Health insurance and retirement behavior: evidence from the health and retirement survey

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Abstract

This paper studies the role of health insurance in the retirement decisions of older workers. As policymakers consider mechanisms for how to increase access to affordable health insurance for the near elderly, considerations of the potential labor force implications of such policies will be important to consider — potentially inducing retirements just at a time when the labor force is shrinking. Using data from the 1992 and 1996 waves of the Health and Retirement Survey, this study demonstrates that access to post-retirement health insurance has a large effect on retirement. Among older male workers, those with retiree health benefit offers are 68% more likely to retire and those with non-employment based insurance are 44% more likely to retire than their counterparts who would lose employment-based health insurance upon retirement. In addition, the study demonstrated that in retirement models, when retiree health benefits are controlled for, the effects of pension coverage are reduced, suggesting that these effects may have been overestimated in the prior literature. © 2000 Elsevier Science B.V. All rights reserved.

Keywords: Health insurance; Retirement; Elderly

1. Introduction

With the aging of the baby boom generation, the number of near elderly Americans will rise dramatically in coming years. By 2020, it is estimated that...
there will be twice as many near elderly Americans as today. This is a population group for whom access to affordable health insurance can be problematic, particularly if the employment relation is severed. Employers are the primary source of health insurance for Americans aged 55 to 64. Recently, however, there has been a strong downward trend in the generosity of retiree health benefit offers by employers. Yet few other routes to insurance exist for persons in this age group. Unless blind or disabled, persons under age 65 cannot qualify for Medicare or Medicaid. Options for purchase of health insurance in the private individual markets are equally restricted. Due to insurance underwriting practices, preexisting conditions may be excluded, and some persons in poor health are not insurable at all. For those who are insurable, premium costs in individual markets may be prohibitively high. While continuation and portability mandates (under COBRA and HIPAA) provide for continuing health insurance after leaving an employer, the premiums for this insurance can also be very high for older Americans. Yet, the near elderly are a vulnerable population group. Because the prevalence of poor health and chronic disease rises with age, they have higher expected medical expenses than younger cohorts. For instance, average health care expenditures for persons aged 55–64 are US$5000 compared to US$2200 for persons aged 35–44 (General Accounting Office, 1998).

These concerns have led policymakers to consider various options for increasing access to affordable health insurance for near elderly Americans. These include such recent proposals as allowing persons aged 62 and older to buy into Medicare, and for displaced workers to buy in as early as age 55. One of the most common criticisms of such proposals are the potential adverse labor force outcomes associated with access to post-retirement health insurance — potentially inducing early retirement just at a time when the labor force will already be shrinking due to the retirement of the baby boom generation. An understanding of the retirement effects associated with health insurance access and cost will be critical to understanding the effects on the labor market of public policies aimed at increasing access to affordable health insurance among the near elderly.

2. Literature

The literature on retirement has focused primarily on the role of financial factors such as pensions and social security in retirement decisions. More recently, a number of studies have begun to explore the role of health insurance in the retirement decisions of older workers. All the existing studies except for Lumsdaine et al. (1992) find that health insurance is an important determinant of retirement. However, the magnitude of the effect is still a matter of debate. This is largely due to methodological differences across existing studies. For instance, Rust and Phelan (1997), using the 1969–1979 panels of the RHS, found a large effect of health insurance availability on labor force behavior of older workers. In
a sample of males who did not expect to receive pensions, they estimated that workers age 58–59 who have employer-provided insurance but no retiree health benefits are eight times less likely to quit work than those who have retiree health insurance, Medicaid, or are uninsured. Similarly, in an earlier work, Karoly and Rogowski (1994) also found a large effect. Using data from the Survey of Income and Program Participation (SIPP), they estimated that access to retiree health benefits increases the probability that men age 55 to 62 would retire in two years by 8 percentage points, a 50% increase in the baseline retirement probability. Blau and Gilleskie (1997), studying older male workers in the first two waves of the HRS also found a large effect associated with the availability of employer-provided retiree health benefits. They found that retiree health benefit offers increased the rate of exit from employment by two percentage points per year if premium cost sharing was present and by six percentage points if there was no premium cost sharing, an increase of between 26% and 80% in the job exit rate. Gruber and Madrian (1995), using data from the Current Population Survey (CPS), found a smaller but significant effect of state continuation coverage laws and the 1985 Consolidated Omnibus Reconciliation Act (COBRA), with 1 year of continuation coverage leading to a 30% increase in the baseline probability of retirement for a sample of men age 55 to 64. Madrian (1994) estimated a more modest effect based on retrospective retirement data from the National Medical Expenditure Survey (NMES) and the SIPP. An even smaller estimate is provided by Gustman and Steinmeier (1994) based on an analysis of an earlier cohort of male retirees. Finally, Hurd and McGarry (1993) considered the effects of retiree health benefits on retirement expectations. Using data from the first wave of the HRS (1992), they found that access to retiree health benefits increased the expectation of retiring early. However, the size of the effect also depends on the extent of premium cost sharing: The expectation of retirement by age 62 is larger the greater the amount of employer cost sharing.

