The Role of Retiree Health Insurance in the Early Retirement of Public Sector Employees*

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Abstract

Public sector employees often face strong early retirement incentives from their defined benefit pension plans. In addition, the presence of retiree health insurance can facilitate early retirement. For most private sector workers with employer-provided health care coverage, the only way to maintain group coverage is to continue working until Medicare eligibility (age 65). However, most government employees have access to retiree health coverage, which allows them to continue group coverage even after stopping work. Retiree health coverage eliminates the incentive to wait for Medicare to retire. We study the impact of retiree health coverage on job exit rates among public sector workers between the ages of 58 and 64. We find that, for state and local government employees, retiree health coverage raises the probability of job exit by 9.3 percentage points (around 69 percent) at age 61 and by 13.0 percentage points (around 71 percent) at age 64. These effects are somewhat larger than for private sector employees. We find weaker evidence that more generous coverage (measured by the percent of the premium paid by the employer) has a larger effect on retirement than less generous coverage.

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I. Introduction

Public sector budgets have come under increasing pressure in recent years, mainly due to the escalating cost of providing pension and health benefits to retirees. This financial burden is exacerbated by the fact that many public sector pension plans contain strong incentives to retire early, often well before age 65. In addition, public sector employers usually provide employees with retiree health insurance, which allows former employees who meet certain age and service requirements to participate in a group health plan. Retiree health insurance can facilitate early retirement, thereby enhancing the effects of the retirement incentives in pension plans. As group health insurance is typically available only through employment, most individuals with employer-provided health coverage have an incentive to delay retirement until Medicare eligibility — at age 65 — in order to maintain health care coverage.¹ According to the Kaiser Family Foundation (2012), only about a quarter of private firms with 200 or more employees offer such coverage, and that fraction has fallen sharply over time. However, workers who are eligible for retiree health coverage — including most public sector employees — can maintain group coverage even if they retire before Medicare eligibility.

In this paper, we examine the impact of retiree health coverage on the retirement decisions of public sector employees.² Because retirement is difficult to measure directly, in our empirical analysis, we use exit from a career job as a proxy for retirement. That is, we study whether generous retiree health insurance is associated with an increased pre-Medicare job exit rate among public sector employees with 5 or more years of job tenure. We model the probability of stopping work at ages 58-64 as a function of the generosity of retiree health coverage, as well as controls for demographics, health, job characteristics, work history, and pension plan retirement incentives. We focus on the decision to

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¹ In principle, the Consolidated Omnibus Budget Reconciliation Act (COBRA) allows workers to retire at age 63½ by giving them the right to them to buy into their former employer's group health plan. However, while COBRA gives workers access to group rates, it typically does not include an employer contribution.

² Retiree health coverage may also reduce the need to save for retirement. A related paper (Clark and Mitchell 2013) examines the impact of retiree health coverage on the saving decisions of public sector workers.

stop work before the age of 65 because retiree health coverage is most valuable for retirees in this group. Typically, a public sector retiree health plan is the primary payer for pre-Medicare eligible retirees. When a retiree becomes eligible for Medicare, however, he or she is required to enroll in Medicare, relying on the retiree health plan only as a secondary payer (Clark and Morrill 2010).

To preview our results, we find that retiree health coverage raises the probability of job exit for state and local employees by 9.3 percentage points (around 69 percent) at age 61 and by 13.0 percentage points (around 71 percent) at age 64. These effects are somewhat larger than for private sector employees. We find weaker evidence that retiree health coverage influences the job exit decisions of federal and military employees, and that more generous coverage (measured by the percent of the premium paid by the employer) has a larger effect than less generous coverage.

In the near future, the Affordable Care Act (ACA) will allow all individuals to purchase group health insurance on state-run exchanges. In addition, many individuals will receive subsidies towards their health insurance purchases. Because the exchanges make group health insurance available outside of employment, the ACA effectively provides all individuals with retiree health insurance. Thus, both public and private employers offering retiree health coverage will find that the compensation packages they offer are less attractive to workers. In response, we might expect to see state and local governments increase monetary compensation for their employees while dropping retiree health coverage.

The remainder of this paper is organized as follows. Section II provides background information, including a summary of the prior research on retiree health insurance and retirement and an overview of public sector retiree health plans. Section III describes our data and methodology. Section IV presents our results. Section V discusses the policy implications of our results in light of the ACA. Section VI concludes.

II. Background on Retiree Health Insurance and Retirement

The vast majority of public sector workers are covered by retiree health plans, which allow them to purchase group health insurance after retirement. Federal employees continue to participate in the Federal Employees Health Benefits (FEHB) program when they retire (U.S. Office of Personnel Management 2013), and retirees receive the same employer contribution as current employees. The FEHB program provides access to a range of different health plans, and in most cases, the federal government contributes either 72 percent of the overall weighted average premium, or 75 percent of premium of the chosen plan, whichever is smaller. At the state level, the provisions of public sector retiree health plans – for example, employer contributions, co-pays, and deductibles – vary considerably (see e.g., Clark and Morrill 2010). Table 1, based on data from GAO (2007), shows the employer contribution (as a percent of the premium) paid by each state government for the most recent group of retirees in 2006. These contributions range from 100 percent of the premium (in 14 states) to zero percent of the premium (in another 14 states); in the latter group, the main benefit of retiree health coverage is access to group rates, which are typically unavailable in the individual health insurance market. In many cases, employer contributions vary based on length of service and other characteristics (see, e.g., Clark and Morrill 2010). The GAO (2007) figures assume the maximum possible employer contribution, or, if there is no maximum, the contribution attained at 30 years of service. Similar variation in provisions exists across local governments as well (see e.g., Clark, Morrill, and Riche 2011). Within each public sector health plan, deductibles, co-pays, and the employer contribution rate are adjusted from year to year depending on health care costs and the plan's finances. In recent years, many plans have become less generous along these dimensions (see e.g., Franzel and Brown 2012).

