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Abstract

Because the near-elderly have high expected medical expenditures, availability of health insurance is an important factor in their retirement decisions. Using Health and Retirement Study data collected in 1992-2002, the authors of this study investigate whether access to employer-provided retiree health insurance enabled dual working couples to time their retirement together–a behavior called "joint retirement." They find that when wives had employer-provided retiree health insurance, the likelihood of joint retirement more than doubled. The effect of retiree health insurance on overall employment patterns, in contrast, was modest: estimates indicate that a hypothetical change from universal availability of such insurance to its universal unavailability would have increased employment levels by only two percentage points.

KEYWORDS: health insurance, joint retirement

THE ROLE OF HEALTH INSURANCE IN JOINT RETIREMENT AMONG MARRIED COUPLES

KANIKA KAPUR and JEANNETTE ROGOWSKI*

Because the near-elderly have high expected medical expenditures, availability of health insurance is an important factor in their retirement decisions. Using Health and Retirement Study data collected in 1992–2002, the authors of this study investigate whether access to employer-provided retiree health insurance enabled dual working couples to time their retirement together—a behavior called "joint retirement." They find that when wives had employer-provided retiree health insurance, the likelihood of joint retirement more than doubled. The effect of retiree health insurance on overall employment patterns, in contrast, was modest: estimates indicate that a hypothetical change from universal availability of such insurance to its universal unavailability would have increased employment levels by only two percentage points.

The majority of families facing retirement in the United States today include two workers.[1] With the baby-boom generation fast approaching retirement, the proportion of two-worker couples coordinating retirement choices will increase. Given these trends, an understanding of how married couples choose to time their retirements from the labor force will be critical to forecasting how the near-elderly work force in the United States will evolve in the coming years. While the early literature on retirement focused primarily on men, several recent studies have examined the retirement behavior of dual working couples. This research has demonstrated that couples tend to time their retirement together, possibly because they value joint leisure after retirement.

The availability of health insurance is a crucial factor in a couple's ability to retire jointly. Because the prevalence of poor health and chronic disease rises with age, the near-elderly have higher expected medical expenses than younger cohorts. For instance, average annual health care expenditures for persons age 45–64 are 85% higher than for persons age 18–44 (AHRQ 2003). However, the near-elderly can have problems gaining access to affordable health insurance. Few routes to public insurance exist: unless blind or disabled, persons under age 65 cannot qualify for Medicare or Medicaid. Options for purchasing health insurance in the private-individual markets are often equally restrictive, largely because of high premium costs. Workers who leave

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The authors are able to make all data and programs available to researchers who obtain clearance to use the restricted version of the Health and Retirement Study data. Contact Kanika Kapur (phone +353 1 716 4624, email kanika.kapur@ucd.ie).

[1]Authors' calculations based on the Health and Retirement Survey data.

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an insured job have the option to continue group coverage—known as COBRA coverage—for up to 18 months by paying 102% of the premium. Only a small fraction of those eligible to purchase COBRA coverage do so, however.[2] Thus, prior to the age of Medicare eligibility (65), employment-based sources for their health insurance remain a valuable resource for the near-elderly. In fact, among persons age 54–64 in 2002, 73% were covered by employment-based sources of health insurance and 64% of early retirees in this age cohort had such coverage. Despite the importance of retiree health insurance, employer coverage for retirees has been declining over time. Whereas 68% of retirees were covered by employer-provided health insurance in 1992, only 45% of retirees had such coverage in 2002.[3]

In this paper, we examine the role of employer-provided health insurance in the retirement decisions of dual working couples. In particular, we investigate whether access to retiree health insurance for early retirement enables couples to time their retirement together—a behavior that we call "joint retirement." We also analyze whether the influence of health insurance on joint retirement decisions depends on the health of the couple. Access to retiree health insurance for early retirees through either the husband's or wife's employer should increase the propensity to retire jointly. Consider a typical near-elderly couple in which the husband is two years older than his wife and is therefore eligible for Medicare two years earlier than she is. If either spouse has health insurance that can cover the wife after retirement, the wife will be able to retire with her husband when he is 65 and maintain health insurance coverage. On the other hand, if the wife has employer-provided health insurance, but no access to retirement health insurance, she will need to postpone retirement until she reaches 65, reducing the couple's ability to jointly retire. This is a form of "job lock." We examine the effect of health insurance on joint retirement using data from the Health and Retirement Study (HRS). The HRS is particularly well suited to our study, since it contains detailed longitudinal information on labor force participation, retirement, health, and health insurance for near-elderly and elderly couples.

