Family Health Benefits and Worker Turnover

by

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I thank Susan Black and Mike Clark for research assistance. Paul Anglin, Michael Baye, William Custer, Daniel Hamermesh, and seminar participants at the University of Kentucky and the W.E. Upjohn Conference on Employee Benefits, Labor Costs, and Labor Markets in Canada and the United States for useful comments. The W.E. Upjohn Institute for Employment Research and the National Institutes for Health provided research support.

This paper is to appear in W.E. Upjohn Institute volume entitled *Employee Benefits, Labor Cost, and Labor Markets in Canada and the U.S*

March 1995

Abstract

In this paper, I examine the impact of employer-provided health benefits on job turnover. Because many employer-provided plans extend coverage to a worker's entire family, the value of an employer's employment offer to a worker depends on whether the worker's spouse provides the family with health benefits. If a worker's spouse has an employer-provided health insurance for their family, the worker will value employment offers with and without health insurance benefits differently than a worker whose spouse does not have employer-provided health benefits. Importantly, this distortion arises from the reliance on employer-provided benefits and is independent of any pre-existing conditions clauses or issues concerning the portability of health plans. The estimates suggest that spouse-provided benefits substantially increase the likelihood of turnover.

I. Introduction

One of the major differences between the U.S. and Canada labor markets lies in their treatment of health benefits. While Canada relies on government provision of health care, in the U.S. employers provide health insurance to most of the employed, and the government's role is primarily to provide health insurance to those over 64 years of age through the Medicare system and to the poor through the Medicaid system. Despite the recent calls for health care reform in the U.S., the reliance on employer-provided benefits appears to be a feature of the U.S. system for some time to come. The Clinton health care proposal of 1994 and the numerous Congressional alternatives rely on employer-provided health benefits.

In this paper, I examine the impact of employer-provided health benefits on job turnover. I focus on a peculiar aspect of employer-provided health benefits: because many employer-provided plans extend coverage to a worker's entire family, the value of an employer's employment offer to a worker depends on whether the worker's spouse provides the family with health benefits. If a worker's spouse has employer-provided health insurance for their family, the worker will value employment offers with and without health insurance benefits differently than a worker whose spouse does not have employer-provided health benefits. Importantly, this distortion arises from the reliance on employer-provided benefits and is independent of any pre-existing conditions clauses or issues concerning the portability of health plans. As I show in Section IV, this is potentially a large distortion. According to the April 1993 Supplement of CPS, among full-time workers at least 23% of the women and 12% of the men have coverage from their spouse.

II. Review of the Literature

There is no obvious reason why employers should provide health benefits. While health insurance is less expensive in groups, there is no particular reason the groups should be based on place of employment. Indeed, the initial growth in employer-provided health was the result of firms offering health insurance to their workers during World War II to avoid wage controls. As Long and Scott (1982) and Woodbury (1983) emphasize, the U.S. tax codes provide the major impetus for the employer provision of health and other benefits. The magnitudes of the tax savings are surprising. Consider a university in the Commonwealth of Kentucky that offers an insurance policy whose market value is $131 a month to a college professor who is in the 28% marginal tax rate for the federal income tax (family income is between

$36,900 and $89,150 for married couples filing jointly). How much would it cost to increase the professor's after tax income by $131 in 1993? Assuming the professor's wages are not over the social security cap of $57,600 and taking into account Kentucky's 6% state income tax and the deductibility of state income taxes from the federal tax bill, the university would have to pay over $250.

As a result of the substantial tax savings associated with the exemption of health benefits from federal and state taxation, employers have become the major providers of health benefits in the U.S. The tax expenditures for the tax deductibility of employer health care premiums now exceed tax expenditures on the home mortgage deduction.[1]

Economists have long recognized that the association of fringe benefits and the employment relationship may affect that relationship. Lazear (1979, 1981) argues that firms use defined benefit pensions to defer compensation in jobs with agency problems or in jobs with large investments in specific human capital. In jobs with agency problems, the deferred compensation deters the worker from shirking, while in jobs with specific human capital, the deferred compensation reduces job turnover.[2] Thus, employers in the U.S. may use their pension plans to improve the efficiency of labor contracts, an option that many Canadian employers do not have. Lazear and the literature that his papers generate (e.g., Ippolito, 1985, Hutchens, 1987, and Dorsey, 1987) recognize that deferred compensation is not without its costs and may have to be implemented with other policies such as restrictions on hours and mandatory retirement to mitigate those costs.[3]

Firms are not, however, perfectly able to tailor the parameters of their pension plans to meet contracting needs of an individual employee. As Scott, Berger, and Black (1989) and Scott, Berger, and Garen (forthcoming) emphasize, the Internal Revenue Service (IRS) of the U.S. government requires firms to offer fringe benefits in a manner that does not discriminate against the firm's low-wage employees. If the

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[1] *Statistical Abstract of the United State, 1993*, Table 515. The tax expenditure on employer-provided pension plans is the largest single tax expenditure ($70.5 billion), followed by employer contributions to health insurance ($63.2 billion) and the mortgage interest deduction ($48.1 billion).

[2] See Allen, Clark, and McDermed (1993) and Luzadis and Mitchell (1991) for recent evidence.

[3] The U.S. government no longer allows firms to use mandatory retirement provisions.

firm wishes to offer an executive a defined benefit pension plan that defers compensation, the firm must offer her secretary a similar plan. Thus, firms are not able to structure fringe benefit packages to match perfectly the optimal contract for each employee.

