

## Availability of Health Insurance and Gender Differences in “Job-Lock” Behavior: Evidence from NLSY

Albert A. Okunade and Phanindra V. Wunnava\*

### I. Introduction

During 2000, 15.3% or \$874.4 billion of the \$5.7 trillion that U.S. employers spent on total compensation was on benefits. Pensions are now the largest single benefit expenditure by employers, but the health benefit is rapidly catching up. Pension and health benefits, respectively constituting 59.9% and 14.3% of the workers’ benefits portfolio in 1960, comprised 48% and 42.1%, respectively, in 2000 (EBRI, 2002a). Thus, employment-based health insurance plans are a rapidly growing major component of the fringe benefits package for most employees and their importance, rather than structural designs, is for many significant and complex reasons not expected to dwindle for the foreseeable future. This is because U.S. expenditure of \$73 billion on health care in 1970 rose to \$1.3 trillion in 2002 (EBRI, 2002b), and health care premiums that rose 12.7% from 2001 to 2002 are projected to rise in the range of 20-40% for the year 2003. Research studies have attributed the rapid spending growth to the aging population, comprehensive insurance coverage, rising worker incomes, provider-induced demand, differential productivity growth from medical care, avoidable administrative expenses, and technological innovation (EBRI 2002b, Okunade and Murthy 2002).

Contrary to the 401K retirement benefit plans, health insurance in general lacks portability between jobs. That is, employer-subsidized health plans are a job-specific fringe benefit. Since workers may be required to satisfy the waiting period eligibility criteria for coverage of specific medical conditions under the health insurance on new jobs, and because pre-existing health conditions are routinely excluded from coverage of health insurance (in a new job), these impediments could lead to restricted job mobility or the so-called *job-lock* phenomenon.

Currently, there is no consensus in the literature on the severity of such an induced job-lock. Cooper and Monheit (1993), and Madrian (1994) both using data from the 1987 National Medical Expenditures Survey (NMES), and

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\*Respectively, Suzanne Downs Palmer Distinguished Research Professor, Department of Economics, University of Memphis, Memphis, TN; and Professor, Department of Economics, Middlebury College, Middlebury, VT. This revised work was earlier presented at the Midwest Economics Association annual conference (Organized Session 49: “Health Insurance, Depression and Elderly Living”), Cleveland, OH, March 30, 2001, and at the Southern Economic Association annual meetings (Session 89G: “Topics in Health Economics, Part I”), Tampa, FL, November 18, 2001. The authors thank participants at both conferences for many useful comments. They also acknowledge the helpful comments of an anonymous referee of this journal, the significant contributions of Bradley Ewing, Jessica Holms, and editorial suggestions of Brenda Ellis on an earlier draft of this paper. Any remaining errors are ours.

Buchmueller and Valletta (1996) based on 1984 Survey of Income Program Participation (SIPP) data have shown the job-lock phenomenon to be significant. On the contrary, Holtz-Eakin (1994) using the Panel Survey of Income Dynamics (PSID) data for 1984, and Kapur (1998) using the 1987 NMES data and a methodologically superior model than Madrian (1994) concluded that past studies overstated the extent of the job-lock phenomenon. Most recently, Gilleskie and Lutz (2002), using 1989-93 National Longitudinal Survey of Youths (NLSY) data and a dynamic empirical model accounting for unobserved heterogeneity, found no evidence of job-lock for married males but reported a small estimate for unmarried males.

This paper revisits the job-lock phenomenon by using an alternative measure (i.e., a continuous variable) rather than the discrete variable routinely used in the past. We further investigate the existence of any gender-based differences in the job-lock estimate, focusing on the major components of the workers' benefits package, especially medical. More specifically, the health care policy implications of this paper are timely. This is because, while the 1990-2000 decade in the U.S. was an unprecedented prosperity period, as measured by every economic indicator, the U.S. Census Bureau (Aston, 1999) indicates that more Americans than before or about 16.3% of the population currently lack health insurance coverage. The retirement (defined contribution vs. defined benefits) and other optional benefit selection or participation behaviors of men and women tend to differ (Johnson, 2002; White-Means, Okunade, and Stafford, 1993). Therefore, evidence of differences in the job-lock behaviors for women and men could signal differences in the implications for job mobility, medical insurance coverage, the health care system's access policy designs, and the resulting gender-specific health outcomes. The intricate connection of the welfare implications of health care access through employment-based insurance and the health status of workers is far reaching (Rennie and Glass, 1999). Gruber and Madrian (2002), in their comprehensive review of over 50 related papers published mostly in the last 10 years, concluded that availability of health insurance: (a) is a major determinant of retirement decisions, (b) is a vital factor in the labor market decisions of secondary earners, (c) plays an important role in job mobility decisions, and (d) has important effects on labor force participation and job choice.