A growing literature has demonstrated that husbands and wives tend to retire at the same time (see, for example, Hurd 1990; Gustman and Steinmeier 2000; Maestas 2001; Johnson and Favreault 2001). Furthermore, spousal health and economic incentives are often found to affect retirement (Coile 2003; Johnson and Favreault 2001; Hurd 1990). There is limited research on the importance of retirement health benefits in couples' joint retirement decisions. A recent study by Blau and Gilleskie (2006) developed a structural model of work, retirement, and use of health services that accounts for the role of health benefits. This study found small effects of retiree health insurance. However, a large body of literature has demonstrated that retiree health insurance facilitates early retirement among men (see, for example, Blau and Gilleskie 2001); therefore, further exploration of the role of retiree health insurance in the joint retirement of couples is merited.

The advantage of the reduced form approach compared to a structural approach is in the transparency and simplicity of the modeling assumptions.[4] We use a reduced form approach that directly examines the effect of health insurance on joint retirement. Understanding joint retirement behavior is important in order to obtain accurate projections of labor force participation in the

[2]The high cost of COBRA coverage ($7,000 to $8,000 for family coverage) may be a deterrent for many, especially for those who have just left a job (Scandlen 2001).

[3]Authors' calculations based on the Health and Retirement Study.

[4]Gruber and Madrian (2004) raised several concerns about Blau and Gilleskie's study. First, the sample was relatively small and had a much lower rate of health insurance coverage than a representative sample of HRS respondents, potentially leading to a downward-biased estimate of health insurance. Second, the study sample was young for a study on retirement. Third, predictions from the structural model were quantitatively quite different from the data in several cases, raising concern about the appropriateness of the assumptions in the structural model.

future. Furthermore, increased health insurance availability may increase the welfare of the near-elderly by making joint retirement more feasible.

Conceptual Framework

We follow the conceptual framework laid out in the literature on joint retirement (Blau and Gilleskie 2006; Maestas 2001) by postulating that a couple's utility depends on each member's health, consumption, choice of employment, and other factors. Couples may derive value from retiring together because of complementarities in leisure that enter the couples' utility function. The availability of health insurance reduces couples' exposure to the financial risk of high medical expenditures. However, the availability of health insurance depends on employment choice. Therefore, couples must choose whether each spouse will retire based on health insurance availability after retirement. The availability of retiree health insurance (whether or not the employer offers a health insurance plan to retirees) may also have a direct effect on an individual's ideal retirement date, independent of the spouse's retirement plans. However, the focus of this paper is on joint retirement decisions rather than the timing of individual retirement.[5]

Access to retiree health insurance reduces or eliminates couples' exposure to high medical expenses if they choose to retire. When either member of a couple is under age 65, the availability of retiree health insurance should increase the likelihood of joint retirement, since the couple can retire and maintain health insurance coverage until both members become eligible for Medicare at age 65. If, on the other hand, the couple has access to employer-provided health insurance, but no retiree health insurance, at least one spouse with the employer-provided health insurance plan would need to continue to work until the couple is over 65 to maintain health insurance benefits. For spouses who are both over the age of 65 and hence eligible for Medicare, retiree health insurance is likely to play a smaller role. Even so, retiree health insurance can provide prescription drug coverage and other supplementary benefits that are valuable for an older population. Couples who lack retiree health insurance benefits but have employer-provided health insurance may delay retirement for at least one member to ensure continued access to these supplemental benefits.

Data

Our analysis uses the HRS, a nationally representative biennial panel survey of individuals born between 1931 and 1941. We use the first six waves of the HRS (1992–2002). The HRS data have been linked to Social Security earnings histories and to employer pension plan data for the majority of the sample. Data are collected for sampled individuals and their spouses.