In principle, the availability of retiree health coverage makes it easier for workers to retire prior to Medicare eligibility. Thus, we would expect to observe higher job exit rates or lower labor force participation among retiree-health eligible workers in their late 50s and early 60s. Indeed, prior studies

of retiree health coverage have found such a relationship. These studies typically take one of three approaches. The first approach is to use a structural life cycle model to simulate retirement behavior both with and without retiree health coverage. Studies taking this approach include Blau and Gilleskie (2006, 2008), Gustman and Steinmeier (1994), Lumstaine Stock and Wise (1996), and French and Jones (2011). A second approach is to use micro-data to directly estimate the impact of retiree health coverage on retirement. This is the approach taken by Blau and Gilleskie (2001), Kapur and Rogowski (2011), Marton and Woodbury (2007), Karoly and Rogowski (1994), Robinson and Clark (2010), Strumpf (2010), Madrian (1994), Mulvey and Nyce (2004), Marton and Woodbury (2013), Leiserson (2013), and Nyce et al. (2013). These studies typically find larger effects than those based on structural models. Finally, Gruber and Madrian (1995) adopt a third approach based on aggregate state-level data. During the 1970s and 1980s, a number of states, as well as the federal government, adopted "continuation of coverage" requirements that allowed workers to continue to participate in their employers' group health plans after leaving employment. Using variation in these laws across states and time, they find that continuation of coverage requirements reduced the labor force participation rate of pre-Medicare workers.

These earlier studies focus primarily on the retirement behavior of private sector workers. While some public sector workers may have been included in the samples analyzed, they are not the focus of the analysis and most likely constitute a small fraction of the sample. One exception is Leiserson (2013), who finds that eligibility for retiree health insurance increases the probability of job exit for Pennsylvania state employees. Studies that focus on public sector workers are valuable in light of the large role that retiree health insurance plays in public sector budget shortfalls. Our paper contributes in this area by studying the relationship between retiree health insurance and job exit decisions for a broad sample of public sector workers. Retiree health insurance may have a stronger effect for public sector workers because these individuals also have access to relatively generous defined benefit pensions. On

the other hand, the value of public sector retiree health insurance may be diminished by the uncertainty surrounding the finances of these programs. Public sector retiree health plans have accrued large unfunded liabilities in recent years. For example, a recent survey of 61 cities' retiree health plans revealed total liabilities of \$126 billion with assets of only \$8 billion (Pew Charitable Trusts 2013). For state governments, another recent study reported unfunded liabilities of \$627 billion for fiscal year 2010 (Pew Center on the States 2012). In response to these shortfalls, a number of public sector employers have made changes to their retiree health plans, making them less generous. And, a survey of state retiree health plan administrators suggests that these individuals expect further tightening of eligibility requirements and reductions employer contributions in the future (Clark and Morrill 2010). This uncertainty about future benefits is likely to reduce the responsiveness of retirement decisions to retiree health coverage.

III. Data and Methodology

We use data from the Health and Retirement Study (HRS) in our analysis. The HRS is a biennial panel survey that is intended to be representative of older Americans. We restrict our sample to four cohorts in the HRS: the original HRS group that entered the survey in 1992, the War Babies (WB) and the Children of Depression (CODA) groups that entered the survey in 1998, and the Early Baby Boomers group that entered the survey in 2004. For each of these groups, we define the baseline year as the year in which the group entered the survey. We drop all individuals who do not respond to the survey, or who respond via a proxy, in the baseline wave. We also drop all individuals who are not working for pay in the baseline wave. Finally, we exclude individuals with less than 5 years of service on their current job as of the baseline wave, as these individuals are unlikely to be eligible for retiree health coverage.

Most of the variables used in our analysis – including demographic information, work history, total wealth³, self-reported health, earnings, employer and retiree health coverage, and pension coverage – come from the RAND version of the HRS, and they are collected at the respondent's baseline wave. Earnings and wealth are converted to 2004 dollars using the CPI-U. To track labor market exits, we also use information on work status (whether an individual is doing any work for pay) and age in subsequent interviews. We merge information from the raw HRS on current and prior public sector employment. In particular, we define an individual as a current state or local employee if the individual is working for a state or local government as of the baseline interview. We employ a similar definition to identify current federal and military employees.⁴ Remaining employees are divided into two groups: private sector employees (who report no prior public sector employment) and private sector employees with a public past (who report prior public sector employment). We drop all individuals who cannot be classified into these employment categories due to missing data. We also merge in each respondent's state of residence, detailed occupational classification (to identify teachers), and defined benefit pension wealth from the restricted version of the HRS.

For state and local employees who report being covered by retiree health insurance, we match respondents to the state government's 2006 employer contribution reported in GAO (2007) and shown in Table 1. The match is based on an individual's state of residence in the baseline wave. The employer contribution percentage is intended to proxy for the generosity of retiree health coverage available to the employee. However, it should be noted that this is an imperfect proxy. As we mentioned above, the generosity of a program may vary according to when an employee was hired. Moreover, the HRS

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³ We Winsorize total wealth at the 0.5 percent level to eliminate the influence of outliers.

⁴ A few individuals report multiple kinds of public employment – e.g., state/local and federal. We classify individuals as federal employees if they report any current federal employment, as state/local employees if they report current state/local but not federal employment, and as military if they report current military but not current federal or state/local employment.

makes no distinction between state and local employment. It is possible that local government employees in our sample receive different employer contributions to their retiree health costs.