Medical benefits are a major labor-expense component of the compensation package of full-time workers in the U.S. private sector. The costs of employer subsidized health benefits are rising, as are the out-of-pocket obligations (e.g., deductibles, co-payments) of patients, including under the increasingly more popular managed care plans (Okunade, 2003). Consequently, participation in health benefits is quite rare for part-time workers and lower for full-time workers in small private firms than in medium and large private firms.

During 1990, 1994 and 1996, the percentages of full-time workers subscribing to medical benefits were, respectively 69, 66, and 64 in small private establishments (National Center for Health Statistics, 2002). These percentages were higher for "professional and technical" workers (82, 80, and 76) than for "clerical and sales" (75, 70, and 69) and "blue-collar" (60, 57, and 56) workers. Similar data on coverage ratios in medium and large private establish-

ments combined, during 1991, 1995, and 1997 were, respectively 83, 77, and 76. Again, the corresponding percentages for “professional and technical” (85, 80, 79) workers exceeded those of “clerical and sales” (81, 76, 78) and “blue-collar” (84, 75, 74) workers in medium and large establishments. The data trends suggest that medical insurance coverage of full-time employees in the private sector fell during the 1990s and that the coverage ratios were higher for the more educated and in medium and large establishments. This reinforces the recent conclusion of Marquis and Long (2001) that the employers of low-wage workers are substantially less likely to offer health insurance than higher-wage employers.

Details of the data and study methodology are given in the next section. Section III covers the empirical findings and their implications. Section IV summarizes, concludes, and explores fruitful avenues for future studies of the “job-lock” phenomenon in light of HIPAA, the Health Insurance Portability and Accountability Act (1996) passed by the U.S. Congress.

## II. Data and the Study Methodology

The data are from the National Longitudinal Surveys of Youth (NLSY), which has interviewed respondents annually from 1979 to present. The initial wave had 12,686 individuals in the 14–21 age range. Our sample consists of those who worked for pay in the year prior to the 1996 wave in the non-agricultural, private sector. This study focused solely on whites, partly to reduce the heterogeneity problem arising from lumping whites and non-whites together in one sample. Table 1 gives the descriptive statistics of selected variables by gender.

Table 1  
Descriptive Statistics

variable	Females		Males	
	Mean	Std. Dev.	Mean	Std. Dev.
tenure	273.7146	237.4145	291.7292	247.2577
med	8379013	.3686857	.7955531	.4034062
retire	7106918	.4536196	.6512262	.4767122
lifeins	.733124	.4425007	.6806769	.4663417
matlv	.8191911	.3850124	.5638968	.4960425
union	.1251956	.3310701	.1554713	.3624516
married	.1478873	.3551272	.184182	.3877376
nkids	1.335681	1.14801	1.266522	1.254341
educ	13.59937	2.363399	13.36511	2.638871
size1	.5690093	.4954246	.6243227	.4844431
size2	.2650296	.441536	.2197471	.4142
size3	.165961	.3722033	.1553281	.3623263
wage	13.33917	10.17815	16.99336	12.33293
	Sample	766	949	

Contrary to past research (Buchmueller and Valletta, 1996, Cooper and Monheit, 1993, Gruber and Madrian, 1994, Madrian, 1994, and Monheit and Cooper, 1994)—where a voluntary job-switch dummy variable is the dependent variable, we propose to use a continuous variable as the dependent variable to capture job-lock behavior of workers. Dummy variables by nature constrain the informational contents of data. Therefore, although “voluntary job switch” could be a proxy of job-lock, this phenomenon could be alternatively captured using a continuous measure, such as the tenure of workers on a job. Our novel measure, being continuous, would enable computation of marginal effects with respect to continuous independent variables, such as, years of education or number of children living at home. A worker may elect to continue work at his/her current employment with a longer rather than a shorter duration of tenure (resulting from frequent job switches), if indeed that particular worker has to satisfy the waiting period to qualify for health insurance, or more importantly when pre-existing health conditions are excluded from insurance coverage in a new job. In other words, medical care benefits are the least portable among employer-subsidized benefits in the worker’s compensation package.