The HRS surveyed 4,846 married couples in 1992. The data we use are restricted to observations for which both members of the couple were working full-time at the baseline year and had non-missing data for our key analysis variables—health insurance and labor force participation. These restrictions resulted in a sample of 1,497 couples.[6] The data set for the analysis is structured as couple-year observations. Once one member of the couple retires, the couple exits the data set.[7]

We measure retirement as a transition in the labor force status from full-time work at the baseline year to self-reported partial or

[5]Descriptive statistics (that do not account for the censoring of retirement age) show that when a couple has access to retiree health insurance from the husband, both husband and wife retire about one year earlier (younger) than they otherwise would; in contrast, the wife's retiree health insurance status has no statistically significant effect on age at retirement.

[6]We need to restrict the sample to dual-working couples in order to study joint retirement behavior. However, this restriction may compromise the generalizability of our results if the profile of dual-working couples changes over time.

[7]We do not model reentry into the labor force after partial or full retirement. We model only the first observed transition to retirement for a couple. Twelve percent of the couples had multiple observed transitions to retirement.

full retirement at the next survey date.[8] We classify health insurance for couples using the following mutually exclusive variables defined separately for the husband and the wife: (a) holds own employer-provided health insurance, but no retiree health insurance, (b) holds own employer-provided health insurance and retiree health insurance, and (c) does not hold own employer-provided health insurance. In 1992 and 1994, HRS measured retiree health insurance using a question that asked if the employer-provided plan reported by the surveyed individual covered retirees. In 1996, HRS changed the wording of the question to ask if the surveyed individual could continue coverage to age 65 if he or she left the job now. Ninety-one percent of employers that offer retiree health benefits provide coverage for both pre-65 and age 65+ retirees; therefore it is unlikely that this change in the HRS will have much impact on our results (Kaiser/Hewitt 2002). In our analysis, we include year indicators to absorb the effect of changes in the survey instrument over time.[9]

We use linked, restricted-access data from the Social Security Administration based on the Social Security Earnings and Benefits File to construct measures of social security wealth. Linked data are available for 88% of our sample. In cases where linked data were not available, we used measures of social security wealth imputed as part of the RAND HRS-SSA project (StClair et al. 2002). The social security variables included in the RAND HRS-SSA data are household social security wealth in 1992, projected household social security wealth at age 62, and projected household social security wealth at age 65. We used these variables to construct measures of household social security wealth at the baseline year and the gain in social security wealth obtained by delaying retirement past the follow-up survey year.[10]

We construct pension measures using self-reported pension data and employer reports of pension benefits. Ongoing validation research suggests that self-reported pension data are preferable to employer information for defined contribution (DC) plans. However, employer reports are likely to be a better measure of pension wealth for defined benefit (DB) plans. Therefore, we use self-reported DC pension balances as our measure of DC pension wealth,[11] and we use linked data from an employer survey of HRS respondents to construct measures of DB pension wealth. Employer-provided pension data are non-missing for both members of a couple for 41% of our sample.[12] The employer-reported pension variables included in the RAND HRS-SSA data are employer pension wealth in 1992 from current and past jobs, projected pension wealth at age 62, and projected pension wealth at age 65. We used these variables to construct measures of pension wealth at the baseline year and the gain in pension wealth obtained by delaying retirement past the follow-up survey year using a method similar to the one by which we constructed social security wealth.[13] We

[8]Since employer-provided health insurance is usually offered to full-time workers and not to part-time workers, we believe that this is the appropriate definition. However, we have reestimated our model with an alternative definition of retirement that allows for transitions from full-time or part-time work to full retirement. We find a somewhat smaller effect of health insurance; however, this effect remains statistically significant.

[9]We also estimated secondary models that included an interaction between an indicator variable for survey years from 1996 on with retiree health insurance to determine if the effect of retiree health insurance varies due to the change in survey instruments. The interaction was small and not statistically significant, suggesting that our results are not sensitive to the change in survey instrument.

[10]For couples who were under the age of 62, we assumed that baseline social security wealth was equal to the wealth in 1992. For couples who were between the ages of 62 and 65, we assumed that baseline social security wealth was equal to wealth at 62, and for couples who were over the age of 65, we assumed that baseline social security wealth was equal to wealth at 65. The gain in social security wealth was calculated as the difference between baseline wealth and projected wealth at 65.

