Retirement Options and Outcomes for Public Employees

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I analyze the effects of state public pension parameters on the retirement of public employees. Using a panel data set of public sector workers from 12 waves of the Health and Retirement Study, I model the probability of retirement as a function of pension wealth at early and normal retirement eligibility and Social Security coverage in the public sector job. I find that becoming eligible for early or normal retirement, or receiving an early-out offer, significantly increases the probability of retiring. I also find evidence that participants are less likely to retire the larger their future pension accrual. I do not find any effect of retirement wealth levels.

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While defined contribution plans are now the norm in private employment, defined benefit plans in some form are likely to remain in the public sector because the additional costs incurred in closing a plan are unaffordable for most states at this time (National Conference of State Legislatures, 2011). Most full-time public employees participate in a defined benefit (DB) plan. Minimum retirement ages for full benefits vary, but many can retire with full benefits at age 55 with 30 years of service. Retirement benefits also vary and are based on a specific benefit rate for each year of service and the participant's final average salary over a specified period – often three years. For example, plans with a two percent replacement rate replace 60 percent of FAS after 30 years.

Thus, public sector worker retirement choices are still subject to strong incentives that encourage retirement at relatively early ages. Typical public sector plans, for example, may allow for early retirement at age 55 and normal retirement at 60 conditional on a certain number of years of service. States vary widely in terms of pension generosity and early-out provisions.[1] Plan characteristics that determine benefit generosity – such as employee contribution rates and defined benefit retirement formulas – may also differ across job categories for the same plan. But plans also differ in eligibility thresholds – the age and service combination that determine early or normal retirement – as well as whether participants are also covered by Social Security. In 2007, 73 percent of state and local government employees were covered by Social Security, accounting for $528 billion of the $5 trillion of covered wages (GAO, 2010). This leaves over five million public employees without Social Security coverage and seven states – California, Colorado, Illinois, Louisiana, Massachusetts, Ohio and Texas

[1] See Litwok and Papke (2014) for simulations of differences across states in teacher pension accrual.

account for more than 75 percent of noncovered payroll (GAO, 2003). In particular, teachers do not participate in Social Security in 10 states.[2]

Recently state legislatures have adjusted DB pension parameters in an effort to reduce pension costs for new hires.[3] In the period 2009 to 2011, 43 states introduced changes in state pension plans for general employees and teachers to address long-term funding issues, some states more than once (Snell, 2012). These changes include adjustments to contribution rates, benefit reductions, and changes to the early retirement compensation rules of the plan. The changes have not typically addressed the eligibility criteria. In this paper I explore the sensitivity of public sector employee retirement decisions to state pension plan generosity, early and normal retirement eligibility, and Social Security coverage. I use respondent-provided information on job history from 12 waves of the publicly available Health and Retirement Study (HRS) data to identify public employees. I calculate respondent pension wealth under different retirement options using the HRS-provided Pension Estimation Program for those respondents whom the HRS has linked to detailed plan information. I am able to identify an important subset of public employees – teachers – using restricted detailed industry and occupation codes. Finally, because differences in state policy toward public employees are of interest, I augment these data with the restricted geographic codes to identify state of residence. Using state of residence, I also link a smaller subsample of respondents to plan financial health measures using the Public Plans Database of public pension plans.

[2] Doherty et al (2012) and Chou (2018).

[3] Beshears, Choi, Laibson, and Madrian (2011) illustrate a large amount of heterogeneity in replacement rates across DB plans even among employees with long tenure and discuss the role of DC plans in the public sector.

The model underlying this analysis is a proportional hazard model with time-varying covariates -- pension wealth and eligibility for early retirement options, Social Security coverage in their public sector job, as well as demographic characteristics, and employer-provided health insurance in retirement

The next section briefly reviews the related literature. Section 3 discusses the HRS panel of public employees and sources of pension plan information. Section 4 presents results using a sample of HRS respondents who enter the sample while in public employment. Section 5 draws policy conclusions and concludes.

2. Literature Review

Previous research on private sector defined benefit plans points to significant effects on the timing of retirement and alternative forms of saving.[4] How to measure retirement is a subject of research itself. Gustman and Steinmeier (2000) discuss alternative measures using HRS data: by self-report of labor force status, by an hours-worked or salary measure, or leaving a job after a ten or 20 years. Maestas (2010) uses the original HRS cohort to study unretirement transitions directly. She compares alternative measures using hours of work and self-reports of retirement and finds that nearly 50 percent of retirees follow a nontraditional retirement path that follows partial retirement or unretirement.

