. We then separate these workers into two groups: those with employed spouses who have employer provided coverage in their own names and those who do not. For the former group, the introduction of SCHIP is unlikely to relieve job lock since they already had a viable alternative source of coverage. For the latter group, however, SCHIP provides an alternative source of coverage where one previously did not exist. We find a large significant increase in public coverage rates among the children of adults who do not have independently insured spouses (on the order of 10 percentage points). There is no such increase among adults with insured spouses. Corresponding to these differential take up rates are differences in the change in job mobility. Among workers without insured spouses, we observe a 6 percentage point increase in the likelihood that the worker separates from their current employer within one year after SCHIP is implemented. We see no comparable change in mobility among those with insured spouses. This relative pattern survives regression adjustment for observable demographic characteristics, the household's position in the income distribution and a host of other controls. Finally, we find no effect of the increased mobility on relative wages.

## Introduction

Working adults with children are likely to seek out employment opportunities that provide health insurance benefits for themselves and their dependents. In the United States, procuring health insurance through an employer is often less expensive than purchasing insurance individually for a number of reasons. For one, unlike the earned income needed to privately purchase insurance coverage, the value of employer-provided coverage is not taxed. In addition large employers can purchase health insurance benefits at a rate per beneficiary that is considerably lower than that faced by individual households on the open market.

These cost advantages suggest that the value that many individuals place on employer-provided health insurance benefits exceeds the concurrent marginal cost to employers. This differential may be exacerbated by the fact that alternative employers may not offer health benefits, may refuse to provide coverage for pre-existing medical conditions, or may impose length-of-service requirements prior to providing benefits. As a result, many employees may bypass alternative employment opportunities where their productivity and monetary compensation may be higher, and the non-monetary job attributes superior relative to their current positions. Parents in particular, whose children are likely to use health insurance benefits intensively, may find themselves “locked” into particular jobs by the need to maintain health coverage for their children.<sup>1</sup>

Minimizing the effects of job lock on labor market outcomes requires de-linking one’s health insurance benefits from one’s current employment situation. With the exception of the elderly and the poor, however, the overwhelming majority of households receive insurance coverage

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<sup>1</sup> Concern over job lock has been widely reported by the popular press and approximately three out of ten U.S. households report that they have had someone in their household remain in a job that they would like to leave because of health insurance benefits (NY Times 1991, LA Times 1998).

through their employers.<sup>2</sup> Nonetheless, the recent expansion of eligibility for public health insurance through the State Children's Health Insurance Program (SCHIP) provides a novel opportunity to assess the degree to which the job mobility and wages of working parents are reduced by the need to maintain health insurance for their children. SCHIP expanded the pool of children eligible for public health insurance benefits from roughly 30 percent in 1997 (under Medicaid eligibility rules) to roughly 50 percent in 2001 (both Medicaid and SCHIP combined). Existing research documents that roughly 10 percent of eligible children have taken up benefits and that among eligible children, there has been a significant yet somewhat smaller decline in private insurance coverage (LoSasso and Buchmueller 2002, Bansak and Raphael 2005).

In this paper, we use the introduction of SCHIP to assess whether the job mobility and wages of near-poor parents are suppressed through job lock. We exploit differential take up rates among eligible households and stratify adults in these households into quasi-experimental treatment and control groups. Using data from the 1996 and 2001 Survey of Income and Program Participation (SIPP), we first identify working adults whose children meet the SCHIP eligibility criteria. We then separate these workers into two groups: those with employed spouses who have employer provided coverage in their own names and those who do not. For the former group, the introduction of SCHIP is unlikely to relieve job lock since they already had a viable alternative source of coverage. For the latter group, however, SCHIP provides an alternative source of coverage where one previously did not exist.

Our principal empirical strategy is to compare the average insurance and labor market outcomes for our two groups of adults from SCHIP eligible households before the introduction

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<sup>2</sup> An alternative manner of minimizing the link between employment and insurance coverage is to mandate the portability of insurance benefits through continuous coverage legislations. Under the federal continuous coverage mandate enacted under the Consolidated Omnibus Reconciliation Act of 1985 (COBRA), employees may retain their health insurance after leaving a job for up to 18 months.

of the program (1996) and after (2001). We first document a difference in SCHIP program take up rates between the children of our treatment group members and the children of our control group members. We find a large significant increase in public coverage rates among the children of adults who do not have independently insured spouses (on the order of 10 percentage points). There is no such increase among adults with insured spouses. We also observe significant relative declines in private employer-provided coverage among adults without an insured spouse.

Corresponding to these differential take up rates are differences in the change in job mobility. Among workers without insured spouses, we observe a 6 percentage point increase in the likelihood that the worker separates from their current employer within one year after SCHIP is implemented. We see no comparable change in mobility among those with insured spouses. We observe this relative pattern for all working adults in SCHIP-eligible households, for a sample restricted to married men, for the sub-sample restricted to married men with employer provided health insurance. This relative pattern survives regression adjusting for observable demographic characteristics, the household's position in the income distribution and a host of other controls. Finally, we find no effect of the increased mobility on relative wages.

## **2. Identifying Job Lock**

Given that the majority of Americans obtain health insurance coverage through the group plans of their employers,<sup>3</sup> it is quite natural to ask whether the prospect of losing one's insurance or experiencing a time gap in insurance hinders job mobility. Not all employers offer health insurance coverage to their employees and for the low to moderate income households targeted

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<sup>3</sup> Our tabulations of the 2001 Survey of Income and Program Participation indicate that 84 percent of working adults are covered by a health insurance plan where either their employer or the employer of someone else in the household pays part of the cost. Roughly 70 percent of children are covered by private health insurance, the overwhelming majority through the employer group plans of a parent or guardian.

by SCHIP, the fraction of their employers that do so is likely to be particularly low. Moreover, even when a worker receives an alternative offer from an employer that provides health insurance benefits, changing employers and health plans may create several transaction costs. For example, those who switch employers may have to switch primary care physicians. The new employer may require initial physical exams and exclude coverage for the treatment of pre-existing conditions for up to a year.<sup>4</sup> If the new employer requires some minimum length of service requirement before extending health benefits to new employees, changing jobs may entail the worker and his or her dependents experiencing a period of time uninsured. Lastly, when a worker changes a job mid-year, he or she may lose credit towards deductibles or contributions made towards a pre-tax health care reimbursement account.

If household valuations of these transaction costs are substantial, workers may bypass employment opportunities with higher wages and better non-pecuniary attributes when opportunities arise. Furthermore, one might expect that those individuals who place a particularly high value on their health insurance benefits may be less likely to initiate on-the-job search in the first place. Thus, to the extent that job lock is an empirically important phenomenon, the efficiency of the U.S. labor market is compromised by the widespread tying of health insurance to employment.