[11]We used pension balances imputed by Gustman and Tabatabai (2003) to fill missing values.

[12]We reestimated the model on the subsample with non-missing DB pension balances and found a similar pattern of results; however, these results were less precise due to the lower sample size.

[13]Since DB pension wealth information is only available in 1992, this variable is potentially mismeasured for individuals who changed jobs. In supplementary

also include indicators for type of pension plan—DB plan, DC plan, or no plan—that are constructed using self-reports of pension benefits.

Table 1 contains weighted means for the analysis sample. The sample consists of 3,370 couple-year observations. In 73% of the observations, neither spouse is observed retiring. We define a couple to have jointly retired when both spouses retire in the time between two consecutive interviews. Joint retirement is observed in 6% of couple-year observations. Husbands are more likely than wives to retire first, probably because they are older than their wives, on average four years. While the table reports means for couple-year observations, which is the level of the analysis, it is also useful to examine the means for couple observations. Couples who retired jointly comprise 12.3% of the total; couples with the husband retiring first, 27.4%; and couples with the wife retiring first, 16.2% (not reported in the tables).

Table 1 also shows that about half of the husbands had retiree health insurance from their own jobs, whereas only about a quarter of the wives did. Husbands' pension wealth was substantially higher than wives' pension wealth for both DB and DC plans. Husbands were also more likely than their wives to have a pension plan, and this difference was larger for DB plans than for DC plans. On average, husbands also had $5 per hour higher wages than their wives, as well as almost six years' more job tenure. Women's shorter tenure at the brink of retirement may have been due to career interruptions during their childbearing years. In addition, as noted above, women were on average four years younger than their husbands. Both of these factors may have led to women being "behind" their husbands in the accrual of retirement benefits and therefore may have affected their decision whether or not to retire jointly with their husbands.

Table 1. Means in the Health and Retirement Survey (1992–2002). (Couple-Year-Level Data)

Variable	*Mean*
Retirement Outcome	
Couple Retired Jointly	5.94%
Husband Retired First	13.34%
Wife Retired First	7.83%
Neither Retired	72.89%
Health Insurance	
Husband Had Retiree HI	49.31%
Husband Had EPHI, No Retiree HI	20.59%
Husband Had No EPHI	30.10%
Wife Had Retiree HI	26.02%
Wife Had EPHI, No Retiree HI	18.10%
Wife Had No EPHI	55.88%
Demographic Characteristics	
Husband Age	56.77
Wife Age	52.70
Nonwhite	8.84%
Husband: Self-Reported Health Fair/Poor	10.17%
Wife: Self-Reported Health Fair/Poor	7.47%
Employment Characteristics	
Husband Wage	17.83
Wife Wage	12.15
Husband Tenure	16.58
Wife Tenure	10.98
Husband Had DB Plan	46.88%
Husband Had DC Plan	37.88%
Wife Had DB Plan	37.23%
Wife Had DC Plan	32.96%
Husband DB Pension Wealth	74,573.40
Husband DB Pension Gain	6,565.12
Wife DB Pension Wealth	28,555.00
Wife DB Pension Gain	9,206.12
Husband DC Pension Wealth	33,613.22
Wife DC Pension Wealth	13,726.32
Social Security Wealth	141,255.30
Social Security Gain	38,836.15
Household IRA/Keogh Wealth	34,859.45
Other Household Wealth	252,493.60
Number of Observations	3,370

Empirical Model

Our analysis focuses on the role of health insurance in enabling couples to retire jointly. We parameterize a couple's retirement status in each time period as a multinomial variable with the following outcomes: (a) husband and wife both retired between the baseline year and follow-up year (joint retirement); (b) husband retired but wife did not; (c) wife

analyses, we checked the sensitivity of our results to this measurement issue by estimating the DB pension wealth coefficients on the subsample of individuals who did not change jobs and by including an indicator for job change in our model. We found very similar health insurance effects.

Table 2. Health Insurance and Retirement Outcomes.