Over the years, a smaller percentage of workers subscribed to medical benefit plans in “small” than in “medium and large” establishments in U.S. private sector (National Center for Health Statistics, 2002). One important reason is the higher cost of this benefit (e.g., due to the lack of scale economies for small firms) and hence, a larger employee premium (Cutler, 2002) and lower subsidy that small employers grant to workers covered in health insurance plans offered under a cafeteria-style system of choice. Gruber and Lettau (2000), using the micro-data underlying the Employee Compensation Index, found that the modest elasticity of insurance offering with respect to after-tax prices of from  $-0.31$  to  $-0.41$  is driven largely by the small firms, for whom the elasticity is much larger, but that spending is more elastic at the margin.

Marquis and Long (2001), using a 1993 survey of over 22,000 private employers in 10 U.S. states, found that changes in insurance price affect decisions to offer insurance, and that the share of employers offering insurance rose a mere 2.5% if insurance premium fell by 40%. This relative lack of sensitivity of coverage to a large decrease in premium may mean that smaller employers resort to complex and highly ingenious ways of financing the increasingly costly health care coverage of their employees. They include (a) co-insurance; (b) exploiting the provisions under Section 105 of The U.S. Tax Code that allows employers to create Medical Expense Reimbursement Plans (MERP) and write off the cost of Medi-gap insurance, co-payments for office visits and medications, return trip mileage for doctor’s office visits, hearing aids and braces; (c) coverage under state’s Children’s Health Insurance Program (CHIP) for minor dependents of eligible single parents and the parents obtaining a single plan through the employer; and (d) the small employer granting economic incentives to Medicare-eligible employees to declare Medicare as the primary medical care insurance.

Since small firms tend to employ a large percentage of the workers in the age range for the NSLY, these workers, in age ranges 29 to 36 in 1996 for our sample data, are more likely to stay employed longer with an employer offering

medical benefits, *all else given*. Table 1 (descriptive statistics of sample data for this study) supports this hypothesis. Roughly 57% (62%) of female (male) workers were employed in small firms employing at most 100 employees, compared with about 27% (22%) of females (males) in medium firms that employ from 101 to 499 workers. Finally, 17% (16%) of the female (male) employees worked in large firms employing at least 500 workers.

Our dependent variable, tenure, is the number of weeks a worker has been working for the current employer. The “fringe benefit” variables are based on responses to the questions of whether the respondents’ employer offers or makes available the particular benefit. Dummy variables are constructed such that they equal one if the respondent reported that the employer offered or provided the particular benefit. Although the research focus here is on medical insurance, captured by the med (medical) variable, we also focus on other fringe benefits, such as, retire (retirement), lifeins (life insurance), and matlv (maternity or paternity leave). In the model specification, “wage” refers to hourly wages, “union” is a dummy (=1 for a union member; 0 other), “married” is a dummy (=1 if married; 0 other), “nkids” refers to the number of children living at home, “educ” refers to years of formal education, and “size<sub>i</sub>” refers to a series of dummies to capture the size of the firm (i=1 if the number of employees are between 1-100; i=2 if the number of employees fall in the 101-499 range; and i=3 if employees are 500+; 0 other). Please note that “wage” in Table 1 refers to hourly wages, not used in the regressions, but is provided only for comparison across gender. The other controls in the specified model are region of residence, industry, and occupation dummies. (Details on these are available on request.)

From Table 1, the average white male tends to have about 18 weeks longer tenure than women. On the other hand, a higher proportion of women tend to participate in health insurance, life insurance, retirement plans, and maternity (paternity) leave than men. Compared to the female sample, a greater proportion of males are married (although the number of children in each sample is around 1.3), employed in relatively smaller establishments, have slightly higher union membership, and earn about \$3.65 more in hourly wages. Compactly, the theoretical model is

$$(1) \quad y_i = X\beta + Z\Gamma + W\Phi + \text{error}_i$$

where  $y_i$  is the  $i$ th worker’s tenure on the current job and the independent variables are three sets of controls—the  $X$ s for fringe benefits, the  $Z$ s for individual characteristics, and the  $W$ s for firm attributes. The following expanded equation (1) is our empirical specification:

$$(2) \quad \text{Tenure}_i = \beta_1 + \beta_2(\text{med})_i + \beta_3(\text{retire})_i + \beta_4(\text{lifeins})_i + \beta_5(\text{matlv})_i + \beta_6(\text{union})_i \\ + \beta_7(\text{married})_i + \Gamma_1(\text{nkids})_i + \Gamma_2(\text{educ})_i + \Phi_1(\text{size}_2)_i + \Phi_2(\text{size}_3)_i + (\text{vector of} \\ \text{regional dummies})\Phi_3 + (\text{vector of industrial dummies})\Phi_4 + (\text{vector of} \\ \text{occupational dummies})\Phi_5 + \text{error}_i$$