Nearly all empirical studies of job lock focus on the effect of employer provided health insurance on some measure of job mobility and all show that in the cross section, workers with employer provided health insurance are considerably less likely to separate from their current employers than are uninsured workers. For example, our tabulations from the 1996 SIPP show that roughly 18 percent of worker with employer-provided health benefits separate from their

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<sup>4</sup> Under the Health Insurance Portability and Accountability Act of 1996, employers must offer coverage for the treatment of pre-existing conditions after one year of service.

employers within a year, compared with 41 percent of uninsured workers. The key identification problem concerns the fact that having employer provided health insurance is likely to be correlated with both job and worker characteristics that are also likely to be related to mobility. For example, jobs that offer health benefits probably offer other fringe benefits, such as a pension or vacation time. Moreover, employees with health benefits are likely to be more skilled on average and perhaps more stable. Omitting such factors from the analysis would create a spurious negative correlation between job mobility and health insurance coverage.

In their review of job lock research, Gruber and Madrian (2002) identify two principal identification strategies for measuring job lock. The first strategy exploits variation in whether a given worker has access to health insurance coverage through a source other than his or her employer. The second strategy exploits the fact that the personal valuation of one's health insurance benefits will vary with one's personal circumstances, such as the number and composition of dependents or health conditions.

With regards to the first strategy, several studies have tested for a differential effect of employer provided health insurance on job mobility for workers with no alternative source of health insurance relative to workers with an alternative source. For example, Madrian (1994) compares the mobility of married men who are stratified by whether their spouses are independently insured through their own employers. For men with insured wives, neither the health benefits of the wife nor those of the husband are dependent on the husband's current employment, as the wife has her own insurance and the husband is likely to be eligible for benefits via his wife's group plan. For such men, concerns over losing health benefits are unlikely to constrain mobility, and thus any difference in mobility between those with and



without employer-provided benefits is likely attributable to observable and unobservable job and worker attributes.

On the other hand, for men without independently insured spouses both his coverage and the coverage of his dependents are tied to his current job. Here concerns over losing health benefits will suppress mobility, along with the effects of the unobservable correlates of having employer provided benefits. Subject to some assumptions regarding the suitability of the implicit control group in this exercise, one can attribute the differential effect of employer provided health benefits among these men relative to men with insured spouses to job lock. Several studies pursue this identification strategy, including Madrian (1994), Buchmeuller and Valleta (1996) Holtz-Eaken (1994), Anderson (1997), Gillespie and Lutz (2000), and Adams (2004). With the exception of Holtz-Eaken (1994), all of these studies find evidence of job lock among workers with no alternative source of health coverage, with the estimates suggesting that job lock reduces mobility between 25 and 50 percent.

The second identification strategy compares the effect of employer provided health insurance for those who place particularly high value on health benefits relative to those who do not and attributes the differential effect of benefits on mobility to job lock. For example, Madrian (1994) compares the mobility of men whose wives are pregnant to that of men whose wives are not. Kapur (1998) compares the effects of benefits on mobility for workers with chronic health conditions (or workers with dependents with chronic health conditions) relative to workers without such concerns. Similar identification strategies are pursued by Brunetti et. al. (2000), and Stroupe et. al. (2000). The evidence of job lock from these strategies is mixed, with most research identifying the effect through the interaction between chronic poor health and health benefits and finding little supportive evidence.

An identification strategy that has not been extensively pursued is to exploit variation in policy pertaining to either the availability of alternative sources of health coverage or the portability of existing coverage. Gruber and Madrian (1994) provide the sole exception. The authors explore the effect of state variation in continuous coverage mandates on the likelihood that workers separate from their current employers. Prior to the passage of the Consolidated Omnibus Reconciliation Act of 1985 (COBRA), state regulation governed the length of time that employers were required to allow former employees to buy into their group plans (usually at the average cost per beneficiary to the employer). After 1986, the federal law mandated that employees may retain their health insurance after leaving a job for 18 months. If the state and federal statutes are at odds, firms must abide by the law that provides for more generous coverage. The authors find positive and significant effects of the extension of continuous coverage protection on quarterly job separation rates during the 1980s.

Below, we outline an identification strategy that exploits both differential access to health coverage through sources other than one's employer (following Madrian (1994) and others), as well as, exogenous policy induced variation in access to public health care.

### **3. Using the Expansion of SCHIP to Identify Job Lock Among Working Parents in Near Poor Households**

As part of the Balanced Budget Act of 1997, Congress created the State Children's Health Insurance Program (SCHIP) in an attempt to expand insurance coverage to children in low-income families. The original legislation provides \$40 billion in Federal matching funds through fiscal year 2007 for state-designed and operated public health insurance programs. SCHIP targets children in low-income families with incomes too high to qualify for Medicaid benefits. For the most part, children in families with income less than 200 percent of the poverty line that

are ineligible for Medicaid benefits are eligible for SCHIP,<sup>5</sup> though some states extend coverage to households with income up to 350 percent of the poverty line. Unlike Medicaid, SCHIP benefits are not an entitlement. States are allotted funds based on a matching formula and each state is allowed to define the “targeted” group of low-income children to receive health insurance through the SCHIP program.<sup>6</sup>

The introduction of SCHIP greatly expanded the proportion of children eligible for public health insurance. In 1997, 34 percent of U.S. children were eligible for public health insurance through the Medicaid program. In 2001, this increases to 51 percent with 19 percent eligible for SCHIP benefits and 32 percent eligible for Medicaid (Bansak and Raphael 2005a). Restricting the focus to uninsured children, roughly half are eligible for Medicaid benefits while one quarter are eligible for SCHIP benefits.

In this paper, we identify job lock off the interaction between SCHIP eligibility and having access to health benefits through a source other than one’s current employer. Specifically, we identify the parents of SCHIP eligible children and stratify these parents into two groups: those with employed spouses who have employer provided health insurance and those without. For parents in the former group, the introduction of SCHIP provides a second alternative source of health insurance since household dependents are likely to be eligible for benefits through the spouse’s employer. Thus for this group, the introduction of SCHIP affects a

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<sup>5</sup> While SCHIP is aimed at low-income children, there are some groups of low-income children who are not eligible. For example, children eligible for Medicaid and children who are members of families currently eligible for state employee insurance are not eligible to receive coverage under SCHIP (CMS 2004). In addition, and children who live in an Institution for Mental Diseases are also ineligible to receive coverage under SCHIP (CMS 2004) see <http://www.cms.hhs.gov/schip/about-SCHIP.asp>

<sup>6</sup> Each state has a fixed allotment of SCHIP funds that are distributed as a Federal match with an enhanced matching rate, ranging from 65% to 85% (Green Book 2004). State allotments are determined through a formula that takes into account both the “number of children” and a “state cost factor” that reflects the cost of health care in a given state. The number of children is based on 50% of the low-income uninsured children in the state plus 50% of the number of low-income children in the state. The state cost factor is based on annual health service industry wages in the state compared to the national average. For most states, allotments available for a fiscal year can be used over the next 3 years; however, funds still available after such time may be redistributed among those states that fully expend their allotments (CMS 2004).

non-binding constraint to job mobility. On the other hand, for parents without independently insured spouses the SCHIP program provides the first alternative source of health insurance for their dependent children. For these parents, the program directly affects a binding constraint to job mobility. To the extent that job lock is important among SCHIP eligible parents, one should observe a relative increase in the job mobility rates of parents without an insured spouse relative to those with and insured spouse.