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1 We would expect the estimates from Gustman and Steinmeier (1994) to be smaller than those from Karoly and Rogowski (1994), Gruber and Madrian (1995), and Madrian (1994) since the latter studies do not contain controls for the nature of pension plan provisions because of data restrictions. Gustman and Steinmeier control for the type of pension plan held (defined benefit or defined contribution). Defined benefit plans contain incentives to retire early and are correlated with retiree health benefit offers. Thus, one would expect that Gustman and Steinmeier estimates to be lower than for models that do not control for pension provisions. Further, Gustman and Steinmeier do not know when workers in their sample from the 1969 to 1979 Retirement History Study become eligible for retiree health benefits, so they assume that the eligibility for retiree benefits coincides with pension eligibility. However, in 1991, among medium and large firms, only 32% of workers eligible for retiree benefits before age 65 must qualify for a pension to receive one; 35% had a service requirement and 22 had no requirement. Thus, the pension variables may be picking up part of the effect of retiree health benefits, since these are correlated. This would lead lower estimates of the effect of retiree health insurance as well.
The early literature on the effects of post-retirement health insurance on retirement behavior was hampered by the lack of longitudinal data in which both retirement behavior and offers of post-retirement health insurance could be observed. Karoly and Rogowski (1994), Gustman and Steinmeier (1994), and Rust and Phelan (1997) all imputed the presence of these benefits into longitudinal data sets. Hurd and McGarry (1993) and Madrian (1994) both studied cross-sectional data, considering the age at retirement and retirement expectations, respectively. Finally, Gruber and Madrian (1995) adopted a different approach, considering the effects of continuation of coverage mandates on early retirement behavior. The Health and Retirement Survey provides the first longitudinal database in which it is possible to observe both retirement behavior and offers of post-retirement health insurance.

In this study, we use data from the first three waves of the HRS to estimate how access to post-retirement health insurance, and the cost of that insurance affects the retirement behavior of older male workers. We contrast the behavior of workers who are insured while working but face a discontinuity in health insurance receipt upon retirement with those whose health insurance status would be unchanged by severing the employment relation (either because they have retiree health benefit offers or because their insurance status is unaffected by their labor force status, since they have non-employment based insurance or are uninsured).

3. Data and empirical model

In the analysis that follows, we draw on the hypotheses outlined above and estimate probit models of retirement behavior. Specifically, assume that the 'propensity' to retire is given by the probit index function for person \( j \) by:

\[
 r_j^* = \beta_0 + \beta_1 E_j + \beta_2 S_j + \beta_3 P_j + \beta_4 H_j + \beta_5 I_j + \beta_6 K_j + \beta_7 C_j + \beta_8 HI_j, \tag{1}
\]

where \( E \) = socioeconomic characteristics, \( S \) = social security coverage, \( P \) = pension coverage, \( H \) = health status, \( I \) = access to employer-provided retiree health benefits, \( C \) = cost sharing provisions for retiree health insurance compared to active workers, \( K \) = health insurance status that is not related to employment (covered by private or public insurance or uninsured) and \( HI \) is the interaction of health status and access to post-retirement health insurance. The binary outcome variable for whether the older worker retires is:

\[
 R_j = \begin{cases} 
 1 & \text{if } r_j^* > 0 \\
 0 & \text{if } r_j^* \leq 0 
\end{cases} \tag{2}
\]
We hypothesize that workers who have access to post-retirement health insurance (I) will be more likely to retire early than their counterparts who would lose health insurance upon retirement. Similarly, workers whose health insurance status does not depend on their employment status, either because they are uninsured or have public or private health insurance (K), will also be more likely to retire than those who would lose their health insurance upon retiring from their jobs. Similarly, for workers who are offered post-retirement health insurance, we would expect that the cost of that insurance in retirement relative to working (C) will play a role in retirement decisions. Finally, the offer of retiree health benefits is likely to have a larger retirement effect on workers who are in poor health (HI). These workers face the most obstacles in obtaining health insurance in private markets and have the highest financial risk from being uninsured.