### III. The Empirical Results

The empirical model (2) is estimated separately for females and males, as an alternative to the standard measurement of the male-female differentials obtained by interaction with a gender dummy with the whole set of independent variables for an easy exposition. Thus, separate empirical regression estimates for males and females are presented below in Table 2.

The corresponding F-Statistic values of the adjusted R<sup>2</sup> estimates for gender-specific job-lock models in Table 2 suggest a significant model fit to each data set, particularly given micro-data. Our results also provide statistically significant evidence of the possible existence of job-lock for both genders, indeed a stronger evidence for female workers. Job-lock is positively and significantly related to participation in medical care insurance across genders. We could infer from these results that women with medical insurance have almost 66 more weeks of tenure than women without this insurance (for males, it is a bit shorter and is about 51.7 weeks).

For both genders, the results imply that an extra year of formal schooling lowers the length of tenure (about six weeks for women, and 11 weeks for men). This phenomenon would imply that an educated workforce tends to be more mobile in the labor market and this schooling effect for men is almost twice that for women. The effect of the number of children on tenure appears mixed-negative for women and positive for men. One rationale is that childcare and related family responsibilities tend to interrupt job tenure and could lead to more frequent job changes for women than men. One plausible explanation for the presence of children at home relating positively with job tenure in the male sample is that men experience fewer career disruptions of family formation and as the traditional primary bread winners, are more likely to remain longer with an employer.

Table 2  
Summary of Regression Results

Dependent variable: Tenure						
Regressor	Females (n=766)			Males (n=949)		
	Coef.	t-ratio	P>  t	Coef	t-ratio	P>  t
med	65.89834	2.808	0.005	51.69639	3.105	0.002
retire	51.8422	3.084	0.002	10.7314	0.816	0.415
lifeins	-19.60743	-1.031	0.303	-13.22091	-0.921	0.357
matlv	11.65179	0.604	0.546	22.38133	2.135	0.033
union	33.68444	1.894	0.059	1.07578	0.085	0.932
married	12.42568	0.735	0.462	-29.93271	-2.246	0.025
nkids	-31.19974	-5.814	0.000	6.94539	1.937	0.053
educ	-5.99056	-1.848	0.065	-10.87868	-4.334	0.000
size2	-4.53329	-0.341	0.733	-37.27013	-3.291	0.001
size3	18.20925	1.147	0.252	-2.16877	-0.166	0.868
constant	715.5619	610.370	0.000	808.6447	6.822	0.000
Adj. R <sup>2</sup>	0.6554			0.7539		
F-Statistic	59.3			117.7		

Moreover, participation in retirement benefit plans (old age income security) and union membership (job security) each significantly reinforces the tendency for job-lock for females more than males. This is not surprising, as the union effect on health insurance coverage rates in the private sector fell for the 1983-1997 period but remains large because of a rise over time in the union effect on employee "take-up" of offered insurance and the fact that the declining union density only accounted for 20-35% of the decline in employee health coverage (Buchmeuller, DiNardo and Valletta, 2001).

The 1993 Family Leave Act grants eligible employees up to a certain number of weeks of job-protected leave during a 12-month period for specific family and medical reasons. Our findings show that paternity leave significantly attenuates the job-lock tendency for men, perhaps due to the rising cultural trend of fathers taking a more active role in family formation and parental responsibilities. Compared with employment in small firms (the base category), male workers remain employed a significantly shorter period with a medium-sized employer. This could be due to the attributes of men or the work environment in medium-sized firms that jointly enhance job mobility for male than female workers.

#### **IV. Summary, Conclusion, and Future Research Directions**

This paper investigated whether and to what extent the job-lock phenomenon could be induced by the rigidities implied in the designs of the major benefits that current employers offer workers as part of the compensation package. Specific emphasis was on the medical care insurance benefit, due to its lack of portability among employers, the fact that it is the most highly subsidized benefit among all the benefits that employers offer workers, and the restrictive "waiting time" clause for medical insurance coverage to take effect on a new job.