To formally state our test for job lock, let  $S_i^j$  be the likelihood that an employed parent in group  $i$  ( $i$ =with insured spouse, without insured spouse) in year  $j$  ( $j$ =before SCHIP, after SCHIP) separates from their current employer within the year. For parents without an insured spouse, the change in separation rates for the period bracketing the introduction of SCHIP is given by the first difference

$$(1) \quad \Delta_{without} = S_{without\ insured\ spouse}^{After} - S_{without\ insured\ spouse}^{Before}.$$

This change will reflect the effect of relaxing the constraint associated with the need to insure dependents through one's employment, as well as any trends in separation rates driven by macroeconomic conditions and other factors. The comparable change for parents of SCHIP eligible children with insured spouses is

$$(2) \quad \Delta_{with} = S_{with\ insured\ spouse}^{After} - S_{with\ insured\ spouse}^{Before}.$$

Under the assumption that SCHIP affects a largely non-binding constraint for these workers, this first difference will be driven by non-job lock factors alone. Assuming that the change in

separation rates for parents with insured spouses provides an adequate estimate of how separation rates would have changed for those without insured spouses in the absence of SCHIP, the effect of SCHIP on job lock is estimated by the difference-in-difference

$$(3) \quad \Delta^2 = \Delta_{without} - \Delta_{with}.$$

This difference-in-difference estimator rests on two critical assumptions. First, we are assuming that the need to insure one's dependent children binds parents without insured spouses to their current employers but does not do so for those with insured spouses. Second, we are assuming that the mobility trends for parents with insured spouses provide an adequate counterfactual for those without such spouses. Here we discuss each assumption in turn.

There are several reasons to question the first assumption. For starters, in households with two employed and independently insured parents, one might surmise that the household will enroll their dependent children in the group plan that offers the best benefits at the lowest cost. In other words, the benefits offered by the spouse's employer may not be a perfect substitute for those offered through one's own employer. Moreover, having an independently insured spouse does not necessarily imply that one's children are eligible for benefits on the spouse's health plan.<sup>7</sup> Thus, even for parents with an insured spouse, health insurance concerns may bind them to their current employers.

Despite these concerns, we observe large and significant differences in program take-up rates among households with SCHIP-eligible children when stratified by the insurance status of the parents, an empirical fact that supports this key identifying assumption. Table 1 illustrates

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<sup>7</sup> The questions in the SIPP pertaining health insurance allow one to identify whether one's spouse is covered by a plan that is paid for in part by the spouse's employer. The health insurance questions do not permit identifying whether the spouse's benefits would cover minor dependents in the household.

this point.<sup>8</sup> For the years 1996 (pre-SCHIP) and 2001 (post-SCHIP), the table presents the proportion of working adults in SCHIP-eligible households with children who are covered by publicly-provided health insurance. Panel A presents these tabulations for all employed parents, Panel B presents figures for married men, while Panel C presents tabulations for married men who have employer-provided health insurance benefits. Among all parents with insured spouses, the proportion with children receiving public health benefits increases from 0.07 in 1996 to 0.08, a statistically insignificant increase of 1 percentage point.<sup>9</sup> In contrast, the proportion of working adults without insured spouses whose children are covered by public health insurance increase from 0.11 in 1996 to 0.22 in 2001, a large and highly significant increase. We observe similar patterns when the sample is restricted to married-men in SCHIP eligible households (an increase in take up of 7.3 percentage points among those without insured spouses and 1.3 percentage points among those with). When the sample is restricted to married men with employer provided health insurance, the relative change in public benefits coverage are similar, yet considerably muted. Nonetheless, the patterns in Table 1 clearly indicate a differential responsiveness to the introduction of SCHIP by household stratified in this manner.

We also observe relative changes in private coverage that suggest a differential behavioral response to the policy change. Table 2 presents the proportion of working adults in SCHIP-eligible households that are covered by health benefits through their employer's group plan. Similar to Table 1, tabulations are presents for 1996 and 2001 and by whether the working adult has an independently insured spouse. With respect to the results for all parents in Panel A,

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<sup>8</sup> These tabulations are calculated using data from the 1996 and 2001 SIPP. We discuss the data in detail below.

<sup>9</sup> Presumably, the proportion of SCHIP eligible children covered by public health insurance in 1996 should be zero, as such children are ineligible for Medicaid and SCHIP was introduced in 1997. The positive proportion receiving benefits pre-SCHIP reflects error in our imputation of the SCHIP eligible population. Previous research on take up in the Medicaid and SCHIP programs have encountered similar problems with respect to observed take up among presumably ineligible households (for example, see Cutler and Gruber 1996, LaSasso and Buchmueller 2002, and Bansak and Raphael 2005a).

among those with insured spouses, the proportion with employer provided benefits increases during this period from 0.29 to 0.35, a change of roughly 5 percentage points. For those without insured spouses, the proportion with such benefits declined from 0.69 to 0.63, a decline of roughly 5 percentage points. With respect to the results for married men, there are comparable relative patterns, yet these changes are generally insignificant.

Taken together the patterns in Tables 1 and 2 reveal a clear difference in the responsiveness among parents in SCHIP eligible households to the introduction of the program when the data is stratified in the manner that we propose. While parents with insured spouses may feel locked to their current employers for the reasons discussed above, their lack of a reaction to the SCHIP program suggests otherwise.

Whether parents with insured spouses serve as an adequate counterfactual for those without is perhaps more problematic. The private coverage tabulations in Table 2 indicate that there are large differences in the proportion covered by an employer-provided plan in their name, with the parents without insured spouses considerably more likely to be covered by such a plan relative to parents with an insured spouse. Moreover, the data reveal considerable differences in other observable characteristics. Table 3 presents tabulations of average characteristics for the parents of SCHIP-eligible children by the insurance status of their spouses (these tabulations combine the 1996 and 2001 samples). As is evident, there are some large and highly significant differences. For example, those with insured spouses are nearly 20 percentage points more likely to be female and 30 percentage points more likely to be married. Parents without insured spouses are considerably more likely to be a union member (0.171 relative to 0.109 for those with insured spouses), a factor that is strongly and negatively related to job mobility (see Bansak

and Raphael 2005b). Finally, the hourly wages of those without insured spouses exceed the wages of those with by roughly 30 percent.

To account for these large observable differences between our quasi-experimental treatment and control groups, we take several steps. To begin, we present several job lock estimates with increasingly restrictive sample specifications that *a priori* increases the similarity of our treatment and comparison samples. Specifically, we present separate difference-in-difference estimates using the three sample specification listed in the panels of Table 1: (1) all parents of SCHIP-eligible children, (2) restricting the treatment and control samples to married men only, and (3) restricting the treatment and control samples to married men with employer provided health insurance in their own names. Imposing the second set of sample restrictions eliminates the difference in gender composition and the proportion married and slightly narrows the differences in log wages (to roughly 25 percent). Conditioning the sample on being married, male, and having employer provided health benefits narrows the average wage differential further (to 18 percent) and eliminates the difference in the proportion union.