Individuals are classified into several categories according to their retiree health insurance and employer health insurance coverage in the baseline wave:

- 1) Individuals with no employer health insurance
- 2) Individuals with employer health insurance but no retiree health insurance
- 3) Private sector employees with employer and retiree health insurance
- 4) Federal or military employees with employer and retiree health insurance
- 5) State or local employees with employer and retiree health insurance

In some specifications, individuals in (5) are broken into groups based on the generosity of their RHI, as measured by the employer contribution. Theory predicts that individuals in groups (3)-(5) should have a higher departure rate than individuals in group (2). The effect for group (5) should be more pronounced among state and local employees with more generous retiree health coverage.

In estimating the impact of retiree health coverage on retirement, it is important to control properly for retirement incentives in defined benefit pension plans. Failing to do so may inflate the measured impact of retiree health coverage on retirement. Ideally, we would want to control for the change in defined benefit pension wealth from continuing to work at any particular age. To construct such a measure, we need estimates of defined benefit wealth at various ages. We obtain these estimates from the data in Gustman, Steinmeier, and Tabatabai (2010), available as a restricted HRS file. These data include estimates of the real present value of each respondent's defined benefit wealth, in 1992 dollars, at ages 55, 60, and 65. Each of these variables is collected in 1992 and 1998. Thus, they are not available for the EBB cohort. Moreover, there are also a number of missing values, even for the other cohorts. If an individual has pension wealth for either 1992 or 1998, we use that value. For individuals who have pension wealth in both 1992 and 1998, we take the mean of the two years' values.

We impute pension wealth for all other individuals as follows. For those who have pension wealth at a particular age (55, 60, or 65), we regress pension wealth at that age on a set of indicators for employment status (current state/local, current federal, current military, private with public past, and private), an indicator for whether the individual is a teacher, a set of state dummies, a set of industry dummies, a set of occupational dummies (using the broader occupational classification from the unrestricted HRS), age and its square, and service and its square. All of the independent variables in these regressions are measured in the baseline wave. We then use these regression results to impute pension wealth for all individuals who are missing these values.

Another issue of concern is the possibility of selection on unobservables into jobs that offer retiree health coverage. For example, individuals with a stronger preference for leisure (who tend to retire earlier) may select into certain jobs, and these jobs may tend to offer retiree health coverage as employees are more likely to value it (see French and Jones 2011). Selection on unobservables is less likely to be a concern within the set of public sector employees. In other words, while individuals may select into public sector employment based on unobservables, it is less likely that they will select across public sector employer based on these characteristics. Thus, if we find that public sector employees with more generous coverage have higher departure rates than public sector employees with less generous or no coverage, we can be more confident that the result is not driven by selection. In addition, excluding individuals with less than 5 years of service minimizes the chances that the individuals in our dataset explicitly chose their jobs because of the retiree health coverage. Individuals who are more than 5 years away from retirement are less likely to think about retiree health coverage in evaluating their compensation package.

We perform our main analysis at the person-wave level, and we use person-wave observations in which the respondent's age is between 58 and 64. As we cannot directly observe retirement, the dependent variable in our analysis is an indicator for stopping work. It takes on the value of 0 if the

respondent was working for pay in the previous wave and continues to work for pay in the current wave. It takes on the value of 1 if the respondent was working for pay in the previous wave and is no longer working for pay in the current wave. It is missing in all other cases. We utilize only the first job exit for each respondent, dropping all subsequent observations for a respondent after this occurs.

Obviously job exit does not always imply retirement, as workers may restart work later. However, we would expect it to be highly correlated with retirement among the subset of people with at least 5 years of job tenure; that is, departure from a career job in one's late 50s or early 60s is highly likely to imply retirement. For each person-wave observation with a current age between 55 and 59, we construct defined benefit pension wealth accrual as the difference between pension wealth at age 60 and pension wealth at age 55. Accrual is defined analogously for person-wave observations with an age between 60 and 64. Note that accrual is set to zero for individuals who do not report being covered by a defined benefit pension.

Table 2 shows summary statistics for all the variables used in our analysis, for both the full sample and for public sector employees. Compared to the full sample, public sector employees are more likely to be female and nonwhite, and to have a college degree. They are more likely to have employer-provided health insurance, retiree health insurance, and a defined benefit pension. They are also less likely to report fair or poor health status. However, their assets, income, and years of service are similar to those of private sector workers.

We estimate logit models in which the dependent variable is our indicator for stopping work.

The key independent variables are a set of indicators for employer and retiree health coverage, as defined earlier. We interact these indicators with a set of age dummies, thereby allowing the effects of retiree health coverage to vary with age. We also control for age (using a set of age dummies), gender,

⁵ Job tenure is based on a respondent's job in the baseline wave. It is possible for an individual to switch jobs between the baseline wave and a future wave, while remaining employed in all intervening waves. If this occurs, our dependent variable would register a job exit when the individual leaves the new job, rather than the job held in the baseline wave. However, we would expect such occurrences to be relatively rare.

race and ethnicity, education, marital status, number of children, fair or poor self-reported health status, pension coverage, defined benefit pension coverage, defined benefit pension accrual, a set of occupation dummies (based on the broad occupation categories in the restricted HRS), a set of industry dummies, earnings and its square, years of service and its square, total assets and its square, and a set of wave dummies. In our first set of regressions, we include all person-wave observations. Next, we estimate the same set of regressions using only observations on public sector employees. We cluster standard errors at the household level throughout.

IV. Results

Table 3 shows the effect of retiree health coverage at ages 58-64 for all employees. The coefficients reported in this table are marginal effects. The last row of the table shows the job exit rate at each age for the omitted category of health insurance – that is, for individuals with employer-provided health insurance and no retiree coverage. Relative to this comparison group, we find that retiree health coverage is associated with a significantly greater probability of stopping work at ages 60 (for private sector employees) and 61 and 64 (for state and local employees). We find no evidence that retiree health coverage influences the job exit decisions of federal or military employees. To be more specific, for state and local employees, retiree health coverage raises the job exit rate by 9.3 percentage points (around 69 percent) at age 61 and by 13.0 percentage points (around 71 percent) at age 64.