The requirement that fringe benefits be offered in a nondiscriminatory manner has a special bite in the provision of health benefits.[4] While firms may tie pension benefits to the earnings of the worker, the firm must offer all full-time workers the same health benefits, which has the predictable consequence that high-wage firms will avoid hiring low-wage workers (Scott, Berger, and Black, 1989). Madrian (1994) identifies another possible distortion that employer-provided health benefits create: the possibility that workers will be locked into their jobs because they or family members have pre-existing conditions and would lose their medical coverage if they changed employers. Using the 1987 National Medical Expenditure Survey, she estimates that job lock reduces voluntary job turnover by 25% compared to a system of perfectly portable health insurance. Madrian's results are controversial. Holtz-Eakin (1994) found no evidence of job lock.[5] If her results are correct, however, Madrian has identified a potentially important distortion in the U.S. labor market that employer-provided health insurance creates. Obviously, in Canada with perfectly portable health insurance, labor markets are free from such distortions.

Madrian argues that job lock arises from coverage gaps that pre-existing conditions clauses and length-of-service provisions create. If a worker must wait, say, for six months before being covered by a new employer's plan, then the worker may choose not to switch employers. Because this coverage gap is unrelated to the efficient allocation of labor, such a reduction in mobility is inefficient. She suggests that eliminating pre-existing condition clauses and increasing the portability of health insurance would largely eliminate the inefficient reduction in job turnover. In the next section, I offer a theoretical model that

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[4] Hutchens (1986) presents evidence that pensions, when coupled with the nondiscriminatory provision of the IRS codes, causes firms not to hire older workers. Scott, Berger, and Garen (forthcoming) argue that health benefits may dissuade firms from hiring older workers as well.

[5] Monheit and Cooper (1994), who also use the National Medical Expenditure Survey, find evidence of job lock using a much different methodology than Madrian. Using SIPP data, Gruber and Madrian (1994) find evidence that the 1985 COBRA legislation that allows workers to buy insurance from past employers as well as earlier state legislation that also allowed limited portability increased labor turnover and substantially mitigated job lock.

challenges this suggestion. I show that when dual earning couples consider employment offers, the value that they place on a job offer will depend on whether their spouse's health plan also covers them. As I demonstrate in the next section, this difference in valuation may explain the turnover pattern that Madrian uncovered.

III. Job Search with the Potential for Double Coverage of Health Benefits

In this section, I construct a simple model to examine the impact of the double coverage of health benefits on labor turnover. To abstract from other issues, I will assume that there are no pre-existing conditions provisions and no length-of-service provisions. If a worker finds employment at an alternative employer who is offering health insurance, the coverage begins immediately.

To begin, first consider a worker who has no spouse. The worker is currently employed at a firm paying wage w_0 and a health plan indexed by the value h_0. I assume that all health plans may be indexed by a single value, h, and that workers always strictly prefer plans with a greater h. Workers without health coverage have a plan with the value of $h_0 = 0$. Let the worker have a utility function u(·) that depends on the level of wages, w_0, and the level of health benefits, h_0, or

$$V^0 = u(w_0, h_0). \tag{1}$$

The value of current employment, V^0, forms the reservation utility for all subsequent employment offers. The worker has worked for the current employer for one period and will work at most one additional period for the employer. In Figure 1, I depict an indifference curve for the worker's utility function, which I depict as a convex function. If firms could individually tailor their fringe benefit package to the needs of a worker, the worker would simply pick the amount of health benefits he desires. If the worker had adequate coverage from another source, he could simply elect to take all compensation as wages. Unfortunately, IRS regulations preclude such a design.

Before beginning employment in the second period, the worker entertains employment offers from other employers, which I assume are exogenously determined. The worker's utility in the second period is

$$V = \max\{u(w_a, h_a), V^0\}, \tag{2}$$

where $u(w_a,h_a)$ is the utility associated with the best alternative offer. In equation (2), the set of acceptable offers is simply all combinations of (w,h) that are above the indifference curve V^0 depicted in Figure 1. The probability that a worker leaves his current employer, therefore, depends on the joint distribution of wages and health benefits offered.

Now consider a worker with a spouse. Let h_s denote the value of the worker's coverage under his spouse's health plan. If the worker has no such coverage, then $h_s=0$. The worker's utility from employment in the first period is

$$V^0 = u(w_0, \max[h_0, h_s]). \tag{3}$$

Again, before beginning employment in the second period, the worker entertains offers from alternative employers. The utility from second period employment is

$$V = \max\{u(w_a, \max[h_a, h_s]), V^0\}. \tag{4}$$

The value of the right-hand side of equation (3) and (4) depends on the value of h_s. Spouse-provided health care benefits, therefore, alter the value of current employment and thus alter the value of alternative offers.

Figure 2 illustrates how the coverage by a spouse's plan affects the worker's job mobility decision. In Panel A, I consider the case where $h_s< h_0$, or the worker's own plan is more generous than his spouse's plan. The indifference curve V^0 denotes a worker's indifference curve if $h_s=0$, with the point (w_0,h_0) denoting the worker's current contract. From equation (3), clearly spouse-provided coverage ($h_0>h_s>0$) does not alter the value of current employment, but it may affect the value of alternative offers. To see why, consider the point (w_s,h_s), where w_s is implicitly defined as

$$V^0 = u(w_s, h_s). \tag{5}$$

The wage w_s leaves the worker indifferent to his current position and the job offering w_s and consuming his spouse's health insurance. Any job that pays a wage greater than w_s will be strictly preferred to his current position. Thus, the area under the indifference curve V^0 and above the wage w_s, which I denote as A in Panel A, becomes a part of the set of acceptable offers. Spouse-provided coverage, therefore, unambiguously increases the likelihood of turnover whenever $h_s<h_0$. Unlike the analysis of Madrian, this result does not depend on the lack of portability of benefits but is the direct result of the increase in the acceptable offer set that double coverage provides.