In addition to restricting the analysis samples in this manner, we also present regression adjusted difference-in-difference estimates that account for any remaining differences in the observable characteristics listed in Table 3. Specifically, let  $NoSpouse_i$  be an indicator variable equal to one if parent  $i$  does not have an independently insured spouse and  $Y2001_i$  be an indicator variable for observations from the post-SCHIP sample. The regression-adjusted difference-in-difference estimate comes from estimating the linear probability model:

(4)

$$Separation_i = \alpha_0 + \alpha_1 NoSpouse_i + \alpha_2 Y2001_i + \alpha_3 NoSpouse_i * Y2001_i + \beta' X_i + \varepsilon_i,$$



where  $Separation_i$  is a dummy variable indicating that parent  $i$  separated from his or her employer within the year,  $X_i$  is a vector of the observable characteristics,  $\varepsilon_i$  is a disturbance term, and  $\alpha_0$ ,  $\alpha_1$ ,  $\alpha_2$ ,  $\alpha_3$ , and  $\beta$  are parameters to be estimated. The parameter  $\alpha_3$  provides the difference-in-difference estimate after adjusting for the variables included in the vector  $X_i$ . We discuss the exact specifications of these models below with the presentation of the results.

#### 4. Data Description

The data for this project come from public release files of the Survey of Income and Program Participation (SIPP). The SIPP is a monthly longitudinal household survey. SIPP respondents are interviewed every four months for several years, where detailed retrospective information pertaining to demographics, employment, income receipt and other variables is collected pertaining to the four-month period preceding the interview. Thus wave 1 of the 1996 SIPP corresponds to the first four months of the panel, wave 2 corresponds to months 5 through 8, and so on. For each of the 1996 and 2001 panels, we merge data from wave 1 and wave 4. In this section, we detail our method for imputing SCHIP eligibility, the manner in which we gauge the labor market outcomes of the parents of eligible children, our characterization of the benefits available to parents and their spouses through employer-provided group plans, and the additional sample restrictions that we place on the analysis sample.

##### *Identifying Employed Parents of SCHIP-Eligible Children*

Using the 1996 and 2001 Panels, we first identify all children 18 years of age and under and impute SCHIP eligibility based on family income and composition. We identify children who are eligible for SCHIP benefits in 2001 as well as children that would have been eligible in 1996 (under 2001 income criteria) had the program been in existence. Identifying children in

the SIPP who are eligible for public health insurance benefits requires two sources of information: (1) information on family income net of allowable disregards, and (2) state level information on Medicaid and SCHIP eligibility criteria. The income eligibility criteria for both Medicaid and SCHIP are based on family net income relative to the federal poverty line.

To gauge income, we first adjust household income for allowable childcare and work related expenses. We deduct \$2,500 in child-care expenses from annual household income for each child in the household and an additional \$1,080 for work-related expenses. We then divide the remaining household income by the federal poverty line corresponding to the state of residence,<sup>10</sup> household size, and year.

We identify children in the 1996 Panel (waves 1 and 4) who are hypothetically eligible for SCHIP benefits by identifying children who meet the SCHIP income criteria for 2001 but did not meet the 1996 Medicaid criteria. Note, since SCHIP did not exist in 1996, this group of children essentially identifies the SCHIP target group prior to the program's implementation (see Bansak and Raphael (2005a) for a detailed discussion of this imputation).

For the 2001 Panel, we apply the 1996 Medicaid criteria to identify Medicaid eligible children and the 2001 SCHIP income criteria in conjunction with Medicaid income and age limits to identify the SCHIP eligible population. Note this schema attributes all expansions in coverage between 1996 and 2001 to the introduction of SCHIP.<sup>11</sup>

Once we have identified children that meet the income eligibility requirements for SCHIP in each year, we then identify the mothers and fathers of these children (either both parents or only one depending on who is present in the household) using the mother and father

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<sup>10</sup> The federal poverty line varies by household size and is the same for all states with the exception of Hawaii and Alaska.

<sup>11</sup> Note, several states provide SCHIP benefits through an expansion of their existing Medicaid programs, and thus Medicaid eligibility criteria are currently more generous in many states relative to the eligibility criteria for 1997.

identification codes provided in the children records in the SIPP and the personal identification codes for the parents. At this point, we restrict the adult sample to parents of SCHIP eligible children who are employed in the first month of each panel.

### *Measuring Job Mobility*

To measure job mobility we construct an indicator variable for each employed parent of an SCHIP eligible child that is equal to one if the parent separates from his or her employer over the course of one year. We identify job separators from a series of employer identification codes constructed from the interview control cards used by the SIPP surveyors.

In the first-wave interview, the SIPP interviewers record the identity of the respondent's primary and secondary employers on an interview control card that is used in all subsequent interviews. Each employer is assigned a consecutively numbered employer identification value. In subsequent interviews, if the respondent's primary or secondary employers match either the primary or secondary employers recorded in previous interviews, the employer identification variables will remain the same as the previously assigned values. When the worker changes employers, the new employer name is recorded on the control card and the next available employer identification number is assigned. If the worker is unemployed or has left the labor force, the employer identification code is set to missing (not in universe).

We define job separations relative to the respondent's primary employer as of the first month of the panel. To do so, we compare the employer id of the primary employer in month one of the panel to the employer id's of the individual's primary and secondary (if relevant) employers in month 13 of the panel. If the month 1 id does not equal the id numbers for either the primary or secondary employer in month 13, then we code the parent as having separated from their initial primary employer.

We explored a number of alternative methods for constructing the job separation variable. For example, we merged waves 1 through 4 of each panel and defined a separation as any break in the sequence of employer id's over the 13 month period. We also computed separation rates that required any break from the primary employer to persist at least for 6 months. All three methods produced nearly identical one-year separation rates (approximately 25 percent separating within one year in each panel). However, constructing the separation rate by matching wave 1 to wave 4 yielded the largest sample size since this approach only requires a completed interview in two rather than four separate waves.

#### *Characterizing the Insurance Status of Parent's and Their Spouses*

For all parents of SCHIP-eligible children, we identify whether the parent has employer provided health insurance by making use of two questions in the SIPP. First, all respondents are asked whether they are covered by a health insurance plan in their own name or in someone else's name. Respondents indicating that either they are covered in their own name or that they are covered by both a plan in their own name and by someone else's plan are asked further whether their employer or union covers all or part of the costs of this plan. We code those adults indicating that they have coverage in their own name and that either their employer or union bears part of the cost as having employer provided health insurance.

For each identified parent of an SCHIP-eligible child, we match the parent to their spouse (if residing in the household) using the spouse id codes provided in the SIPP. Spouses are pulled from the unrestricted sample of employed adults, to be sure to capture households with remarried parents where children may not be living with both biological parents. Those parents that match to employed spouses with their own employer provided health insurance are coded as having an independently insured spouse. Parents who do not match to an insured spouse may not match

due to the spouse not being present, not having a spouse, having a non-employed spouse, or having an employed spouse with no benefits.

#### *Additional Sample Restrictions*

Throughout our analysis, the sample is restricted to the parents of SCHIP-eligible children. For each year, we also restrict the sample to parents who are employed in the first month of the panel. We impose several additional restrictions on the samples drawn from the 1996 and 2001 panels. We eliminate family workers and parents who are members of the armed forces. We also restrict the sample to parents between the ages of 18 to 65 years as of the beginning of each panel. Finally, we discard all observations with incomplete interviews in either waves 1 or 4 of each panel.