These effects are somewhat larger than for private sector employees. Among private sector employees, retiree health coverage raises the job exit rate by 5.6 percentage points (around 59 percent) at age 60. Lack of employer provided health insurance also increases the job exit rate at age 60. This result is not surprising. Individuals who lack employer-provided coverage are similar to those with retiree coverage in the sense that they are not waiting for Medicare to retire.

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⁶ We report only the marginal effects for the retiree health indicators. Full results are available upon request.

Table 4 presents results from estimating the same regression with more detailed retiree health coverage indicators for state and local employees. We find some weak evidence that larger employer contributions are associated with higher departure rates. In particular, the effects for state and local employees are concentrated among those with an employer contribution, compared to those without. This is consistent with the results of Nyce et al. (2013) who use a similar methodology and find that group coverage with no employer contribution has no statistically significant impact on departure among a large group of employees. However, the effect of contribution size is not consistent. For example, at age 61, an employer contribution of 1-49 percent is associated with a 16.2 percentage point (around 120 percent) increase the probability of departure, while an employer contribution of 100 percent is associated with only a 10.6 percentage point (around 78 percent) increase in the probability of departure. Furthermore, a contribution of 50-99 percent is not associated with a statistically significant increase in the probability of departure at age 61. We suspect this inconsistency may come from the fact that our measure of employer contribution is an imperfect proxy for the generosity of a retiree health plan. For example, employer contribution rates may vary across employees depending on their date of hire. Our sample may also include local government employees who are covered by different provisions. Finally, there are many other features of a retiree health plan – e.g., co-pays and deductibles – that help to determine its generosity.

Table 5 presents the same results as Table 3, but using only observations on public sector employees. The results for state and local workers are similar to those in Table 3, suggesting that retiree health coverage raises the probability of departure by 7.6 percentage points at age 60 and by 12.4 percentage points at age 61. Within the sample of public sector employees, we find a statistically significant effect for federal and military employees: retiree health coverage raises the probability of stopping work by 18.1 percentage points at age 61. Table 6 presents the same results as Table 4, but again using only observations on public sector employees. Just as in Table 4, the effects of retiree health

coverage at age 61 are concentrated among state and local employees with employer subsidies. But again, while there is some association between employer contribution level and job exit rates, it is not a consistent relationship.

V. Policy Implications

The labor supply faced by employers, both in terms of the quality and quantity of labor offered in the market, depends on the overall attractiveness of the jobs that they offer. This attractiveness, in turn, depends on an entire vector of job attributes. Certainly, at the top of the list is the compensation offered, but compensation includes both salary and benefits, with benefits including retirement plans, health insurance, retiree health insurance, and other considerations such as vacation accruals. Job attractiveness also depends on such things as working conditions and job security. Traditionally, public sector jobs feature strong benefit packages including defined benefit pensions, job security, and good health insurance coverage. We have focused here on retiree health programs, which are nearly universal for public sector workers, but which have become increasingly uncommon in the private sector.

The fact that public sector jobs offer relatively strong benefit packages allows them to offer somewhat lower salaries and still compete in overall job attractiveness that determines labor supply. To simplify, public sector employment is characterized by high job security, strong retirement (pension) and health benefits, and lower salary levels than are commonplace for jobs with similar human capital requirements. People sort themselves out by their own taste for job security and benefits. In particular, individuals who are more risk averse and have lower rates of time preference are more likely to appreciate the characteristics of state and local employment.

The Affordable Care Act (ACA) of 2010 will alter the equilibrium between state and local employment and comparable private sector labor markets. By weakening the link between employment

and health insurance, the ACA reduces or eliminates the value of one of the key benefits in the public sector employment package – the retiree health insurance benefit. The reason that the value is reduced or eliminated is that workers will get this benefit or a similar benefit whether they work in this sector or not. Public sector jobs will become relatively less attractive unless employers adjust some other dimension of the employment package, presumably salary levels. We elaborate on these changes below.

The ACA of 2010 breaks the connection between employment and health insurance for many Americans, including, in particular, those who retire early before becoming eligible for Medicare at 65. Beginning in 2014, every American will be able to buy health insurance through state-based exchanges. These purchases will be subsidized on a sliding scale for everyone whose income is below 400 percent of the federal poverty level (FPL). The subsidies cover the majority of Americans, including most people who retire in their 50s and 60s. To give an example of the income levels that qualify for subsidies, note that the FPL in 2013 is \$11,490 for single people and \$15,510 for married couples. Since the subsidies extend up to 400 percent of the FPL, that means in 2014 they will extend to \$46,879 for single individuals and \$63,280 for married couples, assuming a two-percent cost of living adjustment in the FPL for 2014. The sliding scale of subsidies for health insurance purchases made through the state exchanges is shown in Table 7. These premiums apply to the purchase of the second lowest cost offering in the "silver plan category." The silver plan category is a set of plans which cover approximately 70 percent of the total cost of medical care.

The net effect of offering subsidized health insurance through the exchanges is similar for many Americans to offering retiree health insurance independent of work history. Consider a 60-year old single woman who decides to retire. Assume that she has worked in the private sector for a company that did not offer retiree health benefits. However, if she has retirement income of 250 percent of the 2014 FPL for single individuals (about \$29,300 which may come from either 401(k) withdrawals or a

defined benefit pension plan), then she can obtain health insurance through the exchange for 8.05% of her income, \$2,490 per year or \$207.53 per month. This premium is well under half the cost of the insurance, so this is a heavily subsidized policy. If her retirement income were instead only \$23,440 (two times the FPL), then her premium cost would be 6.3 percent of her income, or \$123 per month. In either case, this woman effectively has a very generous retiree health insurance package through the ACA initiated health exchange system. When such coverage becomes universal in 2014, this will reduce or eliminate the value of retiree health benefits for state and local jobs. Relative to private sector employment, public sector jobs will no longer have better benefits, at least in this one dimension.