Retirement Outcome	*No EPHI*	*EPHI, No Retiree HI*	*Retiree HI*
Husband's Health Insurance			
Couple Retired Jointly	4.84%	6.08%	6.55%
Husband Retired First	13.68%	9.94%	14.55%
Wife Retired First	8.15%	8.29%	7.43%
Neither Retired	73.32%	75.68%	71.46%
Wife's Health Insurance			
Couple Retired Jointly	6.04%	4.04%	7.05%
Husband Retired First	12.20%	15.87%	14.03%
Wife Retired First	8.80%	5.96%	7.02%
Neither Retired	72.96%	74.12%	71.90%

retired but husband did not; and (d) neither husband nor wife retired.

Table 2 tabulates the four retirement outcomes by health insurance status. We hypothesize that couples with retiree health insurance should be more likely to retire jointly than couples who have employer-provided health insurance but no retiree health insurance. Couples with no employer-provided health insurance are free to time their retirement independent of health insurance considerations; however, these couples may face tighter budget constraints that affect the timing of retirement. The simple tabulation in Table 2 shows that husbands with retiree health insurance do not appear to have retired jointly more frequently than husbands with employer-provided health insurance with no retiree health insurance ($p = 0.69$). However, husbands with retiree health insurance were about 4 percentage points more likely to retire before their wives than to continue working ($p = 0.004$). Wives with retiree health insurance were about 3 percentage points more likely to retire jointly with their husbands than were wives who had employer-provided health insurance but lacked retiree health insurance ($p = 0.02$). Wives with retiree health insurance were no more likely to retire before their husbands ($p = 0.45$) or to retire after their husbands ($p = 0.35$) than were wives who had employer-provided health insurance but lacked retiree health insurance. These patterns suggest that wives' retiree health insurance more strongly affected joint retirement than did husbands' retiree health insurance. However, multivariate analyses are necessary to determine if these patterns are robust with respect to control variables.

We estimate a discrete time multinomial logit model of retirement. The discrete time approach has several advantages. This approach enables us to use data on couples who did not retire during the year. We are also able to update health insurance information and other explanatory variables to the appropriate year, rather than rely on baseline characteristics measured in the first year of the survey. Furthermore, our measurement of retirement between survey dates helps secure the analysis against seam bias in retirement reporting and errors in the retirement dates.

We assume that retirement behavior is determined by the following model:

$$(1) \qquad \Pr(R_{ft} = j) = f(\alpha + \beta_1 HI_{hft} + \beta_2 HI_{wft} + \beta_3 X_{hft} + \beta_4 X_{wft} + \beta_5 Z_{ft}).$$

In this model, retirement outcomes are denoted by R_{ft}, where f denotes the family and t the time period. R_{ft} may take any of four values—joint retirement, husband retired first, wife retired first, or neither spouse retired. The key variables of interest are husband's and wife's employer-provided health insurance, denoted, respectively, by the vectors HI_{hft} and HI_{wft}. HI_{hft} includes an indicator for the husband having retiree health insurance offered through his own employer and an indicator for the husband having no employer-provided health insurance through his own employer. The omitted

category is the husband having employer-provided health insurance, but no retiree health insurance from his own employer. HI_{wft} for wife's employer-provided health insurance is defined analogously.

Our analysis assumes that health insurance is determined exogenously from the employment decision. In other words, we assume that individuals do not choose health insurance based on their expected retirement choices. Several considerations give us confidence in the validity of this assumption. First, employees must typically satisfy tenure requirements before qualifying for retiree health benefits. The KFF-HRET (2005) employer survey found that 89% of employers had age and tenure requirements for retiree health benefit eligibility. The most frequent tenure requirements were 10 years of service (49%) and 15 years of service (14%). In our data, individuals chose jobs well before their retirement decisions (the average job tenure was 19 years for male retirees and 13 years for female retirees). Therefore, it was usually impossible for individuals to change jobs close to their retirement dates in order to obtain retiree health benefits, since in most jobs, they would not have been eligible for benefits.

Second, there is evidence that many individuals are not well informed about the details of their employer benefit packages. Research showing that only about half of HRS respondents can correctly identify their retiree benefits (Gustman and Steinmeier 2001) suggests that individuals are not as forward-looking as we may believe.

Third, since the early 1990s, employers have been scaling back on the offer of retiree health insurance and on the generosity of benefits for retirees (KFF-HRET 2005). Many employers who continued to provide these benefits began reserving the right to alter the retiree health insurance offer so that these benefits became less certain for active workers. Individuals who wanted to shop for retiree benefits would have had no guarantee that the plan would be around when they decided to retire.