### **5. Empirical Results – Job Lock and Labor Mobility**

Table 4 presents the proportion of employed adults who separate from their employers within one year. Tabulations are presented for 1996 and 2001 and by whether the worker has an independently insured spouse. Recall, the analysis sample is restricted to parents of SCHIP eligible children in 2001 and parents in the target income range of the SCHIP program in 1996. Again, we present results for all SCHIP-eligible parents, for married men alone, and for married men with employer provided health insurance.

Beginning with all SCHIP eligible parents, the one-year separation rate for those with an insured spouse is stable across years (0.343 in 1996 and 0.334 in 2001). By contrast, the separation rate for parents without an insured spouse increases by 6.3 percentage point from 0.256 in 1996 to 0.319 in 2001. This increase is statistically significant at the one percent level

of confidence. The relative increase in separation rates (the difference-in-difference estimate), 7.3 percentage points, is statistically significant at the 6 percent level of confidence.

The results for married men, shown in Panel B, are comparable to the overall sample. Among those with insured spouses, the one-year separation rate declines considerably (by 7.5 percentage points), but this change is measured imprecisely and is statistically insignificant. Among married men without insured spouses, the one-year separation rate increases by 6.0 percentage points and this difference is significant at the one percent level. Here the relative increase in separation rates is fairly large (13.6 percentage points) and is significant at the one percent level.

The final panel presents results restricting the sample to married men with employer-provided insurance. The overall separation rates for such workers are considerably lower than the overall separation rates for parents of SCHIP-eligible children presented in Panel A. Among those with insured spouses, the separation rates are stable across years (with a statistically insignificant decline in separation rates of 0.003). For those without insured spouses, the separation rates increases by 7.2 percentage points (significant at the one percent level). Note, the first difference in Panel C is larger than those presented in Panels A and B.<sup>12</sup> Here, however, the relative increase of 7.5 percentage points, largely due to the noisy estimate of the first differences for those with insured spouses, is no longer significant.

To the extent that job lock keeps employed parents from accepting higher paid employment opportunities, one might expect an impact of the introduction of the SCHIP program on hourly wages. To explore this possibility, Table 5 presents tabulations of average

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<sup>12</sup> When the sub-sample of married men without insured spouses is further stratified into those with and those without employer provided health insurance, we find that the increase in separation rates occurs only for those with employer provided health insurance.

log wages<sup>13</sup> for parents with and without independently insured spouses. The structure of the table is identical to that of Table 4. In all comparisons, average log wages increase by a modest amount over the time period studied. However, we do not observe a relative increase in the hourly wages of those without an independently insured spouse.

To be sure, there may be relative improvements in other non-wage attributes of the jobs held by those who, in the absence of the SCHIP program, would be tied to their employer for children health benefits. For example, one might observe a change in work schedules from non-standard work hours (for example, third shifts) to standard hours. One might also observe changes in other fringe benefits or the presence of other types of amenities. While we cannot explore these factors with the data provided, such research provides a likely fruitful area for further inquiry.

The unadjusted results in Tables 4 and 5 reveal an increase in job mobility among formerly constrained parents that for the most part is sizable and statistically distinguishable from the change for our comparison group of less constrained parents. While we find little evidence of an impact on wages, these results suggest that parents in near poor households without an alternative source of health benefits for their children were indeed locked to their current employer in a manner that suppressed separation rates. To explore whether these patterns are robust to adjusting for observable covariates, Table 6 presents a series of regression-adjusted estimates of the before-after change in separation rates for those with insured spouses, the comparable change for those with uninsured spouses, and the difference-in-difference in these changes in separation rates. We present estimates for each of the three alternative samples (All Parents, Married Men, and Married Men with Employer Provided Health Insurance) used in

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<sup>13</sup> We calculate the hourly wage by dividing the monthly income from the primary job by the product of the number of weeks in the month and usual hours worked.

Tables 4 and 5 using four different model specifications. The first specification presents the unadjusted estimates reproduced from Tables 4 and 5. Specification (2) adds all of the covariates listed in Table 3 with the exception of wages, and adds twelve industry dummies, six occupation dummies, age squared, and age cubed. Specification (3) adds a full set of state fixed effects, as well as, a set of dummy variables gauging household income relative to the poverty line in 25 percentage point increments.<sup>14</sup> Finally, specification (4) adds log-wages to all of the variables in specification (3). Here we only present the adjusted first-differences and the adjusted difference-in-difference estimates.

Beginning with the first-difference results for parents with an insured spouse, shown in Panel A, there is not a single statistically significant increase in mobility rates in any of the specifications. These point estimates are all near zero. For married men (shown in Panel B), the point estimates are all negative with the declines in separation rates statistically significant in two of the four specifications. Finally, among married men with employer provided health insurance, all of the point estimates are negative and statistically insignificant.

For those parents without insured spouses, the change in the one year separation rate is positive and statistically significant (at the one percent level) in all models in all three panels. For all parents, the first difference ranges from 4.5 to 6.3 percentage points. For married men, the change in separation rates ranges from 5.7 to 8.4 percentage points. Finally, among married men with employer provided health insurance, estimates of the increase in job separation rates range from 7.2 to 9.1 percentage points.

The point estimates of the difference-in-difference in the separation rates all indicate that the separation rates among parents in our quasi-experimental treatment group increase relative to

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<sup>14</sup> That is to say, we include a set of dummies indicating a household with income that is between 100 and 125 percent of the poverty line, 125 to 150 percent, and so on, covering the full support of this variable among SCHIP eligible households.



those observed for parents in our comparison group. Moreover, in nearly all models, the difference-in-difference estimate exceeds the first-difference estimate for parents without insured spouses. However, the standard errors on the difference-in-difference estimates are fairly large for most comparisons, especially for the most restricted sample with the smaller sample size. Thus, not all of the relative changes in separation rates are statistically significant. Only two of the four estimates for all parents are significant. All of the estimates are significant when the sample is restricted to married men. Finally, none of the difference-in-difference estimates are significant when the sample is restricted to married men with employer-provided health insurance.

Table 7 presents comparable regression-adjusted estimates where the dependent variable is log-wages. The structure of the table is identical to that of Table 6. For both parents with insured spouses and parents without insured spouses, we observe modest increases in wages over the time period studied (that are significant in many specifications). However, we observe no significant relative increases in wages among parents without insured spouses.

## **6. Characterizing the Strength of the Job Lock Effects**

To summarize, the results presented thus far reveal that SCHIP take up rates among SCHIP eligible households differ considerably by the health insurance profiles of the parents in these households. Among parents with an employed and insured spouse, we observe no increase in the proportion of children covered by public benefits. Among parents without an independently insured spouse, we observe a sizable and significant increase in the proportion of children covered. Corresponding to this relative difference in take up rates are relative changes in job separation rates. For parents with no insured spouse, the one-year separation rate

increases substantially. These increases are significant and robust to adjusting for a large number of covariates. We do not observe a comparable change in mobility rates among parents with insured spouses. Regarding wages, we do not observe a relative difference in the changes in log wages over the period bracketing the implementation of SCHIP across these two groups.

The relative difference in take up and relative changes in separation rate indicate that job lock is indeed a significant suppressor of separation rates among near poor families. However, how large are these effects? Furthermore, how do they compare to previous estimates of job lock?