Public sector employers will have a couple of choices in how to respond to the ACA. If they do nothing, their labor supply pool will deteriorate in terms of the size and quality of the applicant pool. Public sector jobs will simply become less attractive relative to their private sector counterparts.

Governments could respond by raising salaries to restore their net attractiveness in the labor market. They might decide to eliminate retiree health benefits and use the money saved to finance the higher salaries. In fact, it would seem inefficient for governments to spend money on retiree health benefits when similar policies are available universally on the exchanges created by the ACA. The point here is not to predict exactly what the governments will do, but simply to point out that the ACA will reduce the net attractiveness of public sector jobs and unless there is a compensating adjustment, the quality of public sector workers will suffer in the long run.

VI. Conclusions

This paper adds to the evidence that employer-sponsored retiree health insurance programs lead to higher job exit rates among 60-64 year olds. In this sense, the results of this paper are generally consistent with our earlier findings on employers in the private sector (Nyce et. al. 2013). There are several data limitations in the current paper. First, very few public sector workers do not have retiree

health benefits, making it more difficult to estimate the effect within this group. Similarly, our measures of the retirement incentives in public sector defined benefit pension plans are not as detailed as one would like. Finally, our proxy for the generosity of the state and local retiree health plans is not as precise as one would desire. Despite these limitations, we find statistically significant evidence that retiree health plans have a significant and large impact on the probability of stopping work between ages 60 and 64 in both the private and public sectors.

Given the growing evidence that retiree health programs lead to earlier retirement, it is interesting to note that the Affordable Care Act (ACA) of 2010 offers what amounts to universal retiree health.

Under the ACA, beginning in 2014, all retirees under 65 will be able to purchase group health coverage through the state-based exchanges, and those purchases will be subsidized for all whose income in retirement is below 400 percent of the official poverty standard. The research on retiree health programs, including this paper, suggests that the ACA will lead to earlier retirements, particularly for those in the private sector who currently do not have access to group health insurance in retirement before age 65.

The second ramification of the ACA is that it worsens the competitiveness of state and local public sector jobs relative to private sector jobs without retiree health benefits. It does so by making one of the benefits of public employment universally available. Our speculation is that many state and local employers will drop retiree health benefits as a result. It makes little sense paying for something that many employees can get anyway (through the exchanges). However, dropping retiree health benefits will not necessarily improve the budget pressures on state and local governments, as the ACA worsens the relative attractiveness of state and local jobs. In order to restore the overall attractiveness of these jobs and therefore maintain the quality and quantity of applicant pools, some other job attribute – most likely salary – will have to be improved.

References

- Blau, David M. and Donna B. Gilleskie (2008). The Role of Retiree Health Insurance in the Employment Behavior of Older Men. *International Economic Review*, 49(2), 475-514.
- Blau, David M. and Donna B. Gilleskie (2006). Health Insurance and Retirement of Married Couples. *Journal of Applied Econometrics*, 21(7), 935-953.
- Blau, David M. and Donna B. Gilleskie (2001). Retiree Health Insurance and the Labor Force Behavior of Older Men in the 1990s. *Review of Economics and Statistics*, 83(1), 64-80.
- Clark, Robert L. and Melinda Sandler Morrill (2010). *Retiree Health Plans in the Public Sector: Is there a Funding Crisis?* Northampton, MA: Edward Elgar Publishing Inc.
- Clark, Robert L., Melinda Sandler Morrill, and Stephanie Riche (2011), Health Insurance for Active and Retired City Employees: Asheville, Denver, and Oklahoma City. Center for State and Local Government Excellence Issue Brief. Available at: http://slge.org/wp-content/uploads/2012/01/NC-State-brief Health-Insurance Cities 12-068.pdf
- Clark, Robert L. and Olivia Mitchell (2013). How Does Retiree Health Insurance Influence Public Sector Employee Saving? Prepared for Presentation at the NBER Conference on State and Local Health Plans for Active and Retired Public Employees, August.
- Franzel, Josh and Alexander Brown (2012). Understanding Finances and Changes in Retiree Health Care. *Government Finance Review,* February, 59-63.
- French, Eric and John Bailey Jones (2011). The Effects of Health Insurance and Self Insurance on Retirement Behavior. *Econometrica*, 79(3), 693-732.
- Gruber, Jonathan and Bridgette C. Madrian (1995). Health Insurance Availability and the Retirement Decision. *The American Economic Review*, 85(4), 938-948.
- Gustman, Alan L. and Thomas L. Steinmeier (1994). Employer Provided Health Insurance and Retirement Behavior. *Industrial and Labor Relations Review*, 48(1), 124-140.
- Gustman, Alan L., Thomas L. Steinmeier, and Nahid Tabatabai (2010). *Pensions in the Health and Retirement Study*. Boston: Harvard University Press.
- Health and Retirement Study, public use dataset (2013). Produced and distributed by the University of Michigan with funding from the National Institute on Aging (grant number NIA U01AG009740). Ann Arbor, MI. Available at: http://hrsonline.isr.umich.edu/.
- Kaiser Family Foundation (2012). Employer Health Benefits 2012 Annual Survey. *Kaiser Family Foundation and Health Research & Educational Trust 2012 Report*. Available at: http://ehbs.kff.org/pdf/2012/8345.pdf.
- Kapur, Kanika and Jeannette Rogowski (2011). How Does Health Insurance Affect the Retirement Behavior of Women? *Inquiry*, 48(1), 51-67.