Fourth, we examine job transitions in our data to document the frequency of transitions into jobs that provided retiree health insurance. If there were few transitions into jobs that offered health insurance, presumably that can be interpreted as evidence that the endogeneity of retiree health insurance is not a pressing concern. Our data show that only 2.2% of men and 1.9% of women switched from jobs that did not offer retiree health benefits to jobs that offered these benefits. Thus, the empirical evidence suggests that there are very few job transitions that are consistent with the notion of shopping for retiree health benefits. Therefore, like most researchers performing similar analyses (see, for example, Blau and Gilleskie 2006), we assume that health insurance choice is exogenously determined.

The control variables in the model include a full set of demographic controls for husband and wife characteristics (X_{hft} and X_{wft}). These include categories for the husband's age and the wife's age. Since the gap between the husband's and wife's ages is likely to be important in determining joint retirement, we have also included interactions between husband and wife age categories. Other control variables include husband and wife education (less than high school, high school, or college) and husband and wife health, parameterized using self-reports of fair or poor health. Poor health is likely to reduce productivity in the work force and the ability to work, and therefore to increase the propensity to retire. When one spouse has poor health, the couple may be more likely to retire jointly if care-giving is important. On the other hand, medical care for a health condition is costly; therefore individuals may have an incentive to keep working to pay for health care. We would expect health insurance to play a role in determining whether couples with health problems can retire jointly. We test this hypothesis by including interactions of health insurance and health in the model.

We have also included control variables for the husband's and wife's job characteristics. These include wages, pension benefits, and job tenure. Since the opportunity cost of retirement is higher for high-wage workers than for other workers, we would expect

high-wage workers to be less likely to retire.[14] On the other hand, DC employer-provided pension benefits should increase workers' ability to retire by providing resources for retirement. The effect of DB benefits on retirement depends on the expected gain from waiting to retire—a higher expected gain should reduce retirement in the current time period. When pension wealth data are missing, we include an indicator for missing data in the model and estimate the model on the full sample.[15] The vector Z_{ft} includes family-level variables such as race, social security wealth, household wealth, length of time between interviews, and year indicators. All models are weighted by household weights provided in the HRS, and standard errors are adjusted for multiple observations per household.

Results

The results from the multinomial logit models of retirement are reported in Table 3.[16] We report relative risk ratios (RRRs) for the outcomes—husband retired first, wife retired first, and neither retired, relative to the baseline outcome of joint retirement. The relevant test of statistical significance compares the RRR to 1.

Effect of Health Insurance on Joint Retirement

As shown in the table, we find that husbands' health insurance had no statistically significant effect on retirement outcomes. However, the presence of retiree health insurance for the wife significantly increased the probability of joint retirement relative to the husband retiring first. Couples in which wives had retiree health insurance were also significantly more likely to retire jointly than to postpone retirement. Predicted probabilities based on model estimates show that if all wives had had retiree health insurance, their propensity to retire jointly with their husbands would have been 3.4 percentage points higher than if they had all had employer-provided health insurance but no retiree health insurance—a change from 4.1% to 7.5%, representing almost a doubling in the effect of health insurance. The predicted probability of continued work for the couple shifts from 74.5% to 72%. A test for the inclusion of wives' health insurance in the multinomial logit model confirms that this variable belongs in the model ($p = 0.02$). Including controls for pension benefits and controls for social security wealth in Table 3 has little effect on the health insurance results (not reported in tables). Since wives were, on average, four years younger than their husbands, wives' retiree health insurance played an important role in enabling couples to retire jointly.

When the wife did not have employer-provided health insurance, joint retirement was statistically significantly more likely than retirement of the husband before the wife. Predicted probabilities based on model estimates show that 4.1% of couples with employer-provided health insurance without retiree benefits retired jointly. In contrast, 5.9% of couples in which the wife did not have employer-provided health insurance retired jointly. *A priori,* it was unclear how the presence or absence of employer-provided health insurance would affect the incidence of joint retirement. These results suggest that absence of employer-provided health insurance increases joint retirement, since couples can choose to retire together unconstrained by health insurance considerations. However, it is also possible that wives who lack employer-provided health insurance face a lower income loss from retiring or have "worse" jobs in nonpecuniary dimensions

[14]It can be argued that wages are endogenous to the retirement choice. We reestimated the models in the paper without controls for wages and found very similar results for the health insurance variables of interest. Also, models with additional job controls that included industry indicators, occupation indicators, and tenure yielded similar results.