In Panel B, I consider the case in which $h_s>h_0$, where the spouse's benefits are more generous than the worker's own. Again, the indifference curve V^0 corresponds to the worker without coverage by his spouse's benefits, or $h_s = 0$. When a worker's spouse provides access to more generous benefits, the worker's utility increases. The indifference curve $V^{0'}$ depicts the worker's indifference curve when $h_s>h_o$. In comparing the values of current employment of workers with and without spouse-provided coverage, there are two regions of interest. First, the area under the indifference curve $V^{0'}$ and above V^0, which I denote as region B in Panel B, represents offers that would be acceptable to workers without spouse-provided coverage but that are not acceptable to workers with spouse-provided coverage. Thus, one effect of spouse-provided coverage, when $h_s>h_0$, is to reduce this portion of the acceptable offer set. The second region of interest, however, offsets this result. The region that lies above w_0 and below the indifference curve V^0, which I denote as region C in Panel B, represents an area of offers that are acceptable to the workers with spouse-provided coverage but are unacceptable to workers without spouse-provided coverage. As the worker does not use his own health benefits, any job that offers a wage greater than w_0 is strictly preferred to his current situation regardless of the level of health benefits associated with the job. For worker's with $h_s>h_0$, therefore, spouse-provided coverage has an ambiguous impact on turnover probabilities.

My analysis has abstracted from the search decision of the worker's spouse. When allowing for joint search decisions, the worker's valuation of his current job and alternative offers depends not only on his spouse's current position but also her best alternative offer. While the impact of the spouse-provided coverage on a worker's turnover probabilities is ambiguous, the impact on efficiency is unambiguous.

Having a worker's valuation of an employment offer depend on his spouse's health insurance plan, only limits the efficient allocation of labor.[6]

Of course, my analysis has not considered the possible responses of firms. One obvious response to double coverage is to offer employees the ability to select other benefits or cash in the place of health care benefits. The Revenue Act of 1978 permitted establishment of such cafeteria plans. The economic rational for offering such plans is obvious: by allowing employees who already have other sources of coverage to select from other benefits or cash payments, firms may reduce their turnover.

Another way in which firms may counter the problem of dual coverage is to attempt to specialize in the hiring of workers of one type of coverage or another. For instance, a firm may seek to hire only workers with access to alternative forms of health care coverage by offering jobs with higher wages and no health benefits. Another firm may seek to specialize in the hiring of workers who wish to provide coverage to their entire family by offering low wages but a generous health plan with family coverage. See Dye and Antle (1984) for a model of such a separating equilibrium applied to fringe benefits.

In the next section, I provide an overview of employer-provided health benefits in the U.S. with data from the April 1993 Supplement to the CPS. I demonstrate that neither the use of cafeteria plans nor sorting strategies on the part of firms have solved the problem of double coverage. I show that a significant portion of the population has double coverage, that a surprising number of people turn down coverage, and that among those that turn down coverage, most do so without explicit compensation.

IV. Coverage, Double Coverage, and Refusal of Employer-Provided Health Benefits

In this section, I present an overview of employer-provided health benefits from the April 1993 Supplement to the CPS. The supplement provides detailed information about employee benefits. I limit my sample to workers between the ages of 18 and 64 for all the tables. In addition, I report most statistics for

[6] My analysis ignores many other issues that concern most search models. To name but a couple, I have not considered the distinction between unemployed and on-the-job search, nor have I considered the intensity at which workers attempt to generate new offers. Given the underlying ambiguity about the impact of double coverage on the worker's turnover decisions, these extensions would not appear too useful. Perhaps more important, for simplicity, I do not consider the joint search problem of a wife and husband. In a model with such a joint search decision, a worker may refuse a job with a higher wage and more health benefits if it will allow his spouse to take a sufficiently attractive offer.

full-time workers, which I define to be those who usually work at least 35 hours a week and those who work at least 47 weeks a year.

In Table 1, I present means for health insurance coverage and employer-provided coverage for full-time workers broken out by gender. Nearly 90% of the male workers and 90% of the female workers have health insurance from some source. For female workers, 88.0% report that they are at a firm that offers health insurance to at least some workers at the firm, and 88.5% of males respond similarly. Firms can place some restrictions on who may qualify for insurance. Often times, temporary, part-time, or leased employees may not be eligible for health benefits. Also, many firms require length-of- service requirements that a worker must complete before they qualify for health benefits. To see who is and is not eligible for health benefits, I identify workers as eligible for health benefits if they report that their firm offers health insurance to some of its workers and either report that they receive those benefits or explicitly state that they declined those benefits. Using this definition, 83.7% of female workers and 85.0% of male workers report that they are eligible for benefits.

Looking at the coverage rate of employer-provided health plans, 79.5% of all men but only 72.5% of women report that they have employer-provided health benefits. Thus, gender differences in wage understate the true compensation difference. 18.2% of women and 10.1% of men do not receive health insurance from their employers, but do receive it from another source. The differentials between the eligibility rates and the coverage rates suggest that many workers refuse health insurance coverage, and, indeed, 11.2% of all women and 5.6% of all men decline coverage from their employers.[7] Among full-time workers, 22.0% of all women and 10.7% of all men report that they have health insurance under their spouse's plan.[8]

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[7] Not all workers decline extra coverage. 12.1% of all women and 8.7% of all men in the sample of full-time workers report that they have coverage from at least two sources.