This analysis most directly complements two papers that also use HRS data. The first, Coile and Gruber (2007), use HRS data to examine the differential impact of Social Security and private pension incentives on male retirement. They develop a forward-looking measure of

[4] Friedberg and Webb (2005) provide a summary.

retirement incentives, the "peak value," whereby individuals consider incentives to work in all future years. They define peak value as the difference between Social Security wealth (SSW) at its maximum expected value and SSW at today's value to measure incentives to continued work. Using two alternative measures of retirement – changes in earnings and self-reports of first exit after age 55 -- they find retirement decisions respond negatively to accrual of retirement wealth with future work and positively to the level of retirement wealth. Retirement decisions appear equally responsive to comparable changes in Social Security and private pension incentives. In what follows, I construct the Coile-Gruber peak value measure for public pensions to capture the public pension incentive effects of working longer.

In closely related work that specifically addresses the behavior of public employees, Shoven and Slavov (2014, hereafter S-S) examine the impact of employer-provided retiree health coverage on retirement decisions using four cohorts of the HRS.[5] Employer provided health insurance is common in the public sector, but relatively rare in the private sector. They examine retirement before the age of Medicare eligibility at 65 when retiree health coverage is most valuable and focus on the first full time work exit over the roughly two-year period between waves. Using multinomial logit, they estimate effects on moving to full retirement or to part time work. Their pension wealth measure is the researcher-contributed supplement (Gustman, et al, 2012) that includes DB and DC wealth. They control for pension retirement incentives with a set of DB pension status indicators from baseline self-reports of early and normal retirement ages. They find that public sector employees with retiree health coverage

[5] S-S (2014) review the limited number of papers that focus on retirement from the public sector.

are 4.3 percentage points less likely than their comparison group to remain employed full time at ages 55-59 and 6.7 percentage points less likely at ages 60-64.

The literature on public sector retirement behavior also includes studies of teacher-only retirement using administrative data from a handful of states (Costrell and Podgursky, 2009). The primary limitation of this work is that administrative data do not include other factors that affect retirement well-being and retirement-related decisions – Social Security claiming, health, non-pension wealth, and spousal characteristics for example. In addition, other economic behaviors like post-retirement employment cannot be studied with administrative data. Further, some public employees also have a second annuity – Social Security – so their valuation of benefits will likely differ from other employees for whom this is the only source of a retirement annuity. This coverage is discussed briefly in the next section.

A. Social Security Coverage of Public Employees

Beginning in 1991, public employees who were not members of a qualifying state or local retirement system were generally required to have Social Security coverage. Federal law generally permits each public employer to decide which employees to cover.[6] The extent to which public employees are covered varies greatly from state to state. For example, the GAO (2010) reports that, based on SSA data, 98 percent of public employees are covered by Social

[6] The GAO (2010) found that the Social Security Administration (SSA) lacks basic data on which public employers have approved coverage and relies on public employers to comply with coverage agreements voluntarily.

Security in Vermont, but in Ohio only about three percent are covered.[7] Further, there is variation in Social Security coverage among public employees working for the same employer. For example, Missouri's school districts have two separate retirement systems – one for fulltime teachers and a separate one for fulltime non-teachers. The fulltime teachers do not generally have Social Security coverage while the fulltime non-teachers do. New Hampshire law prohibits Social Security coverage for police and fire fighters who belong to a more generous plan than other public employees. If certain members do not meet the critieria for the employer's pension plan(s) then they are covered by Social Security.[8] Of course, public employees with uncovered plans may still be eligible for Social Security benefits based on their spouse's or their own earnings in other, covered employment (GAO, 2003).[9]

3. Public employment in the HRS

I use four comparable cohorts of the HRS – all the same age when they entered the HRS (age 51-56 in 1992, 1998, 2004, 2010) - that experience different pension landscapes as they approach and enter retirement. Respondents are re-interviewed every other year after entering the survey. I make use of the panel structure of the HRS from 1992-2014 to compare initial and final self-reports of retirement with dates of public employment to find retirement

[7] See GAO (2010) Appendix II for the amount of covered and uncovered earnings by employees in each state.
[8] Employers may also choose to provide only Medicare coverage rather than both Social Security and Medicare.