The probit models are estimated with data from the first and third waves of the HRS fielded in 1992 and 1996, specifically the public release version of wave 1 and the alpha release version of wave 3. The analysis is restricted to age-eligible men who were working full-time as of wave 1 and who are not lost due to attrition or death in wave 3, a total sample of 2638 men.\(^2\)

Retirement is defined as a transition from full-time work (35 h or more per week) in wave 1 to being out of the labor force and retired (as self-reported) in wave 3. Sixteen percent of men working full time in wave 1 retired by the third wave of the survey. All other covariates are measured as of wave 1. We constructed measures for whether an individual with health insurance coverage as an active worker was covered by any retiree health benefits. For each plan for which benefits can be continued after retirement, the HRS also ascertains the level of premium cost sharing in retirement compared to being an active worker. In the case where multiple retiree health benefit plans existed, the most favorable cost-sharing arrangement was selected to represent the cost-sharing option facing the worker upon retirement. Finally, workers without employment-based insurance were classified as having some other form of health insurance coverage, either through a public plan (i.e., Medicare or Medicaid) or other private coverage. Individuals without any insurance coverage form the remainder of the sample.

Several measures of health status were created. These include the presence of two or more common chronic conditions (hypertension, diabetes, cancer, chronic lung disease, heart problems, stroke and arthritis) currently or at any time in the past. A second health measure included in the models is the respondent’s body

\(^2\) 17.3% (N = 553 men working full time either died or attrited from the sample). Men who were unmarried, black, with less than a college degree, uninsured and with no pension or defined contribution plans only were somewhat more likely to attrite from the sample. There were no differences in attrition related to the presence of common chronic conditions, the offer of retiree health benefits or the retiree health benefit cost sharing arrangement.
mass index (BMI), defined as weight (in kilograms) divided by height (in meters) squared. Anthropometric measures have been found to be more objective indicators of health status, with BMI capturing maximum physical capacity independent of energy intake (Strauss and Thomas, 1995).

Socioeconomic characteristics include age, race, marital status and education. Ideally we would include measures of Social Security and pension wealth as of wave 1. However, these measures are currently not available in the HRS public use files for all respondents. We follow the retirement literature and instead include controls for access to social security and pensions. We include a measure of social security eligibility, which is “yes” for those currently receiving benefits or for those who say they expect to receive benefits in the future. However, this measure is of limited value as 93% of men in the sample are either receiving or expect to receive social security in wave 1. Pension benefits are based upon self-reports, with up to four plans reported on for the current or former employer(s). Based on this information we classify individuals as having no pension coverage, or coverage through one or more defined benefit plans, one or more defined contribution plans, both defined benefit and defined contribution plans, or one or more plans of unknown type. A small fraction of individuals did not know if they had a pension plan. They are grouped with those who stated they had no plan. Since the length of time between the first and second waves of the HRS varies across respondents, we include a control for the time between interview waves.

4. Determinants of retirement behavior

The results of the probit models of early retirement are presented in Table 1. This table includes two models with probit coefficients and marginal effects reported for all covariates. The first model presents the results of including a core set of socioeconomic, health and financial characteristics. The second model adds information on the availability of retiree health insurance and its cost relative to being an active worker. The models control for age, race, marital status, education and the length of time between the interview waves. We discuss only the results for financial factors and health insurance.

The second column of Table 1 provides results on the effect of health insurance on retirement. The health insurance variables are highly jointly significant ($p < 0.01$). The offer of post-retirement health insurance has a large effect on retirement behavior. Workers with retiree health benefit offers are 10.9 percentage points more likely to retire than their counterparts who have health insurance from their employers but would lose it upon retirement. This represents a 68% increase in the baseline probability of retiring between the first three waves of the HRS. However, this may overestimate the true effect due to potential selection bias. If workers who expect to retire early select into jobs with retiree health benefits, then
Table 1  
Effect of health insurance on the retirement behavior of full-time older male workers in the HRS between 1992 and 1996a