[8] This estimate of 10.7% differs considerably from Madrian's estimate of 33.5% using the National Medical Expenditure Survey, although it is conditional on being married. Of course, our two samples differ considerably because I am requiring males to be full-time, full-year workers to be in the sample. As a consistency check on the data, I matched the husbands and wives in the April Supplement. Among married males, 15.1% report that their spouse's plan covers them. 30.8% of spouses of these men, however, report that they chose a family health insurance plan, which is clearly closer to Madrain's estimate of 33.5. It is

The CPS Supplement also gives us an opportunity to examine another issue: the health insurance coverage of the self-employed. Folklore suggests that the spouses of the self-employed provide the health coverage for the family. In Table 2, I examine this issue by comparing the rate at which the spouses of the self-employed provide health insurance to their spouses compared to the rate at which the spouses of wage and salary workers provided health insurance to their spouses. In Panel A, we see no evidence for this folklore. The husbands' provision of health insurance to their wives is independent of their wives' self-employment status, which is surprising. In contrast, from Panel B we see that wives are more likely to provide self-employed husbands with health insurance than are wives of wage and salary workers. Women with self-employed spouses are 2/3 more likely to provide their husbands with health insurance than are women whose spouses are not self-employed.

The model I presented in the previous section suggests that employees whose spouses also have employer-provided coverage may value job offers differently than employees whose spouses do not have such coverage. For dual coverage to have an important effect on labor market transitions, however, there must be a sizable portion of the working population that may have double coverage. To determine what fraction of dual earning couples have dual health coverage, I matched husbands' and wives' responses to the April Supplement for those households in which both members are full-time, full-year workers. In Table 3, I present evidence about the possibility of double coverage. For males, 80.3% of the men from dual earning households are eligible for health insurance from their employers and their spouses are also eligible for family benefits. Thus, over 80% of these males could be covered by their wife's plan, and 38.5% of these men have wives who elect to provide family benefits. Similar stories arise for men whose employers offer family coverage. 80.6% of men who are eligible for family coverage have wives whose employers offer family plans. Interestingly, 38.0% of men from dual earning households who are eligible for family health plans have wives who provide family health plans, which represents a sizable segment of the married, dual earning families. Workers with spouses that have their own employer-provided health benefits may value

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important to keep in mind, however, that offering a family plan does not imply that this coverage is free. Employers may charge the employee some or all of the additional costs for obtaining family coverage.

family health benefits differently than workers whose spouses do not have employer-provided health benefits. 84.9% of these male workers have spouses who are eligible for employer-provided health benefits, and 62.4% have spouses who receive employer-provided health benefits.

In Panel B of Table 3, I report similar statistics for full-time female employees. 84.6% of women in dual earning households who are offered health insurance have spouses who are eligible for family plans, and 58.6% have spouses who provide family health benefits. Thus, women are more likely to have access to health benefits from multiple sources than are men. Of women who are eligible to provide family health benefits, 84.9% of their spouses are eligible for family health benefits and 58.0% provide such benefits. Finally, of women in dual earning households who are eligible for family health benefits, 87.7% are married to men who are eligible for health benefits and 76.5 are married to men who have employer-provided benefits.

When employers only partially pay for health benefits, employees have an incentive not to accept health benefits when they receive coverage from their spouses' plans. The refusal of health benefits is not uncommon; from Table 1, 11.2% of all female workers and 5.6% of all male workers decline employer-provided health benefits. In Table 4, I examine the incidence of a worker from a dual earning household refusing employer-provided health benefits by whether or not the worker's spouse is eligible for family health benefits. From Panel A, 3.1 % of male workers whose spouses are not eligible for family health benefits refuse coverage, but 12.9% of workers whose spouses are eligible for family health benefits refuse coverage. Thus, among men, workers who have spouses who are eligible for family health coverage are over 4 times more likely to refuse employer-provided health benefits than are men whose wives are not eligible for family health benefits. From Panel B, the impact for females is even more dramatic. Only 4.1% of women whose spouses are not eligible for family health benefits refuse employer-provided benefits, but 26.7% of women whose spouses are eligible for family health benefits refuse employer-provided benefits. Thus, women whose husbands have access to family health benefits are 6 times more likely to refuse health benefits than women whose husbands do not have access to family health benefits.

When husband and wife search for employment and employers offer health insurance coverage for the whole family, my theory predicts that the husband's and wife's health care coverage decision should be

negatively correlated. Thus, controlling for other factors that affect the demand for health insurance coverage, we should see the likelihood of a worker choosing employer-provided health insurance declining when his spouse has selected employer-provided health insurance. To test this hypothesis, I estimate a bivariate probit model that allows for correlation between the husband's and wife's decisions. I limit the sample to couples where both are full-time, full-year workers.[9] For covariates, I use a vector of race dummies (whites are the excluded category), a vector of education variables (high school graduates are the excluded category), the number of children in the household less than 18 years old, a quadratic in the worker's age, a quadratic in the worker's tenure at the firm, and a dummy variable indicating that the worker's tenure is less than a year. The method of estimation is full information, maximum likelihood. The starting values were taken from probits on the individual equations, and the starting value for the correlation coefficient, ρ, is zero.