Before discussing the relative size of our estimates, we must discuss an inherent difference in the implicit model underlying our experiment and models underlying previous research on job lock. In previous research, having employer provided health insurance serves as a proxy for the differential valuation of health benefits by employees (relative to employers valuation of the cost of providing such benefits) as well as the transaction costs associated with switching plans when moving between alternative employment opportunities. Thus, the corpus of existing research focuses on estimating the partial correlation coefficient on a dummy indicating having employer provided health insurance in a model of employment mobility. In these models, having health insurance ties one's own coverage as well as the coverage of one's dependents to one's current employment situation. Thus, an employer-provided benefits dummy serves as a proxy for being constrained to one's current employment situation by the need to maintain health insurance for everyone in the household.

In the present exercise, the expansion of public health insurance to near poor families loosens job lock or relaxes the constraint of having one's children's health benefits tied to one's current employment status. In general, the program does not relax the constraint with respect to

one's own health benefits, since only a small group of states extend benefits to the parents of SCHIP eligible children.<sup>15</sup> Thus, the first-difference and difference-in-difference estimates are essentially estimating the effect of relaxing the constraint with respect to an employee's dependents (at least some of the employee's dependents) but not with respect to the employee. One might expect smaller effects on mobility from the current experiment relative to what we would observe if public health insurance benefits were extended to all members of the household.

Another important point to make regarding our job lock estimates is that in two of the three samples that we analyze, not all of the parents without insured spouses have employer provided health benefits. Table 2 indicates that only 69 percent of all parents without insured spouses have employer provided benefits in 1996, with the comparable figure for married men in this category equal to 78 percent. For those without employer provided benefits, the introduction of SCHIP does not relax any constraint with respect to the current employer, since there is no constraint to relax. Thus, the job lock estimates for these groups are akin to estimates of the intent to treat effect of relaxing the constraint with respect to one's children.<sup>16</sup> Of course, when the sample is restricted to those with insurance benefits, the effects provide estimates of the effect of the treatment on the treated.

Table 8 summarizes the size of the job lock estimates. For the three samples analyzed, the table lists the minimum and maximum first difference and difference-in-difference estimates

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<sup>15</sup> In 2001, only Minnesota, New Jersey, Rhode Island, and Wisconsin extended benefits to the parents of SCHIP eligible children.

<sup>16</sup> One might ask why we present estimates for these sub-samples in the first place and why we don't focus exclusively on the comparisons of those with employer provided benefits. Our reasoning for including the first two sample specifications is to be certain that change in the composition of those with employer provided benefits are not driving our results. Table 2 reveals noticeable declines in the fraction of parents with employer benefits, a fact that some might interpret as the crowding out of private benefits by the introduction of SCHIP. The samples that do not first condition on having employer provided benefits should not be affected by these relative changes, and thus the resulting job lock effects are not biased by sample selection.

of the changes in separation rates. The table also displays the size of the job lock effects relative to the base separation rate for parents without insured spouses in 1996. The estimates from the sample of all parents indicate that the introduction of SCHIP increased the one-year separation rate among parents with no alternative source of health insurance by between 16 and 28 percent. The proportional job lock effects are larger when the sample is restricted to married men (ranging between 27 and 75 percent). Finally, for the sample is restricted to married men with employer provided health insurance, the proportional job lock effects range from 48 to 61 percent of the base separation rate for the treatment group in 1996.

Several aspects of these results limit our ability to draw comparisons to the findings from previous research. First, we are not estimating the effect of having employer provided benefits on separation rates, but the effect of relaxing the constraint tying one's children's benefits to one's current employment situation. And as we have noted above, these are qualitatively different models of job lock. Second, the sample of workers studied here come from a specific section of the household income distribution (not in poverty but in general below the median). To the extent that overall mobility and job lock effects vary over the income distribution, these results would not generalize to the general working population. Nonetheless, it is instructive to review the proportion job lock effects from previous research. This allows us to gauge the extent to which the results in Tables 4 through 8 are within the range of previous estimates.

The existing research finds job lock effects ranging from zero to roughly 40 percent. Most of the studies that identify job lock from the interaction between spousal insurance and employer provide health insurance find effects ranging from 20 to 40 percent. For example, Madrian (1994) finds that job lock reduces mobility rates by roughly 25 to 30 percent. Buchmueller and Valleta (1996) find job lock effects of roughly 25 to 30 percent, while

Anderson (1998) finds effects of 20 to 40 percent. Our estimates presented in Table 8 range from roughly 17 to 75 percent. Thus, the range of these results largely overlaps with the range of estimates from previous studies.

## **7. Conclusion**

The findings of this paper are several. First, we identify an important determinant of take up by children for the SCHIP program, having an employed parent without an insured spouse. Specifically, we find little change in the proportion of children covered by public health insurance among the children of employed SCHIP-eligible parents with an independently insured spouse. By contrast, we document a large increase in public coverage among the children of employed parents without an insured spouse. We interpret this difference as reflecting the fact that for working parents without an insured spouse, the SCHIP program relaxes the constraint tying children's coverage to one's current job. For those with an insured spouse, this constraint was not binding in the absence of SCHIP.

Regarding mobility, we find changes in one-year separation rates that parallel these changes in public coverage, suggesting substantial job-lock among certain parents in SCHIP households. We find significant increases in separation rates of approximately 6 percentage points among SCHIP parents without an insured spouse. This first difference is observed for all such parents, for married men, and for married men with employer provided health benefits. We observe no such change for SCHIP parents with insured spouses. For the most part, the relative change is statistically significant. We find little effect of the SCHIP program on wages.

Despite the insignificant effects of the program on wages, the non-wage attributes of the parents in our treatment group may have improved as a result of this greater degree of mobility.

For example, one might observe a relative increase in the proportion of the treatment group working standard hours rather than non-standard hours. Such parents may move towards safer jobs or jobs that offer a better mix of other non-wage benefits such as pension, sick time, or vacation benefits. While we cannot explore these questions with the current data, many of these issues could be explored with various monthly supplements of the Current Population Survey. Given the size of the mobility effects documented here, this provides a potentially fertile area for future research.

In addition, our findings suggest that future efforts to identify job lock may also fruitfully exploit exogenous variation in the factors that constrain one to one's employer created by federal or state policy. To our knowledge, only the present paper and the study by Gruber and Madrian (1994) have examined the effects of policy induced variation in job lock across those with and without alternative sources of coverage. Among studies that exploit variation in health conditions or other predictors of individual valuation of health benefits, none make use of policy variation. However, the proscriptions against the long-term exclusion of coverage for pre-existing conditions introduced in the 1996 Health Insurance Portability and Accountability Act may provide an opportunity to improve on studies exploiting this latter identification strategy.