<table>
<thead>
<tr>
<th></th>
<th>Model I</th>
<th>Model II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social security [does not have social security now / expect in future]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social security have now / expect in future</td>
<td>$-0.104 (0.135) [-0.022]$</td>
<td>$-0.085 (0.138) [-0.017]$</td>
</tr>
<tr>
<td>Pension [no pension or DK type]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have defined contribution</td>
<td>$0.256^* (0.114) [0.038]$</td>
<td>$0.193 (0.122) [0.030]$</td>
</tr>
<tr>
<td>Have both</td>
<td>$0.535^* (0.096) [0.096]$</td>
<td>$0.399^* (0.105) [0.071]$</td>
</tr>
<tr>
<td>Have pension but do not know type</td>
<td>$0.489^* (0.103) [0.085]$</td>
<td>$0.313^* (0.114) [0.052]$</td>
</tr>
<tr>
<td>Retiree health benefits has employer insurance and no RHB offered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has employer insurance and RHB offered</td>
<td>$0.645^* (0.148) [0.109]$</td>
<td>$0.135 (0.156) [0.016]$</td>
</tr>
<tr>
<td>Has employer insurance but DK RHB offered</td>
<td>$0.469^* (0.169) [0.070]$</td>
<td></td>
</tr>
<tr>
<td>but other private/public Cov</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has no insurance</td>
<td>$-0.053 (0.179) [-0.005]$</td>
<td></td>
</tr>
<tr>
<td>Retiree health benefits cost sharing (any name) [retiree pays same (something) as active worker]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retirees and active workers do not pay</td>
<td>$0.014 (0.146) [0.003]$</td>
<td>$-0.055 (0.165) [-0.010]$</td>
</tr>
<tr>
<td>Retirees pays less than active workers</td>
<td></td>
<td>$-0.053 (0.106) [-0.010]$</td>
</tr>
<tr>
<td>Retirees pays more than active workers</td>
<td>$-0.132 (0.136) [-0.024]$</td>
<td></td>
</tr>
<tr>
<td>Health Status [one or fewer chronic conditions]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body Mass Index</td>
<td>$0.013^* (0.007) [0.003]$</td>
<td>$0.011 (0.008) [0.002]$</td>
</tr>
<tr>
<td>Two or more chronic conditions</td>
<td>$0.110 (0.073) [0.022]$</td>
<td>$0.107 (0.074) [0.021]$</td>
</tr>
<tr>
<td>Intercept</td>
<td>$-2.405^* (0.575)$</td>
<td>$-2.741^* (0.596)$</td>
</tr>
<tr>
<td>Model log likelihood</td>
<td>$-957.42$</td>
<td>$-931.57$</td>
</tr>
<tr>
<td>Joint Significance Tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TEST [pension]</td>
<td>$36.34^* *$</td>
<td>$15.80^* *$</td>
</tr>
<tr>
<td>TEST [health status]</td>
<td>$6.52^* $</td>
<td>$4.94^* *$</td>
</tr>
<tr>
<td>TEST [health insurance]</td>
<td>$32.96^* *$</td>
<td></td>
</tr>
<tr>
<td>TEST [retiree health benefits cost sharing (any)]</td>
<td>$1.23$</td>
<td></td>
</tr>
</tbody>
</table>

Numbers in () are standard error, numbers in [ ] are marginal probabilities.  
Note: $N = 2638$.  
*The model controls for age, race, marital status, education and the months between interview waves. These coefficients are not reported here, but are available from the authors.  
*Statistically significant at the 0.05 level (2-tailed).  
**Statistically significant at the 0.01 level (2-tailed).  
***Statistically significant level at the 0.1 level (2-tailed).
this would tend to bias the coefficient on retiree health benefits upward. Thus, this estimate may best be interpreted as an upper bound. The extent of selection bias is unknown. It is worth noting, however, that a substantial fraction of the men in the sample do not know if they have retiree health benefits (16%). This is particularly striking in comparison to those who do not know if they have pension benefits (0.05%), suggesting that if selection effects exist, they may perhaps be larger for pension benefits than retiree health benefits among older workers.

Table 1 also provides some insight into the job lock associated with health insurance among older workers. Persons who have health insurance from non-employment based source, either public or private should be less "job locked" than workers who would lose their health insurance upon retirement. The results of the probit regressions confirm this relationship. This group of workers is 7 percentage points more likely to retire compared to those who would lose their employment-based insurance, a 44% increase in the baseline retirement probability. On the other hand, workers who are uninsured are not significantly more likely to retire than those who have health benefits but would lose them upon retirement. While they are less job locked than the latter group of workers, these older workers may be unable or unwilling to retire perhaps due to the need to protect against high medical costs when uninsured.