[9] SSA estimates that 95 percent of noncovered state and local employees become entitled to Social Security benefits as workers, spouses, or dependents. Note that Social Security has two provisions – the Government Pension Offset, which affects spouse and survivor benefits, and the Windfall Elimination Provisions which affects retired worker benefits. Both provisions reduce SS benefits for those who receive noncovered pension benefits. See GST (x) for analysis of these provisions using HRS data.

from the public sector job. Respondents indicate at their first interview whether they had ever worked for the federal, state, or local government and the start and end date of such jobs. In 2006, 2008, and 2010, the HRS added two new questions that determine if a respondent is currently employed by a government (question J720), and if so, what level of government (in 2008 only new interviewees and those who changed jobs were asked these questions). Going forward, this question repeats every six years. I determine public employment in other survey years by comparing the start and end date of any reported government job with the start and interview dates of their current job. I follow employment in each wave between 1992 and 2014 backward to earlier years that they remained in that same job. I identify job changes in and out of public employment across the waves (2 year intervals) and eventual retirement from the government job (if they retire from that job). So, the measure of retirement used here is based on self-reports, but with later wave confirmation that the respondent actually fully retired after leaving public employment.

I focus on respondents who self-report as state or local public employees at their entry into the survey.[10] Most of the data come from the RAND (version P) of the HRS with supplemental information from the RAND HRS Fat files.[11] I supplement these data with three restricted data sources from the HRS: detailed industry and occupation, pension plan data, and geographic codes for state of residence. I use the industry and occupation data to identify

[10] Gustman, Steinmeier, and Tabatabai (2013) indentify underrerporting of public employment in the HRS. They find that too many respondents report not working for the government compared to those who report employment not covered by Social Security. I use a similar process to flag employment not covered by Social Security to investigate whether they should be flagged correctly as government employees. However, a full treatment of those respondents is outside the scope of this paper.

[11] For details, see https://www.rand.org/labor/aging/dataprod/fattable.html. The composition of the sample of public employees consists of the original HRS sample (46 percent), the War Babies/CODA sample (13 percent), the Early Baby Boomers (15 percent), and the Mid Baby Boomers (26 percent).

finer job categories than are available in the public data. This is particularly relevant for teachers – an important category of public employment many of whom do not participate in Social Security.[12]

To examine the influence of pension wealth and eligibility for retirement under different provisions, I use detailed pension information that the HRS has matched to respondents to calculate the present value of pension wealth. These data come from four surveys of employers and from employer web sites (Fang, et al 2016). For respondents that have been matched to employer plans, the Pension Estimation Program (PEP) can estimate three types of present values of pension wealth for a respondent's current plan at any age: values that are available to participants who qualify for early retirement (ER), values available once the respondent qualifies for the plan's normal retirement age (NR), and vested deferred benefits that accumulate over time prior to any eligibility for retirement.

While early surveys of employers had lower response rates, the later surveys create more complete matches, particularly in the 2010 where much of the public plan information came from employer websites.[13] For public employees these data are primarily defined benefit (DB) plan parameters. I use the HRS-provided Pension Estimation Program (PEP) that uses these parameters and Social Security earnings information to calculate present values of defined benefit pension wealth at ages 51 and older. The PEP data include defined contribution balances as well as required employee contributions to the DB plan.

[12] Gustman et al. (2013) speculate that teachers are the most likely of non-Social Security covered respondents to indicate that they do not work for the government.
[13] Coile and Gruber (2007) use the first cohort of the HRS and report a 60 percent match rate with pension data.

Finally, to facilitate the exploration of state demographics and policies on public employee behavior, I use restricted respondent geographic codes to identify the respondent's state of residence. Using state of residence and occupation, I match a subset of respondents to their plan's financial health measures from the Public Plans Database (PPD). The PPD is a comprehensive database of financial, governance, and plan design information for about 150 state and local defined benefit plans from 2001 to 2014.[14] For example, the respondents' plans had a funded ratio of 0.84 (standard deviation of 0.19) over this period. Sponsors contributed 89 percent (0.26) of the required contribution.