In Table 5, I present the result of the estimations. The estimated coefficients on the covariates provide few surprises. Workers of both genders have strong tenure affects. It seems unlikely that length-of-service requirements would account for the strong tenure-health benefits relationship so the strong relationship may simply reflect the fact that matches that offer health benefits tend to survive while those that do not offer health insurance do not survive, a point that Mortensen (1989) and Garen (1988) make in examining the wage-tenure relationship. Workers with at least a BA degree are more likely to have health insurance than less educated workers. For women, a larger number of children reduces the likelihood of having employer-provided health insurance, while for men the relationship is not statistically significant. Interestingly, hispanic wives are more likely but hispanic husbands are less likely to have employer-provided health insurance than similar whites. Similarly, black wives are more likely to have employer-provided health insurance than are white wives.

Controlling for the worker's own characteristics, there is a strong, negative correlation between husbands' and wives' health care decisions. The estimated correlation coefficient is -0.35 and the z-statistic

[9] Olson (199?) in this volume looks at the labor supply decision and how it may be affected by the spouse's health insurance coverage.

is -9.03. Thus, the data overwhelmingly reject the hypothesis that the health care decisions of dual earning couples are independent and accept the hypothesis, which my theory implies, that the decisions are negatively correlated. Husbands and wives appear to coordinate their search activities, presumably looking for other forms of compensation when their spouse provides health benefits. Thus, within households, there is some evidence that workers do indeed trade off health benefits for other forms of compensation.

V. Does Spouse-Provided Health Insurance Affect Turnover Probabilities?

The analysis in Section III suggests that coverage under a spouse's health insurance plan alters the worker's likelihood of accepting an offer. If the spouse's plan is less generous than the worker's own health insurance plan, then coverage by the spouse unambiguously increases the likelihood that a worker will accept another offer. In equilibrium, therefore, we should see such workers more likely to change jobs than workers without spouse-provided coverage. When the spouse's plan is more generous than the worker's own plan, there is an ambiguity, but it remains possible that spouse-provided coverage would result in higher turnover rates.

Unfortunately, the CPS is a less than ideal data set to use to examine job transitions. Because the CPS is a short panel and provides few details about a worker's employers, it is often impossible to spot job-to-job transitions. In the April 1993 Supplement, however, workers are asked directly if they have less than one year tenure, and answers to this question allow me to identify those individual's who have changed jobs in the last year. It is not possible, however to determine whether the transition was a result of a quit, a layoff, or a dismissal.

The CPS provides only workers' current health insurance and not their coverage at the time of their job transitions, which causes a potentially serious problem. If workers who have recently had an involuntary job transition (layoff or dismissal) are likely to enroll in their spouse's health care plan, then there is a correlation between current health care coverage under a spouse's plan and turnover that is unrelated to any search story. In addition, the CPS provides no information about the generosity of workers' health care plans nor of their spouses' plans. As the generosity of the two plans affects the likelihood of turnover in my model, this data limitation is particularly serious. Finally, the CPS provides no information about tenure on the previous job. As virtually all research has found that hazard functions for

employment spells exhibit duration dependence (e.g., Farber, 1994), the failure to include tenure in a turnover equation may cause a specification bias.[10]

With these caveats in mind, I can examine the relationship between job transitions and health insurance coverage provided by a workers' spouse with the equation:

$$\Pr(\textit{job change}) = F\left(X_i\beta + S_i\delta + u_i\right), \tag{6}$$

where X_i is a vector of controls, β is the corresponding vector of parameters, S_i is an indicator variable that is equal to one if the worker is covered by his spouse's plan and zero otherwise, δ is the corresponding parameter, u_i is the error term that I assume is identically and independently logistically distributed, and $F(\cdot)$ is a cumulative logistic distribution function.

Because males and females may have much different patterns of turnover, I run separate equations for male and female workers. In addition to controls for whether or not the spouse is employed or self-employed, I use the same control variables as those I use in Table 5, except of course I use no controls for tenure. In columns (1) of Table 6 and 7, I present the estimates for equation (6) for male and female workers. I limit my sample to workers who are married, full-time, full-year workers who have at least two years of potential experience, where potential experience is defined to be age minus years of schooling minus six. This restriction should exclude most school-to-work transitions, which presumably occur regardless of the spouse's provision of health benefits.[11]

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[10] The CPS is not the only data set that suffers from these limitations. To my knowledge, no data set with good labor market information provides detailed analysis of health insurance benefits. As Madrian (1994) notes, the National Medical Expenditure data lack measures of worker tenure; workers' insurance coverage can only be determined at two points in time, 7 to 15 months apart, and not at the time of job transition. As she notes, there are similar problems with the use of the PSID and NLSY. I am currently working with my colleagues Mark Berger and Frank Scott to use the SIPP data set to examine the impact of insurance coverage on worker turnover. While the SIPP does contain continuous information on health insurance coverage, it does not contain information about the generosity of workers' health care plans nor of their spouses' plans.

[11] I am grateful to Daniel Hamermesh for this suggestion.

A common feature of the results from both samples is that having an employed spouse substantially reduces the likelihood workers change jobs. (This result remains regardless of whether I control for coverage by the spouse's health insurance plan.) Spouse-provided coverage has a large impact on the likelihood of turnover for male workers; evaluated at the mean, spouse-provided coverage increases the likelihood of a male worker changing jobs from about 0.10 to 0.16.[12] For females, the impact is smaller, but is still large; evaluated at the mean, spouse-provided coverage increases the likelihood of a female worker changing jobs from about 0.10 to 0.14.