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**Table 1**  
**Proportion of Parents of SCHIP-Eligible Children Whose Children Have Publicly-  
 Provided Health Insurance**

**Panel A: All Parents**

	1996	2001	$\Delta$ (2001-1996)
Insured spouse	0.070 (0.010)	0.081 (0.013)	0.011 (0.016)
No insured spouse	0.112 (0.007)	0.216 (0.010)	0.104 (0.012) <sup>a</sup>
Diff-in-diff	-	-	0.093 (0.024) <sup>a</sup>

**Panel B: Married Men**

	1996	2001	$\Delta$ (2001-1996)
Insured spouse	0.062 (0.017)	0.075 (0.021)	0.013 (0.026)
No insured spouse	0.102 (0.010)	0.175 (0.014)	0.073 (0.016) <sup>a</sup>
Diff-in-diff	-	-	0.060 (0.037) <sup>c</sup>

**Panel C: Married Men with Employer Provided Health Insurance**

	1996	2001	$\Delta$ (2001-1996)
Insured spouse	0.092 (0.029)	0.101 (0.034)	0.009 (0.044)
No insured spouse	0.066 (0.034)	0.094 (0.013)	0.028 (0.015) <sup>c</sup>
Diff-in-diff	-	-	0.019 (0.044)

Standard errors are in parentheses.

- a. The difference is statistically significant at the one percent level of confidence.
- b. The difference is statistically significant at the five percent level of confidence.
- c. The difference is statistically significant at the ten percent level of confidence.

**Table 2**  
**Proportion of Parents of SCHIP-Eligible Children With Employer Provided Health Insurance**

<b>Panel A: All Parents</b>			
	1996	2001	$\Delta$ (2001-1996)
Insured spouse	0.294 (0.018)	0.347 (0.022)	0.053 (0.028) <sup>c</sup>
No insured spouse	0.685 (0.010)	0.630 (0.012)	-0.054 (0.016) <sup>a</sup>
Diff-in-diff	-	-	-0.108 (0.032) <sup>a</sup>
<b>Panel B: Married Men</b>			
	1996	2001	$\Delta$ (2001-1996)
Insured spouse	0.879 (0.022)	0.884 (0.025)	0.005 (0.033)
No insured spouse	0.780 (0.013)	0.755 (0.016)	-0.026 (0.020)
Diff-in-diff	-	-	-0.031 (0.046)

Standard errors are in parentheses.

- a. The difference is statistically significant at the one percent level of confidence.
- b. The difference is statistically significant at the five percent level of confidence.
- c. The difference is statistically significant at the ten percent level of confidence.

**Table 3**  
**Mean Characteristics of Parents With and Without Spouses that Carry their Own**  
**Employer Provided Health Insurance**

	Insured Spouse	No Insured Spouse	Difference
Female	0.662 (0.014)	0.465 (0.008)	-0.196 (0.016) <sup>a</sup>
Black	0.140 (0.010)	0.157 (0.006)	0.017 (0.012)
Asian	0.032 (0.005)	0.035 (0.003)	0.003 (0.006)
America Indian	0.008 (0.003)	0.015 (0.002)	0.006 (0.004) <sup>c</sup>
Hispanic	0.158 (0.011)	0.190 (0.006)	0.032 (0.013) <sup>b</sup>
Age	35.976 (0.214)	37.002 (0.127)	1.026 (0.258) <sup>a</sup>
Married	1.000 (0.000)	0.681 (0.007)	-0.318 (0.013) <sup>a</sup>
Enrolled in school	0.058 (0.007)	0.062 (0.004)	0.004 (0.008)
Veteran	0.078 (0.008)	0.088 (0.005)	0.010 (0.009)
High school dropout	0.126 (0.009)	0.164 (0.006)	0.038 (0.012) <sup>a</sup>
High school graduate	0.419 (0.014)	0.372 (0.008)	-0.046 (0.016) <sup>a</sup>
Some college no degree	0.201 (0.012)	0.200 (0.006)	-0.001 (0.014)
Associate Degree	0.125 (0.009)	0.135 (0.006)	0.011 (0.011)
Bachelors	0.105 (0.009)	0.094 (0.005)	-0.011 (0.010)
Masters or higher	0.023 (0.004)	0.033 (0.003)	0.010 (0.006) <sup>c</sup>
Union	0.109 (0.009)	0.171 (0.006)	0.062 (0.012) <sup>a</sup>
Log Wages	1.986 (0.021)	2.264 (0.008)	0.278 (0.019) <sup>a</sup>
N	1,110	3,652	-

Standard errors are in parentheses.

- a. The difference is statistically significant at the one percent level of confidence.
- b. The difference is statistically significant at the five percent level of confidence.
- c. The difference is statistically significant at the ten percent level of confidence.

**Table 4**  
**One-Year Separation Rates for Parents of SCHIP-Eligible Children**

**Panel A: All Parents**

	1996	2001	$\Delta$ (2001-1996)
Insured spouse	0.343 (0.019)	0.334 (0.022)	-0.009 (0.028)
No insured spouse	0.256 (0.010)	0.319 (0.011)	0.063 (0.015) <sup>a</sup>
Diff-in-diff	-	-	0.073 (0.031) <sup>b</sup>

**Panel B: Married Men**

	1996	2001	$\Delta$ (2001-1996)
Insured spouse	0.337 (0.032)	0.262 (0.035)	-0.075 (0.047)
No insured spouse	0.211 (0.013)	0.272 (0.016)	0.060 (0.020) <sup>a</sup>
Diff-in-diff	-	-	0.136 (0.049) <sup>a</sup>

**Panel C: Married Men with Employer Provided Health Insurance**

	1996	2001	$\Delta$ (2001-1996)
Insured spouse	0.193 (0.040)	0.190 (0.040)	-0.003 (0.059)
No insured spouse	0.149 (0.013)	0.221 (0.018)	0.072 (0.022) <sup>a</sup>
Diff-in-diff	-	-	0.075 (0.062)

Standard errors are in parentheses.

- a. The difference is statistically significant at the one percent level of confidence.
- b. The difference is statistically significant at the five percent level of confidence.
- c. The difference is statistically significant at the ten percent level of confidence.

**Table 5**  
**Average Log Wages for Parents of SCHIP-Eligible Children**

**Panel A: All Parents**

	1996	2001	$\Delta$ (2001-1996)
Insured spouse	1.941 (0.031)	2.040 (0.026)	0.098 (0.041) <sup>b</sup>
No insured spouse	2.245 (0.012)	2.285 (0.012)	0.040 (0.016) <sup>b</sup>
Diff-in-diff			-0.058 (0.038)

**Panel B: Married Men**

	1996	2001	$\Delta$ (2001-1996)
Insured spouse	2.122 (0.055)	2.198 (0.039)	0.076 (0.069)
No insured spouse	2.404 (0.014)	2.435 (0.015)	0.030 (0.021)
Diff-in-diff	-	-	-0.046 (0.056)

**Panel C: Married Men with Employer Provided Health Insurance**

	1996	2001	$\Delta$ (2001-1996)
Insured spouse	2.273 (0.031)	2.321 (0.046)	0.048 (0.054)
No insured spouse	2.467 (0.015)	2.507 (0.017)	0.040 (0.022) <sup>c</sup>
Diff-in-diff	-	-	-0.008 (0.063)

Standard errors are in parentheses.

- a. The difference is statistically significant at the one percent level of confidence.
- b. The difference is statistically significant at the five percent level of confidence.
- c. The difference is statistically significant at the ten percent level of confidence.