In addition to demographic information and my policy variables of primary interest – pension eligibility and wealth, Social Security coverage and eligibility may affect retirement decisions in the public sector. Coile and Gruber (2007) include both Social Security and pension incentives in their study of retirement in the private sector. The publicly available HRS data include estimates of Social Security wealth at key ages and an indicator of receipt, but these Social Security benefits are not necessarily due to the current job. The HRS restricted pension data do not identify whether the respondent is covered by Social Security unless the pension benefit must be coordinated with Social Security benefits. The HRS restricted data agreements do not allow use of both the restricted geographic codes and restricted Social Security earnings records. As an imperfect solution, I use the PPD plan indicator for whether employees are also covered by Social Security.[15]

[14] This data base, compiled by the National Association of State Retirement Administrators annually as the Public Fund Survey, is maintained at The Center for Retirement Research at Boston College. Data come from plan Comprehensive Annual Reports and Actuarial Valuations of the plans. The data cover over 85 percent of state and local employees in the United States (Munnell, Aubry, and Sanzenbacher, 2015). https://www.nasra.org/publicfundsurvey.

[15] The PFS indicator is broad. There are exceptions to coverage within a plan depending on occupation in some cases. I merged along two plan types – teachers and general employees.

4. Empirical Results

The sample consists of state and local public employees employed in the public sector at their baseline interview. It is natural, then, since they all start in the same state (employment) to model their retirement in duration framework. The model underlying the analysis is a proportional hazard model with time-varying covariates, which can be written as

$$h(t; \boldsymbol{Z}_{it}) = base(t)\exp(\boldsymbol{Z}_{it}\boldsymbol{\beta})$$

where the $\boldsymbol{Z}_{it}$ include covariates that may change over time. As shown in Jenkins (1995), the proportional hazards model leads to a binary response model for retirement at age *t* conditional on not having retired prior to age *t*. The resulting response probability has the complementary log-log form, which is different from both logit and probit in that it is the cumulative distribution function of an asymmetric distribution. The implied model relates the probability of retirement from a public sector job, conditional on not having retired prior to that age, to pension options available for that individual, adjusting for covariates that factor into the retirement decision such as health status, Social Security participation, and employer-provided health insurance in retirement.

To be more specific, the conditional probability that public employee *i* retires at age *t* is

$$\begin{aligned}\Pr(retire_{it} = 1|\cdot) \\ &= F(\beta_0 + \beta_1 eligible_{it} + \beta_2 pvwealth_{it} + \beta_3 peakdiff_{it} + \beta_4 SScov_{it} \\ &+ \beta_5 SSelig_{it} + \boldsymbol{X}_{it}\boldsymbol{\beta}_6 + \beta_7 wave_t + \boldsymbol{age_{it}}\boldsymbol{\beta}_8)\end{aligned}$$

where *retire* is a binary indicator for whether individual *i* retires at age *t*. Because retirement is taken as the final state in the analysis, it takes on zero followed by one if a person is observed

to retire. The function $F(u)$ for argument *u* is the complementary log-log cumulative distribution function:

$$F(u) = 1 - \exp(-\exp(u))$$

which is used in a pooled binary response estimation.

The vector $\boldsymbol{age_{it}}$ represents a vector of age dummies, whose coefficients can be turned into estimates of the baseline hazard. Employee retirement options are captured by *eligible*, that is, the employee may be eligible for early retirement or normal retirement. The present value of pension wealth, *pvwealth*, is the present value of early retirement benefits if eligible, normal-age retirement benefits if eligible, or the present value of vested deferred benefits if not yet eligible for either early or normal retirement.[16] The peak value concept, *peakdiff*, is the forward-looking measure of the incentive to continued work developed by Coile and Gruber (2000, 2007). It measures the difference between pension wealth at its maximum expected value and pension wealth at today's value. Demographic variables are included in ***X***. *SSCov* is the PPD plan indicator for participation in Social Security and *SSelig* is an interaction between the coverage variable and age 62, when early retirement from Social Security is possible. I adjust the standard errors by clustering at the household level.

Many of the dollar amounts (measured in 2012 dollars) in the data are zero – in particular, when an employee has worked until they have reached the maximum value of their future pension, the peak value variable is zero in that wave. In addition, there are extreme values for total assets and pension wealth. I use the log-modulus transformation (John and

[16] An employee becomes ineligible for early retirement once normal-age retirement eligibility is reached.

Draper, 1980) to dampen the outliers without having to use a special convention for zero values.[17] For values of pension wealth away from zero, the log modulus transformation is very similar to taking the log. Therefore, when interpreting the results, it makes sense to change the log modulus by something like 0.01 (a one percent increase in pension wealth) or 0.10 (a ten percent increase in pension wealth). In the latter case, this is the same as dividing the coefficient by 10. But because the model is nonlinear, I will report the average partial effects of changing each variable, but these, too, must be multiplied by the desired change on the log modulus.