My estimates for males are somewhat higher than those of Madrian (1994), who found that not having other health insurance coverage lowered male job transitions by about 26%.[13] Importantly, Madrian is able to control for whether the job transition was voluntary, and I am unable to do so.[14] To guard against the possibility that spouse-provided coverage is somehow indicative of an involuntary transition from the last job, I re-estimate the equation limiting my sample to those workers who report that they are eligible for employer-provided health insurance. For this sample, workers who made job transitions at least have the option of taking their employer-provided plan. While clearly this does not preclude a worker from having been laid-off or dismissed from his past position, this does eliminate any workers who have spouse-provided benefits because they have no alternative source of health care. With this sample restriction, the coefficients on the spouse-provided coverage are reasonably stable. Evaluated at the means, spouse-

[12] Recall that in logit models the change in the probability of the dependent variable equals one for a change in the jth independent variable is, for the ith worker,

$$\partial p_i / x_i = p_i(1-p_i)\beta_j$$

[13] In her specification, Madrian includes health care coverage from any source, not simply spouse-provided coverage. As sources of coverage other than the worker's spouse include Medicaid and Champus, I was afraid that these individuals may be different from the population as a whole. For this reason, I use dual coverage arising from some source other than a spouse as a separate variable.

[14] It is by no means obvious that we should exclude involuntary transitions. If spouse provision of employer-provided allows workers to accept jobs in riskier occupation, higher involuntary turnover rates may be an outcome of spouse-provided health benefits.

provided coverage increases the likelihood of a male worker changing jobs from 0.07 to 0.11 and the likelihood of a female worker changing jobs from 0.07 to 0.12.[15]

Thus, the CPS data seem to support the conclusion that spouse-provided coverage does encourage job transitions, and the results are largely consistent with those of Madrian (1994) for workers with dual coverage. Her interpretation, however, is that workers without dual coverage are possibly "locked-out" of jobs that offer insurance with pre-existing-conditions clauses or length-of-service requirements. Health care reform that eliminates pre-existing-conditions clauses and length-of-service requirements and requires employers to offer health insurance would virtually eliminate job-lock. Unless the employer mandate also eliminates variations in the type of employer-provided coverage, my analysis suggests that the turnover that spouse-provided coverage creates is likely to persist. Ideally, therefore, we would like to be able to distinguish my search explanation from her job-lock explanation and be able to decompose the turnover effect into a search component and a job-lock component.

This is likely to prove a difficult task. Gruber and Madrian (1994) and Holtz-Eakin (1994) contend that most job-lock appears to be a short run problem, presumably arising more from the length-of-service requirements than from pre-existing conditions.[16] Individuals without a pre-existing condition, however, have the option of purchasing insurance from the private market, or, as Gruber and Madrian emphasize, some workers may purchase health care from their previous employers to bridge the gap in coverage that length-of-service provisions create. This solution to a coverage gap is expensive: the worker loses the tax exemption of health care insurance premiums, and, if purchasing health insurance from the

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[15] These results are robust to various other specification checks. For the male portion of the sample, I divided the sample into age categories and re-estimated the equations for each category. Despite the relatively small cell size, the coefficients on spouse-provided coverage are always positive and generally statistically significant. Similarly, if I include a family income variable, undoubtedly endogenous, the coefficient remains statistically significant and of similar magnitude to that reported in Table 4. Moreover, if I included nonmarried workers, the coefficient remains statistically significant.

[16] Among full-time employees that have changed jobs within the last year and have jobs in firms that offer health insurance, 14% report that they are ineligible for coverage because they have not completed a "probationary period," which I interpret as a length-of-service requirement. In contrast, 0.2% claim to be ineligible because of a pre-existing condition, and another 3.0% report that they have a pre-existing condition not covered by their health care plan.

private market, non-group policies are often more expensive. Yet for these workers, a solution does exist, and a sufficiently generous offer will induce the worker to change jobs. Because this solution is expensive and because workers with spouse-provided coverage avoid these costs, workers differ in their valuation of offers from alternative employers, which of course is the essence of my search explanation for the turnover effect from spouse-provided coverage. In my view, distinguishing between these two explanations would be difficult.

VI. Policy Implications

My results support the findings of Madrian (1994) and Gruber and Madrian (1994) that employer-provided health insurance does affect the turnover propensities of workers. Indeed, the magnitude of my results for male workers is somewhat larger than Madrian's estimate, and I find that female workers are similarly affected. While I have offered no formal welfare analysis of this effect, it is difficult to believe that a policy that makes a worker's turnover propensity dependent on the health care policy of his spouse would improve the efficiency of labor markets.

Why have employer-provided health insurance? Friedman (1993) argues that many firms initially offered health care as a fringe benefit; as a means of avoiding the wage-price controls of World War II. As the IRS did not initially count fringe benefits as a part of taxable income, the tax system encouraged firms to offer health care and Congress eventually codified the tax exemption. As health benefits are income elastic (Woodbury and Huang, 1991), the tax exemption favors those with high earnings. Therefore, equity concerns suggest that a change is in order as well. When efficiency and equity concerns agree, one hopes that economists would find the course of action uncontroversial.

The political appeal of continuing the employer-provision of health benefits or the expansion of the system through mandates seems to arise because the costs remain hidden from consumers. Gruber (1994) and Gruber and Krueger (1992) suggest that most if not all costs of mandated benefits are passed through to the workers as lower wages, but if the mandated program is sufficiently small, these wage-pass-throughs may be difficult for workers to perceive. Moreover, the tax expenditure that arises from the exemption of employer-provided health insurance is not readily apparent. Those of us who are beneficiaries

of the tax expenditure probably do not appreciate the largesse of the US government, at least not until the exemption is threatened.