[15]If we restrict the sample to observations for which pension data are non-missing, we obtain imprecise estimates of health insurance. This loss of precision is solely due to the change in the sample rather than the inclusion of pension controls, since we continue to find imprecise health insurance effects in the restricted sample even without the inclusion of pension controls in the model.

[16]Using a Hausman test, we confirmed that the Independence of Irrelevant Alternatives assumption of the multinomial logit model is not violated in these models.

Table 3. Selected Estimates from Multinomial Logit Model of Joint Retirement.

	Husband Retired First /Jointly Retired		*Wife Retired First /Jointly Retired*		*Neither Retired /Jointly Retired*	
Variable	*RRR*	*SE*	*RRR*	*SE*	*RRR*	*SE*
Health Insurance						
Husband Had Retiree HI	1.387	0.366	0.820	0.233	0.847	0.194
Husband Had No EPHI	1.232	0.399	1.187	0.398	1.205	0.341
Wife Had Retiree HI	0.466**	0.141	0.577	0.205	0.491***	0.135
Wife Had No EPHI	0.528**	0.159	1.079	0.373	0.654	0.183
Selected Demographic Variables						
Nonwhite	3.325***	1.271	4.151***	1.677	2.718***	0.979
Husband: Fair/Poor Health	0.754	0.215	0.509**	0.175	0.560**	0.142
Wife: Fair/Poor Health	0.571	0.185	1.453	0.470	0.428***	0.121
Selected Employment Variables						
Husband Had DB Plan	0.448	0.287	0.336	0.215	0.491	0.252
Husband Had DC Plan	0.929	0.997	2.697	2.883	1.753	1.671
Wife Had DB Plan	2.531	1.238	2.480	1.340	2.101	0.938
Wife Had DC Plan	0.766	0.596	0.317	0.278	1.100	0.757
Husband DB Pension Wealth (in Logs)	1.021	0.052	1.003	0.050	0.999	0.040
Husband DB Pension Gain (in Logs)	1.031	0.028	1.103***	0.033	1.032	0.024
Wife DB Pension Wealth (in Logs)	0.955	0.039	1.011	0.047	0.977	0.036
Wife DB Pension Gain (in Logs)	0.950	0.031	0.872***	0.031	0.959	0.028
Husband DC Pension Wealth (in Logs)	0.954	0.098	0.898	0.091	0.924	0.084
Wife DC Pension Wealth (in Logs)	1.031	0.086	1.129	0.105	1.028	0.075
Social Security Wealth (in Logs)	0.877**	0.047	0.958	0.055	0.948	0.046
Social Security Gain (in Logs)	1.020	0.061	0.971	0.063	0.977	0.053
Other Variables						
Household IRA Wealth (in Logs)	1.013	0.021	1.015	0.024	1.001	0.018
Other Household Wealth (in Logs)	0.954	0.070	0.926	0.073	0.898	0.061

Notes: RRR denotes relative risk ratios, and SE denotes standard errors. The model includes all variables discussed on pages 403–4. Selected RRRs are reported here.

**Statistically significant at the .05 level; ***at the .01 level.

that encourage them to leave the labor force with their husbands.

We conducted a number of specification checks that are not reported in the tables. First, we reran the models using measures of health insurance coverage from the current job only. These measures are available for 1996, 1998, 2000, and 2002. The health insurance measure used in the main models does not specify whether the health insurance is from a current or previous job. We found that the results for the health insurance measures were very similar to the results from the main model. In particular, for wives' retiree health insurance, the RRR for husband retired first versus joint retirement becomes 0.474 ($p = 0.014$) for the specification reported in Table 3. We do not report these results as our main results because we prefer a health insurance measure that is consistently defined over time. Second, we explored using a variable that measured whether or not retiree health insurance could cover the spouse; however, this variable was missing for most of the sample, and therefore could not be used in the analysis.[17] Third, we included interactions between the health insurance variables and health measures available in the HRS, including number of medical conditions for the husband and wife, number of functional limitations, and self-reported health. We did