**Table 6**  
**Regression Adjusted Estimates of the First Difference (2001 minus 1996) and Difference-in-Difference in the One-Year Separation Rate**

<b>Panel A: All Parents</b>			
	$\Delta_{1996 \text{ to } 2001}$ , With an Insured Spouse	$\Delta_{1996 \text{ to } 2001}$ , Without an Insured Spouse	Difference-in-difference
Specification (1)	-0.009 (0.028)	0.063 (0.014) <sup>a</sup>	0.073 (0.031) <sup>b</sup>
Specification (2)	0.003 (0.028)	0.045 (0.014) <sup>a</sup>	0.048 (0.030)
Specification (3)	0.009 (0.029)	0.049 (0.015) <sup>a</sup>	0.053 (0.031) <sup>c</sup>
Specification (4)	0.042 (0.031)	0.065 (0.015) <sup>a</sup>	0.042 (0.032)
<b>Panel B: Married Men</b>			
	$\Delta_{1996 \text{ to } 2001}$ , With an Insured Spouse	$\Delta_{1996 \text{ to } 2001}$ , Without an Insured Spouse	Difference-in-difference
Specification (1)	-0.074 (0.047)	0.060 (0.020) <sup>a</sup>	0.135 (0.049) <sup>a</sup>
Specification (2)	-0.105 (0.049) <sup>b</sup>	0.057 (0.020) <sup>a</sup>	0.142 (0.049) <sup>a</sup>
Specification (3)	-0.093 (0.055) <sup>c</sup>	0.065 (0.022) <sup>a</sup>	0.155 (0.049) <sup>a</sup>
Specification (4)	-0.089 (0.059)	0.084 (0.021) <sup>a</sup>	0.158 (0.051) <sup>a</sup>
<b>Panel C: Married Men with Employer Provided Health Insurance</b>			
	$\Delta_{1996 \text{ to } 2001}$ , With an Insured Spouse	$\Delta_{1996 \text{ to } 2001}$ , Without an Insured Spouse	Difference-in-difference
Specification (1)	-0.004 (0.059)	0.072 (0.022) <sup>a</sup>	0.075 (0.062)
Specification (2)	-0.033 (0.069)	0.073 (0.022) <sup>a</sup>	0.085 (0.062)
Specification (3)	-0.047 (0.090)	0.080 (0.022) <sup>a</sup>	0.082 (0.064)
Specification (4)	-0.025 (0.093)	0.091 (0.022) <sup>a</sup>	0.089 (0.064)

Standard errors are in parentheses. Specification (1) is the raw difference with no controls. Specification (2) adds all of the control variables listed in Table 4 with the exception of wages, plus twelve industry dummies and six occupation dummies. Age is entered as a third order polynomial. Specification (3) adds a full set of state fixed effects and a complete set of dummy variables for income relative to the poverty line (measured in 25 percentage point blocks). Specification (4) adds log wages. For the difference-in-difference estimates, all specifications include a dummy variable for not having an insured spouse along with an interaction term between this variable and the 2001 year dummy. In this model, the effects of the explanatory variables are constrained to be constant across the two groups.

- a. The difference is statistically significant at the one percent level of confidence.
- b. The difference is statistically significant at the five percent level of confidence.
- c. The difference is statistically significant at the ten percent level of confidence.

**Table 7**  
**Regression Adjusted Estimates of the First Difference (2001 minus 1996) and Difference-in-Difference in Log Wages**

<b>Panel A: All Parents</b>			
	$\Delta_{1996 \text{ to } 2001}$ , With an Insured Spouse	$\Delta_{1996 \text{ to } 2001}$ , Without an Insured Spouse	Difference-in-difference
Specification (1)	0.098 (0.041) <sup>b</sup>	0.040 (0.016) <sup>b</sup>	-0.058 (0.038)
Specification (2)	0.084 (0.037) <sup>b</sup>	0.077 (0.015) <sup>a</sup>	-0.014 (0.035)
Specification (3)	0.084 (0.037) <sup>b</sup>	0.082 (0.014) <sup>a</sup>	-0.016 (0.033)
<b>Panel B: Married Men</b>			
	$\Delta_{1996 \text{ to } 2001}$ , With an Insured Spouse	$\Delta_{1996 \text{ to } 2001}$ , Without an Insured Spouse	Difference-in-difference
Specification (1)	0.076 (0.069)	0.031 (0.021)	-0.045 (0.056)
Specification (2)	0.023 (0.058)	0.063 (0.019) <sup>a</sup>	0.006 (0.053)
Specification (3)	0.054 (0.058)	0.068 (0.018) <sup>a</sup>	-0.008 (0.048)
<b>Panel C: Married Men with Employer Provided Health Insurance</b>			
	$\Delta_{1996 \text{ to } 2001}$ , With an Insured Spouse	$\Delta_{1996 \text{ to } 2001}$ , Without an Insured Spouse	Difference-in-difference
Specification (1)	0.048 (0.054)	0.040 (0.022) <sup>c</sup>	-0.008 (0.064)
Specification (2)	-0.005 (0.059)	0.063 (0.021) <sup>a</sup>	0.056 (0.061)
Specification (3)	0.062 (0.069)	0.068 (0.019) <sup>a</sup>	0.048 (0.055)

Standard errors are in parentheses. Specification (1) is the raw difference with no controls. Specification (2) adds all of the control variables listed in Table 4 with the exception of wages, plus twelve industry dummies and six occupation dummies. Age is entered as a third order polynomial. Specification (3) adds a full set of state fixed effects and a complete set of dummy variables for income relative to the poverty line (measured in 25 percentage point blocks). For the difference-in-difference estimates, all specifications include a dummy variable for not having an insured spouse along with an interaction term between this variable and the 2001 year dummy. In this model, the effects of the explanatory variables are constrained to be constant across the two groups.

- a. The difference is statistically significant at the one percent level of confidence.
- b. The difference is statistically significant at the five percent level of confidence.
- c. The difference is statistically significant at the ten percent level of confidence.

**Table 8**  
**Job Lock Effects Implied by the First Difference and Difference-in-Difference of the One-Year Separation Rate**

**Panel A: All Parents**

	$\Delta_{1996 \text{ to } 2001}$ , Without an Insured Spouse		Difference-in-Difference	
	Minimum Estimate	Maximum Estimate	Minimum Estimate	Maximum Estimate
Coefficient estimate	0.045	0.065	0.042	0.073
Percentage increase relative to base <sup>a</sup>	17.57%	25.39%	16.41%	28.51%

**Panel B: Married Men**

	$\Delta_{1996 \text{ to } 2001}$ , Without an Insured Spouse		Difference-in-Difference	
	Minimum Estimate	Maximum Estimate	Minimum Estimate	Maximum Estimate
Coefficient estimate	0.057	0.084	0.135	0.158
Percentage increase relative to base <sup>a</sup>	27.01%	39.8%	63.98%	74.88%

**Panel C: Married Men with Employer Provided Health Insurance**

	$\Delta_{1996 \text{ to } 2001}$ , Without an Insured Spouse		Difference-in-Difference	
	Minimum Estimate	Maximum Estimate	Minimum Estimate	Maximum Estimate
Coefficient estimate	0.072	0.091	0.075	0.089
Percentage increase relative to base <sup>a</sup>	48.32%	61.07%	50.34%	59.73%

- a. The percentage effects are calculated relative to the group-specific 1996 one-year separation rate.