Unfortunately, any elimination of the tax subsidy of health insurance benefits would not be invisible. Consider a reform along the lines that Diamond (1992) suggests, but one without any tax subsidy for middle-class families. In such a plan, employer-provided health insurance is replaced with a system of mandatory coverage where, at least for most middle class households, consumers pay the full cost of their health insurance. Those workers who previously had employer-provided health insurance should receive a nice increase in compensation. Under Diamond's proposal, regional "HealthFeds" negotiate several different policies with insurance companies, and consumers within the region choose among the approved policies. When consumers begin looking at the prices of the various policies, however, they will notice that, even if firms increased their compensation by the exact cost of the previously provided health insurance, the increase in their compensation is not enough to allow them to purchase an insurance plan of comparable quality to their employer-provided plan. Because the tax subsidy is eliminated, the income and substitution effects presumably would move most consumers to purchase less generous insurance plans. Woodbury and Huang's simulation results suggest that the full taxation of health benefits may result in up to a 15% decline in the amount of health insurance. They calculated these estimates for the 1986 US tax codes, and marginal tax rates have increased since then. Forcing consumers to understand fully the costs of health care may not be good politics, but, in my view, it is good economics.

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Table 1: Coverage Rate for Employer-Provided Health Benefits for Full-Time Workers, April 1993 Supplement to the CPS

	Female	Male
Covered by some form of health insurance	90.7%	89.6%
Employed at firm that offers health insurance	88.0%	88.5%
Eligible for employer-provided health insurance	83.7%	85.0%
Covered by employer-provided health insurance	72.5%	79.5%
Refused employer-provided health insurance	11.2%	5.6%
Covered by spouse's health insurance	22.0%	10.7%
Sample size (n)	6,987	9,023

Table 2: Spouse's Provision of Employer-Provided Health Benefits by Self-employment Status, April 1993 Supplement to the CPS

Panel A: Husband's provision of health insurance to spouse by wife's self-employment status

	Wife is not self-employed	Wife is self-employed	n
Husband does not provide spouse with employer-provided insurance	56.6%	56.3%	4006
Husband provides spouse with employer-provided insurance	43.4	43.7	3077
Total percentage	100	100	
n	6387	696	7083

Panel B: Wife's provision of health insurance to spouse by husband's self-employment status

	Husband is not self-employed	Husband is self-employed	n
Wife does not provide spouse with employer-provided insurance	84.5	74.0	7297
Wife does provides spouse with employer-provided insurance	15.5	26.0	1527
Total percentage	100	100	
n	7314	1510	8824

Table 3: Dual Health Care Coverage of Married, Full-Time Couples, April 1993 Supplement to the CPS

Panel A: Husband's employer offers

	Percentage	n
health benefits and spouse is eligible for family health benefits	80.3%	2636
health benefits and spouse provides family health benefits	38.5	2636
family health benefits and spouse is eligible for family health benefits	80.6	2630
family health benefits and spouse provides family health benefits	38.0	2630
family health benefits and spouse is eligible for health benefits	84.9	2650
family health benefits and spouse receives health benefits	62.4	2645

Panel B: Wife's employer offers

	Percentage	n
health benefits and spouse is eligible for family health benefits	84.6%	2650
health benefits and spouse provides family health benefits	58.6	2222
family health benefits and spouse is eligible for family health benefits	84.9	2085
family health benefits and spouse provides family health benefits	58.0	2085
family health benefits and spouse is eligible for health benefits	87.7	2636
family health benefits and spouse receives health benefits	76.5	2636

Note: To be included in this sample, workers must be working full-time and eligible for employer-provided health benefits. Spouses may or may not be eligible for health benefits, but must be full-time worker.

Table 4: Full-Time, Married Couple's Refusal of Employer-Provided Health Benefits, April 1993 Supplement to the CPS

Panel A: Husband's decision to accept or refuse employer-provided health insurance

	Spouse is not eligible for family health coverage	Spouse is eligible for family health coverage	n
Husband accepts employer-provided insurance	96.9 %	87.1%	2035
Husband refuses employer-provided insurance	3.1	12.9	251
Total percentage	100	100	
n	451	1835	2286

Panel B: Wife's decision to accept or refuse employer-provided health insurance

	Spouse is not eligible for family health coverage	Spouse is eligible for family health coverage	n
Wife accepts employer-provided insurance	95.9%	73.3%	1707
Wife refuses employer-provided insurance	4.1	26.7	515
Total percentage	100	100	
n	343	1879	2222

Note: To be included in this sample, workers must be working full-time and eligible for employer-provided health benefits. Spouses may or may not be eligible for health benefits, but must be full-time worker..

Table 5: Health Insurance Coverage for Dual Earning Couples

	Female (1)[a]	Male (2)[a]
Worker is Hispanic	0.273	-0.289
	(2.06)	(2.29)
Worker is black	0.230	0.090
	(2.03)	(0.77)
Worker is Asian	-0.011	0.246
	(0.08)	(1.32)
Worker is Native American	0.716	0.020
	(1.52)	(0.04)
Worker's age	-0.028	0.019
	(1.27)	(0.84)
Age squared /100	0.018	-0.031
	(0.63)	(1.13)
Worker has less than one year of tenure	-0.231	-0.271
	(2.40)	(2.69)
Worker's tenure	0.090	0.092
	(7.29)	(7.80)
Tenure squared / 100	-0.194	-0.180
	(4.13)	(4.75)
Number of children	-0.069	-0.025
	(2.54)	(0.82)
Worker did not begin high school	0.058	-0.226
	(0.27)	(1.26)
Worker did not complete high school	0.067	-0.209
	(0.56)	(1.78)
Worker attended college but has no degree	0.069	0.137
	(0.96)	(1.68)
Worker has a vocational degree from junior college	0.038	-0.067
	(0.34)	(0.56)
Worker has an associate degree	0.272	0.020
	(1.97)	(0.12)
Worker has a bachelors degree	0.289	0.154
	(3.84)	(1.87)
Worker has a masters degree	0.300	0.265
	(2.68)	(2.04)
Worker has a Ph.D. degree	0.161	0.623
	(0.39)	(2.31)
Worker has a professional degree	0.431	0.542
	(1.46)	(1.95)
Constant	0.681	0.001
	(1.70)	(0.00)
ρ	-0.350	
	(9.03)	
Likelihood function	-2798.59	
Number of observations	2600	