- Karoly, Lynn A. and Jeannette Rogowski (1994). The Effect of Access to Post-Retirement Health Insurance on the Decision to Retire Early. *Industrial and Labor Relations Review*, 48(1), 103-123.
- Leiserson, Greg (2013). Retiree Health Insurance and Job Separations: Evidence from Pennsylvania State Employees. *American Economic Journal: Economic Policy*, forthcoming.
- Lumsdaine, Robin L., James H. Stock, and David A. Wise (1996). Retirement Incentives: The Interaction between Employer-Provided Pensions, Social Security, and Retiree Health Insurance. In Michael D. Hurd and Naohiro Yashiro (Eds.), *The Economic Effects of Aging in the United States and Japan* (pp. 261-293). Chicago: University of Chicago Press.
- Madrian, Bridgette C. (1994). The Effect of Health Insurance on Retirement. *Brookings Papers on Economic Activity*, 25(1), 181-232.
- Marton, James, and Stephen A. Woodbury (2007). Retiree Health Benefit Coverage and Retirement. In Dimitri B. Papadimitriou (Ed.), *Government Spending on the Elderly* (pp. 222-242). New York: Palgrave Macmillan.
- Marton, James and Stephen A. Woodbury (2013). Retiree Health Benefits as Deferred Compensation: Evidence from the Health and Retirement Study. *Public Finance Review*, 41(1), 64-91.
- Mulvey, Janemarie and Steven Nyce (2004). Strategies to Retain Older Workers. In Robert L. Clark and Olivia S. Mitchell (Eds.), *Reinventing the Retirement Paradigm* (pp. 111-132). Oxford: Oxford University Press.
- Nyce, Steven, Sylvester Schieber, John B. Shoven, Sita Slavov, and David A. Wise (2013). Does Retiree Health Insurance Encourage Early Retirement? *Journal of Public Economics*, 104, 40-51.
- Pew Center on the States (2010). The Trillion Dollar Gap: Underfunded state retirement systems and the roads to reform. *Pew Charitable Trusts Report*, February. Available at:

 http://www.pewstates.org/uploadedFiles/PCS Assets/2010/Trillion Dollar Gap Underfunded

 State Retirement Systems and the Roads to Reform.pdf.
- Pew Center on the States (2012). The Widening Gap Update. *Pew Charitable Trusts Issue Brief*, June. Available at:
 http://www.pewstates.org/uploadedFiles/PCS Assets/2012/Pew Pensions Update.pdf.
- Pew Charitable Trusts (2013). A Widening Gap in Cities: Shortfalls in Funding for Pensions and Retiree Health Care. *Pew Charitable Trusts Report*, January. Available at: http://www.pewstates.org/uploadedFiles/PCS Assets/2013/Pew city pensions report.pdf.
- Robinson, Christina and Robert Clark (2010). Retiree Health Insurance and Disengagement from a Career Job. *Journal of Labor Research*, 31(3), 247-262.
- Gabriel Roeder Smith and Company, Consultants and Actuaries (2009). State of California Retiree Health Benefits Program. *Governmental Accounting Standards Board Nos. 43 and 45 Actuarial*

- *Valuation Report as of June 20, 2009.* Available at: http://sco.ca.gov/Press-Releases/2010/OPEB February 2010.pdf.
- Strumpf, Erin (2010). Employer-Sponsored Health Insurance for Early Retirees: Impacts on Retirement, Health, and Health Care. *International Journal of Health Care Finance and Economics*, 10(2), 105-147.
- U.S. Government Accounting Office (2007). State and Local Government Retiree Benefits: Current Status Benefit Structures, Protections, and Fiscal Outlook for Funding Future Costs. *Report to the Committee on Finance, U.S. Senate, GAO-07-1156*. Available at: http://www.gao.gov/new.items/d071156.pdf.
- U.S. Office of Personnel Management (2013). Federal Employees: Guide Me. Guide to Federal Employee Health Benefits. Available at: http://www.opm.gov/healthcare-insurance/Guide-Me/Federal-Employees/.

Table 1: Employer Contribution for Retiree Health Coverage in 2006

State	Employer Contribution %	State	Employer Contribution %
Alabama	50-99	Montana	0
Alaska	100	Nebraska	0
Arizona	1-49	Nevada	50-99
Arkansas	50-99	New Hampshire	100
California	100	New Jersey	100
Colorado	50-99	New Mexico	100
Connecticut	50-99	New York	50-99
Delaware	50-99	North Carolina	100
Florida	1-49	North Dakota	1-49
Georgia	50-99	Ohio	100
Hawaii	100	Oklahoma	1-49
Idaho	0	Oregon	0
Illinois	100	Pennsylvania	100
Indiana	0	Rhode Island	100
Iowa	0	South Carolina	50-99
Kansas	0	South Dakota	0
Kentucky	100	Tennessee	50-99
Louisiana	50-99	Texas	100
Maine	100	Utah	50-99
Maryland	50-99	Vermont	50-99
Massachusetts	50-99	Virginia	1-49
Michigan	50-99	Washington	0
Minnesota	0	West Virginia	0
Mississippi	0	Wisconsin	0
Missouri	50-99	Wyoming	0

Source: GAO (2007)