[17]KFF-HRET (2005) reported that 98% of spouses of retirees are offered retiree health insurance, conditional on the employer offering retiree health insurance to the worker.

not find any statistically significant interactions in our models. Fourth, we included interactions between the health insurance variables and age categories. In particular, we tested the hypothesis that couples who were over the age of 65 and eligible for Medicare would have a smaller retirement response to employer-provided health insurance incentives than couples who were under the age of 65 and relied on employer-provided health insurance as their sole source of health insurance coverage. While we found that the interactions between an indicator for over 65 and health insurance did have the correct sign, the interactions were not statistically significant. Since only about 10% of our sample consisted of couples over 65 who were still working, we possibly lack the sample size to estimate this interaction reliably.

Effects of Other Factors on Joint Retirement

We find a large and statistically significant effect of race on joint retirement. Nonwhite couples were substantially less likely to retire jointly than white couples. We also find some evidence that health affected joint retirement. Health problems of the husband (wife), as indicated by self-reported "poor" or "fair" health versus "excellent," "very good," or "good" health, increased the probability of joint retirement relative to both the probability that the wife (husband) would retire first and the probability that neither spouse would retire. These results, which suggest that poor health inhibits work, are consistent with results found in the literature. They also support the notion that care-giving may be a factor in determining joint retirement among couples with health problems.

The type of pension plan and pension wealth are jointly statistically significant in the joint retirement model ($p < 0.01$).[18] We find that when the husband had a DB plan, joint retirement was more likely than retirement by the wife alone, although this result is statistically significant only at the 10% level. Wives' DB plans appear to have reduced the probability of joint retirement relative to all other retirement options. Since these wives were younger than their husbands, and were less likely to have been vested in their DB plans, their retirement timing was more likely to be based on pension considerations, thus reducing their ability to time their retirement with their husbands. DB pension wealth also had a statistically significant effect on joint retirement. Husbands who had higher expected gains in DB pension wealth from postponing retirement were more likely to have wives who retired first. Wives who had higher expected gains in DB pension wealth from postponing retirement were less likely to retire first than to retire jointly with their husbands. Predictions based on model estimates show that the predicted probability of wives retiring first falls from 8% to 4% when the DB pension wealth gains increase from the average in the sample to the 75th percentile. Higher social security wealth also increased couples' propensity to retire jointly relative to the husband retiring first.

[18]Including interactions of the pension variables with wave indicators did not change the results.

Conclusion

Our analysis shows that the availability of retiree health insurance increased couples' ability to retire contemporaneously. However, this effect appears to have existed only for the retiree health insurance of wives, not of husbands. Wives' possession of retiree health insurance more than doubled the propensity to retire jointly, suggesting that health insurance was an important consideration in coordinating these couples' retirement decisions. Even though retiree health insurance had a substantial effect on joint retirement, its effect on overall employment patterns was modest, accounting for a 2-percentage-point fall in employment from a base of 75%. Our results are broadly consistent with Blau and Gilleskie's (2006) finding of a stronger health insurance effect for women than for men. Our findings suggest that even though health insurance does not have a large effect on overall employment patterns of couples, it does play an important role in joint retirement deci-

sions. Couples appear to have "job lock" with respect to retirement if the wife, who is typically younger than the husband, does not have retiree health benefits.

Perhaps the reason retiree health insurance more strongly affects joint retirement decisions when the insurance is associated with the wife's job than when it is associated with the husband's job is that women are typically younger than their husbands and need health insurance to cover themselves if they retire before 65. While retiree health insurance from their husbands may potentially cover them, premiums for dependent coverage may be high enough to discourage retirees from covering their spouses on their policies.

Over the past decade, the provision of retiree health benefits has steadily declined. Recent legislation that adds a prescription drug benefit to Medicare may save employers enough in retiree health benefit costs to slow this trend. However, even if firms maintain their retiree health benefits, an increase in cost-sharing requirements and premiums appears inevitable (Kaiser/Hewitt 2002). These trends suggest that couples will increasingly find it difficult to time their retirement together and yet maintain affordable health insurance coverage for both spouses.

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