The workers in the HRS cohort are eligible for COBRA, that is 18 months of continuation coverage at 102% of the employer’s group rate. However, because the data are from 1992 and 1996, the sample pre-dates the enactment of HIPAA. Thus, after the 18 months of COBRA coverage, retirees face the prospect of purchasing health insurance in the individual market. Policies, if written at all, could be issued with pre-existing condition clauses as well as high premiums due to individual or age rating. Thus, for persons aged 59.5 at the start of the panel or younger the lack of retiree health insurance would imply that workers would face a large discontinuity in health insurance access if they retired during the study period. Persons aged 59.5 and older, however, could possibly have availed themselves of COBRA coverage if they retired during the study period, depending on the timing of retirement. We therefore added an interaction term of being age 59.5 or younger in the first wave of the HRS and having no retiree health benefit offer to the model. We would have expected this term to be negative, and in fact, it was, but the coefficient was not significant. Similarly, one might expect the importance of retiree health benefits would be higher for persons in poor health. Neither of these health status variables was significant in the regressions, although jointly the health status variables were weakly significant (\( p < 0.10 \)). We interacted each of the two health status variables with the retiree health benefit offer variable, and neither was found to be significant. Given that the main effect of health status was weak, this result is not surprising. In addition, although one would expect the differential degree of premium cost sharing in retirement compared to working would influence retirement, the cost sharing variables were also not significant, either jointly or individually. This finding differs from that in
Blau and Gilleskie (1997) which was based on data from the first two waves of the HRS.

The results in Table 1 also confirm that financial factors are an important determinant of early retirement with the strongest effects associated with pension coverage. Including a control for access to social security benefits has no effect on early retirement behavior. Most individuals differ not in access to social security but in the size of the benefit they will receive. Further, there is little variation in this measure in the sample. For these reasons, the absence of a significant effect is not surprising. The pension effects, in contrast, are strong and consistent with the previous literature. The pension variables are jointly significant at the 1% level. The retirement probability increases the most for workers with a defined benefit plan either alone or in combination with a defined contribution plan — a 7.1 or 11.4 percentage point increase in the retirement probability, respectively. These are large effects, as the baseline retirement probability is 16%. This finding is consistent with those of Stock and Wise (1990) who find that defined benefit plans provide incentives to retire early that are not contained in defined contribution plans. Most notably, the magnitude of the pension effect depends upon whether we include controls for access to retiree health benefits. Given the positive correlation between access to retiree health benefits and pension benefits, failure to control for the former leads to an overestimate of the pension effect. Specifically, the pension effect falls by between 20% and 40%. This suggests that prior models in the literature that have estimated the effect of pensions without controlling for post-retirement health insurance offers have overstated the size of the pension effect due to omitted variables bias.

5. Conclusion

With the leading edge of the baby boom generation now turning 50, the number of near elderly persons will rise dramatically in coming years. By 2010 there will be almost as many Americans aged 55–64 as those aged 65 and older. Yet, while persons over age 65 have access to health insurance through Medicare, the near elderly have very limited options for affordable health insurance other than employers. Due to the increasing prevalence of poor health and chronic conditions with age, this is a population group with high expected medical expenditures. A number of policy initiatives have been aimed at increasing access to health insurance for the near elderly, such as proposals to allow persons younger than age 65 to buy into Medicare. However, these initiatives have been criticized for their potential labor force effects, inducing retirement just at a time when the labor force is shrinking.

The results of this study demonstrate that offers of post-retirement health insurance are associated with an increased propensity to retire early, estimated to
be 68% of the baseline probability. This is likely to be an upper bound, however, on the effect of access to employer-sponsored health insurance in retirement due to potential selection effects among older workers. However, the level of premium cost sharing in retirement relative to while working does not appear to influence the retirement decisions of older workers. The importance of health insurance is also highlighted by the job lock among workers who would lose their health benefits if they retired compared to those who have health insurance from non-employment based sources. Workers who have either public or private insurance are much more likely to retire (a 44% increase in the baseline) than their counterparts who have health insurance from their employers but do not have retiree health insurance. In contrast, however, persons who are uninsured also appear to be job locked. This may be due to the need to continue to work in order to protect against the costs of being uninsured. Ultimately, policymakers will need to balance the benefits of increased access to health insurance against the labor force effects associated with such policies.

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