a. Mean of the dependent variable for column (1) 0.6465 and for column (2) is 0.7727. Absolute values of z-statistics are given in parentheses.

Table 6: Turnover Propensities and Health Insurance Coverage Status, Married Males

	Means	(1)[a]	Means	(2)[a]
Worker is Hispanic	0.066	0.336	0.051	0.407
		(2.03)		(1.83)
Worker is black	0.054	0.417	0.051	0.527
		(2.38)		(2.48)
Worker is Asian	0.028	0.178	0.027	0.361
		(0.68)		(1.23)
Worker is Native American	0.006	-0.089	0.005	-1.045
		(0.16)		(1.01)
Worker's age	40.9	-0.157	41.3	-0.125
		(4.52)		(2.83)
Age squared /100	1772	0.123	1804	0.089
		(2.86)		(1.63)
Worker did not begin high school	0.034	0.162	0.026	0.037
		(0.62)		(0.09)
Worker did not complete high school	0.069	0.382	0.057	0.286
		(2.29)		(1.21)
Worker attended college but has no degree	0.187	0.150	0.0188	0.156
		(1.18)		(0.97)
Worker has a vocational degree from junior college	0.052	0.119	0.053	0.222
		(0.59)		(0.90)
Worker has an associate degree	0.0300	0.082	0.031	0.506
		(0.30)		(1.76)
Worker has a bachelors degree	0.186	0.088	0.198	0.202
		(0.67)		(1.28)
Worker has a masters degree	0.075	0.192	0.082	0.492
		(1.00)		(2.35)
Worker has a Ph.D. degree	0.017	-0.104	0.020	0.199
		(0.24)		(0.45)
Worker has a professional degree	0.018	0.065	0.019	0.540
		(0.19)		(1.52)
Number of children	1.152	-0.047	1.152	-0.062
		(1.12)		(1.18)
Spouse is employed	0.629	-0.487	0.635	-0.430
		(5.68)		(3.44)
Spouse is self-employed	0.045	-0.177	0.046	-0.023
		(0.77)		(0.09)
Worker is covered by spouse's plan	0.149	0.762	0.129	0.697
		(6.28)		(4.58)
Worker is covered by other plan	0.070	1.045	0.051	1.095
		(7.33)		(5.63)
Constant	---	1.818	---	0.775
		(2.83)		(0.93)
Likelihood function		-1839.97		-1304.81
Number of observations		6235		5457

a. Mean of the dependent variable for column (1) 0.096 and for column (2) is 0.069. Absolute values of z-statistics are given in parentheses.

Table 7: Turnover Propensities and Health Insurance Coverage Status, Married Females

	Means	(1)[a]	Means	(2)[a]
Worker is Hispanic	0.055	-0.234	0.048	-0.029
		(0.89)		(0.09)
Worker is black	0.065	-0.329	0.065	-0.563
		(1.31)		(1.66)
Worker is Asian	0.032	0.248	0.031	-0.135
		(0.85)		(0.33)
Worker is Native American	0.008	0.366	0.007	-0.043
		(0.72)		(0.06)
Worker's age	39.4	-0.029	39.5	-0.044
		(0.58)		(0.70)
Age squared /100	1652	-0.041	1656	-0.033
		(0.63)		(0.39)
Worker did not begin high school	0.021	-0.172	0.015	-0.091
		(0.58)		(0.12)
Worker did not complete high school	0.054	0.688	0.046	0.567
		(3.25)		(1.87)
Worker attended college but has no degree	0.194	-0.302	0.197	0.008
		(1.85)		(0.04)
Worker has a vocational degree from junior college	0.054	-0.190	0.057	0.120
		(0.75)		(0.41)
Worker has an associate degree	0.039	0.122	0.038	0.346
		(0.46)		(1.08)
Worker has a bachelors degree	0.174	-0.062	0.184	0.179
		(0.40)		(0.94)
Worker has a masters degree	0.066	-0.194	0.072	0.187
		(0.74)		(0.63)
Worker has a Ph.D. degree	0.006	0.422	0.008	0.929
		(0.67)		(1.45)
Worker has a professional degree	0.009	-1.277	0.009	-0.693
		(1.25)		(0.67)
Number of children	0.885	0.014	0.866	0.002
		(0.25)		(0.03)
Spouse is employed	0.980	-0.834	0.983	-0.284
		(2.75)		(0.63)
Worker is covered by spouse's plan	0.365	0.527	0.339	0.693
		(4.55)		(4.92)
Worker is covered by other plan	0.058	0.471	0.040	0.792
		(1.98)		(2.42)
Constant	---	0.049		-0.547
		(0.05)		(1.18)
Likelihood function		-1179.74		-820.36
Number of observations		3940		3320

a. The mean of the dependent variable for column (1) is 0.097 and for column (2) is 0.074. Absolute values of z-statistics are given in parentheses.