The novel contributions of our paper are many. First, we used the 1996 wave of the NLSY data not previously analyzed in this line of research—although Gilleski and Lutz (2002) had utilized NLSY data up to 1993. Second, we separately modeled job-lock for white male and female workers employed for pay full-time in the non-agricultural private sector during 1995. (Part-time workers are rarely offered medical care insurance; so their omission from our sample is not expected to impart a significant bias on our findings.) Third, our novel measure of "job lock", the dependent variable, is tenure of workers on their current jobs. This measure is a continuous variable, compared with the limiting dummy proxy (e.g., voluntary job switch) typically used in past studies.

The regression findings support gender differences in job-lock tendencies. The extent to which an additional year of schooling moderates the job-lock behaviors of female and male workers also differs. There are further variations across gender on how the factors relating to family formation or lifecycle (e.g., number of children currently residing at home, marital status) affect job-lock behaviors of men compared with women. Specifically, we found significant evidence favoring the job-lock hypothesis for male and female workers for medical insurance benefit using the NLSY database. The evidence is much stronger for

females than males. Similar analyses made for other benefits, including life insurance, retirement and maternity/paternity leaves, are also illuminating.

The research findings have policy implications for a more efficient labor market operation. First, mobility of workers can be enhanced by the government instituting labor-market benefit laws and regulations that are capable of weakening workers' ties to current employers, if such ties are sub-optimal. This is important, as the typical U.S. worker changes jobs about 12 times in the career course. On the average, about 70% of those changing jobs cash out their retirement plans, subject to tax withholdings and tax penalties. However, private sector employers that permit former employees to retain retirements invested in company-sponsored pension plans to grow tax-deferred further disallow new contributions after job termination.

Private sector employer-subsidized medical benefits were not portable before 1996. The data analyzed in this paper predated the passage of the Health Insurance Portability and Accountability Act (1996), HIPAA, passed by the U.S. Congress during the Clinton administration. HIPAA was designed to improve the continuity and affordability of health insurance coverage through guaranteed issue, guaranteed renewal, and portability provisions, and to combat "waste, fraud and abuse" in the health care system (Craig, 2001; Marquis and Long, 2001). The aspects of HIPAA implemented so far contain the waiver of enrollment requirements to allow group health insurance to continue for some specified time period if the workers or their dependents lose coverage in employment-related health insurance plans because of death, divorce, legal separation, employment termination, employer's discontinuation of total contribution to insurance coverage, or reduction in the number of work hours required for minimum coverage. Thus, employees may continue health insurance coverage with previous employers upon payment of the appropriate premium. The deadlines for employers, health care organizations and service providers (hospitals, physicians, nurses, pharmacies, insurance carriers, HMOs, nursing homes, medical laboratories, etc.), to implement HIPAA mandates are staggered and some are not yet due for implementation. For example, the "Medical Privacy" and "Health Data Security" requirements of HIPAA are currently due for implementation sometime in mid- to late-2003 and many other implementation deadlines have been extended. The Bush administration in August 2002, released a revised HIPAA to make the rules more "workable." Therefore, follow-up studies using the major U.S. micro-databases (NMES, SIPP, PSID, NSLY) should re-estimate, using panel data sets and richer parametric estimation methods, the magnitude of the job-lock behaviors of workers after much time has elapsed following full implementation of the relevant aspects of the Act. Comparative analyses of pre- and post-HIPAA would be useful for evaluating its effectiveness in reducing the job-lock tendencies of workers due to employment-related benefits, such as, health insurance.

Finally, some private sector employers in non-agricultural sectors offer part-time workers medical and other benefits on a more restricted basis (National Center for Health Statistics, 2002). Medical insurance coverage in the private sector is meager for small firms (about 6.5% from 1990 to 1996) but significantly higher for medium to large establishments (about 30% from 1991



to 1997). Consequently, factors contributing to the potential job-lock behaviors of male *versus* female employees in part-time *versus* full-time jobs for small *versus* medium and large establishments is likely to provide a richer analysis, over business cycles, for pre- and post-HIPAA era. The changing demographic structure of the U.S. population should compel future researchers to carefully investigate differences in the factors that also drive potential job-lock behaviors of the major ethnic minorities. This research direction could illuminate potential policies that might capably enhance the job market mobility within the growing and increasingly more educated minority population in the U.S.

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