Table 2: Summary Statistics

Full Sample					Public Sector Employees					
Variable	Mean	Std. Dev.	Minimum	Maximum	Variable	Mean	Std. Dev.	Minimum	Maximum	
Turnover	0.18	0.38	0	1	Turnover	0.19	0.39	0.00	1.00	
Male	0.53	0.50	0	1	Male	0.48	0.50	0.00	1.00	
White	0.81	0.39	0	1	White	0.76	0.43	0.00	1.00	
Hispanic	0.06	0.24	0	1	Hispanic	0.05	0.23	0.00	1.00	
Less than HS	0.15	0.36	0	1	Less than HS	0.07	0.26	0.00	1.00	
GED	0.04	0.21	0	1	GED	0.04	0.19	0.00	1.00	
HS diploma	0.31	0.46	0	1	HS diploma	0.25	0.43	0.00	1.00	
Some college	0.23	0.42	0	1	Some college	0.20	0.40	0.00	1.00	
College+	0.26	0.44	0	1	College+	0.44	0.50	0.00	1.00	
Married	0.79	0.41	0	1	Married	0.77	0.42	0.00	1.00	
No children	0.07	0.26	0	1	No children	0.08	0.28	0.00	1.00	
1 child	0.08	0.28	0	1	1 child	0.09	0.29	0.00	1.00	
2 children	0.29	0.45	0	1	2 children	0.29	0.45	0.00	1.00	
3+ children	0.55	0.50	0	1	3+ children	0.53	0.50	0.00	1.00	
Children unknown	0.00	0.06	0	1	Children unknown	0.01	0.07	0.00	1.00	
Fair/poor health	0.10	0.30	0	1	Fair/poor health	0.06	0.24	0.00	1.00	
No EHI	0.32	0.47	0	1	No EHI	0.17	0.38	0.00	1.00	
EHI but no RHI	0.21	0.41	0	1	EHI but no RHI	0.19	0.39	0.00	1.00	
EHI and RHI, private	0.32	0.47	0	1	EHI and RHI, private	0.00	0.00	0.00	0.00	
EHI and RHI, federal or military	0.03	0.17	0	1	EHI and RHI, federal or military	0.13	0.33	0.00	1.00	
EHI and RHI, S/L, 0% subsidy	0.02	0.13	0	1	EHI and RHI, S/L, 0% subsidy	0.08	0.27	0.00	1.00	
EHI and RHI, S/L, 1-49% subsidy	0.02	0.14	0	1	EHI and RHI, S/L, 1-49% subsidy	0.09	0.28	0.00	1.00	
EHI and RHI, S/L, 50-99% subsidy	0.04	0.20	0	1	EHI and RHI, S/L, 50-99% subsidy	0.19	0.39	0.00	1.00	
EHI and RHI, S/L, 100% subsidy	0.04	0.18	0	1	EHI and RHI, S/L, 100% subsidy	0.16	0.36	0.00	1.00	
Pension coverage	0.69	0.46	0	1	Pension coverage	0.89	0.31	0.00	1.00	
DB pension coverage	0.47	0.50	0	1	DB pension coverage	0.75	0.43	0.00	1.00	
DB accrual (\$1992)	590	23193	-718661	412040	DB accrual (\$1992)	-3478	38239	-718661	412040	
Earnings (\$2004)	44086	43927	0	673091	Earnings (\$2004)	46298	27307	0	271139	
Total Assets (Winsorized, \$2004)	325074	543077	-65000	4364060	Total Assets (Winsorized, \$2004)	295146	458824	-65000	4364060	
Federal employee	0.04	0.20	0	1	Federal employee	0.19	0.39	0.00	1.00	
State or local employee	0.18	0.39	0	1	State or local employee	0.81	0.39	0.00	1.00	
Military employee	0.00	0.03	0	1	Military employee	0.00	0.06	0.00	1.00	
Private sector with public past	0.31	0.46	0	1	Private sector with public past	0.00	0.00	0.00	0.00	
Private sector	0.47	0.50	0	1	Private sector	0.00	0.00	0.00	0.00	
Age	60.74	1.93	58	64	Age	60.72	1.93	58.00	64.00	
Years of service	18.16	9.36	5	46.2	Years of service	18.95	8.50	5.00	42.70	

Notes: Based on 11,366 person-wave observations for the full sample and 2,553 person-wave observations for public sector employees. All variables except age and pension accrual measured in baseline wave. HS = high school, EHI=employer health insurance, RHI=retiree health insurance, S/L=state or local, DB=defined benefit

Table 3: Impact of Retiree Health Insurance on the Probability of Stopping Work

	Age 58	Age 59	Age 60	Age 61	Age 62	Age 63	Age 64
No EHI	0.037*	0.012	0.066***	0.007	-0.025	-0.057*	0.044
	(0.020)	(0.022)	(0.023)	(0.025)	(0.032)	(0.034)	(0.034)
EHI and RHI, private	-0.001	0.013	0.056***	0.029	0.051*	-0.002	0.032
	(0.017)	(0.021)	(0.021)	(0.024)	(0.031)	(0.033)	(0.034)
EHI and RHI, federal or military	0.000	0.062	0.051	0.095	0.003	-0.105	-0.034
	(0.039)	(0.053)	(0.049)	(0.059)	(0.072)	(0.070)	(0.065)
EHI and RHI, S/L	0.049*	-0.019	0.038	0.093***	0.035	0.024	0.130***
	(0.028)	(0.027)	(0.029)	(0.034)	(0.040)	(0.044)	(0.048)
EHI with no RHI exit rate	0.079	0.123	0.095	0.135	0.251	0.289	0.183

Notes: Based on 11,366 person-wave observations. Coefficients reported are marginal effects. Standard errors clustered by household in parentheses. All regressions include age dummies, gender, race and ethnicity, education dummies, marital status, poor or fair health status, pension coverage, defined benefit pension coverage, defined benefit pension accrual, occupation and industry dummies, income and its square, years of service and its square, total assets and its square, and indicators for number of children.

Table 4: Impact of Retiree Health Insurance on the Probability of Stopping Work

	Age 58	Age 59	Age 60	Age 61	Age 62	Age 63	Age 64
No EHI	0.036*	0.012	0.066***	0.007	-0.025	-0.057*	0.044
	(0.020)	(0.022)	(0.023)	(0.025)	(0.032)	(0.034)	(0.034)
EHI and RHI, private	-0.001	0.013	0.056***	0.029	0.051*	-0.003	0.031
	(0.017)	(0.021)	(0.021)	(0.024)	(0.031)	(0.033)	(0.034)
EHI and RHI, federal or military	-0.001	0.062	0.051	0.095	0.002	-0.106	-0.035
	(0.039)	(0.053)	(0.049)	(0.059)	(0.071)	(0.070)	(0.065)
EHI and RHI, S/L, 0% subsidy	0.022	-0.060	0.017	0.016	0.090	0.037	0.140
	(0.049)	(0.045)	(0.055)	(0.067)	(0.088)	(0.081)	(0.105)
EHI and RHI, S/L, 1-49% subsidy	0.029	-0.017	0.040	0.162**	0.198**	0.120	0.248*
	(0.060)	(0.051)	(0.058)	(0.080)	(0.086)	(0.095)	(0.131)
EHI and RHI, S/L, 50-99% subsidy	0.075*	0.003	0.027	0.077	-0.027	0.057	0.132**
	(0.045)	(0.041)	(0.042)	(0.051)	(0.055)	(0.064)	(0.065)
EHI and RHI, S/L, 100% subsidy	0.045	-0.027	0.063	0.106**	-0.002	-0.067	0.067
	(0.046)	(0.041)	(0.051)	(0.052)	(0.061)	(0.060)	(0.076)
EHI with no RHI exit rate	0.079	0.123	0.095	0.135	0.251	0.289	0.183

Notes: Based on 11,366 person-wave observations. Coefficients reported are marginal effects. Standard errors clustered by household in parentheses. All regressions include age dummies, gender, race and ethnicity, education dummies, marital status, poor or fair health status, pension coverage, defined benefit pension accrual, occupation and industry dummies, income and its square, years of service and its square, total assets and its square, wave dummies, and indicators for number of children.

Table 5: Impact of Retiree Health Insurance the Probability of Stopping Work (Public Sector Employees Only)

	Age 58	Age 59	Age 60	Age 61	Age 62	Age 63	Age 64
No EHI	-0.071	0.069	0.120**	0.051	-0.172**	-0.068	-0.135
	(0.050)	(0.063)	(0.053)	(0.061)	(0.070)	(0.089)	(0.087)
EHI and RHI, federal or military	-0.035	0.126*	0.124*	0.181**	0.024	-0.079	-0.114
	(0.061)	(0.071)	(0.065)	(0.076)	(0.098)	(0.097)	(0.100)
EHI and RHI, S/L	-0.020	-0.006	0.076**	0.124**	0.000	0.010	0.014
	(0.046)	(0.042)	(0.038)	(0.048)	(0.066)	(0.072)	(0.080)
EHI with no RHI exit rate	0.156	0.098	0.048	0.098	0.286	0.313	0.289

Notes: Based on 2,537 person-wave observations (16 observations of the original 2,553 are dropped due to perfect predictor variables). Coefficients reported are marginal effects. Standard errors clustered by household in parentheses. All regressions include age dummies, gender, race and ethnicity, education dummies, marital status, poor or fair health status, pension coverage, defined benefit pension coverage, defined benefit pension accrual, occupation and industry dummies, income and its square, years of service and its square, total assets and its square, wave dummies, and indicators for number of children.

Table 6: Impact of Retiree Health Insurance on the Probability of Stopping Work (Public Sector Employees Only)

	Age 58	Age 59	Age 60	Age 61	Age 62	Age 63	Age 64
No EHI	-0.072	0.069	0.120**	0.052	-0.171**	-0.068	-0.134
	(0.050)	(0.063)	(0.053)	(0.061)	(0.070)	(0.090)	(0.087)
EHI and RHI, federal or military	-0.037	0.124*	0.123*	0.183**	0.024	-0.082	-0.114
	(0.061)	(0.071)	(0.065)	(0.077)	(0.098)	(0.098)	(0.100)
EHI and RHI, S/L, 0% subsidy	-0.040	-0.046	0.062	0.049	0.061	0.019	0.035
	(0.062)	(0.053)	(0.064)	(0.076)	(0.100)	(0.101)	(0.134)
EHI and RHI, S/L, 1-49% subsidy	-0.047	0.002	0.074	0.185**	0.162	0.125	0.156
	(0.066)	(0.062)	(0.063)	(0.083)	(0.100)	(0.112)	(0.145)
EHI and RHI, S/L, 50-99% subsidy	0.004	0.015	0.064	0.107*	-0.061	0.027	0.015
	(0.058)	(0.051)	(0.049)	(0.062)	(0.076)	(0.085)	(0.089)
EHI and RHI, S/L, 100% subsidy	-0.026	-0.015	0.102*	0.142**	-0.034	-0.077	-0.053
	(0.057)	(0.051)	(0.058)	(0.063)	(0.081)	(0.084)	(0.100)
EHI with no RHI exit rate	0.156	0.098	0.048	0.098	0.286	0.313	0.289

Notes: Based on 2,537 person-wave observations (16 observations of the original 2,553 are dropped due to perfect predictor variables). Coefficients reported are marginal effects. Standard errors clustered by household in parentheses. All regressions include age dummies, gender, race and ethnicity, education dummies, marital status, poor or fair health status, pension coverage, defined benefit pension coverage, defined benefit pension accrual, occupation and industry dummies, income and its square, years of service and its square, total assets and its square, wave dummies, and indicators for number of children.

Table 7: Subsidies under the ACA

Income Level	Premium (% of Income)
Up to 133% of FPL	2
133-150% of FPL	3-4
150-200% of FPL	4-6.3
200-250% of FPL	6.3-8.05
250-300% of FPL	8.05-9.5
300-400% of FPL	9.5