The baseline hazard, estimated with only age dummies (ages 51-72 and older) using 11,846 observations, is pictured in Figure 1 below. As Coile and Gruber (2007) note regarding Social Security, the underlying structure of public pension plans – early and normal retirement eligibility ages -- must play a critical role in determining retirement decisions. There is a small peak at age 55; that is, conditional on working to 55, the probability of retiring at this age is about .08. The largest spike occurs around ages 60 and 62 – the probability of exiting during this interval conditional on not having exited is .25.

Figure 1.

[17] The transformation is $g(x) = \text{sign}(x)\log(|x| + 1)$ where $\text{sign}(x) = 1$, $x > 0$, $\text{sign}(x) = -1$, $x < 0$, and $\text{sign}(x) = 0$, $x = 0$. The function is strictly increasing and continuously differentiable, even at $x = 0$.

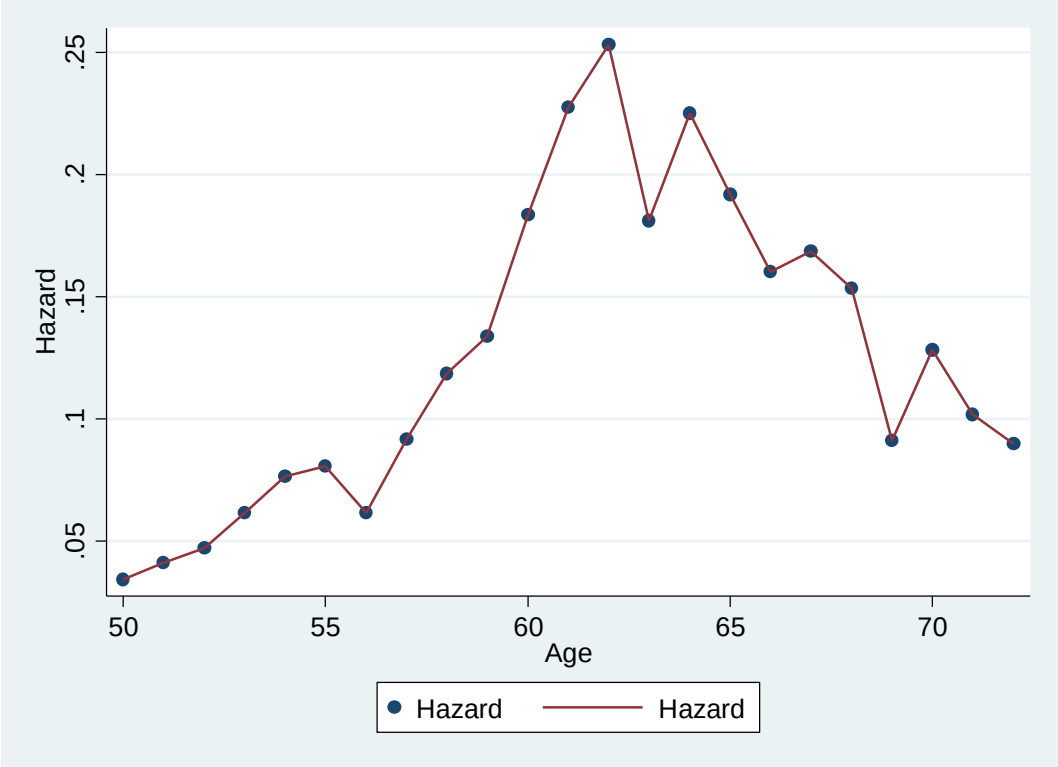

Table 1 presents summary statistics for the data used in this analysis -- the teacher category is the only industry or occupation category I summarize here. The sample size for most characteristics is 11,846, although the sample size for pension information is considerably smaller at 4,830. Most of the characteristics are measured at entry into the survey, but for illustration, I report respondent pension wealth values from the retirement wave that I eventually observe. More than half of the sample is female, and 28 percent enter employed as teachers. Forty-eight percent do not make contributions to their DB plans. The PPD data on Social Security coverage indicate that 84 percent of the sample is covered by Social Security. This is higher than the average of 73 percent discussed early, suggesting that my matching of plans by state and occupation is flawed or that coverage in this sample is unusually high. Ten

percent of the sample report being offered an early out package over and above their plan's early retirement provisions.

Table 1. Summary Statistics

	Mean	Std. Dev.	Min	Max
Retired from st/local	0.48	0.50	0	1
Left w/o retiring	0.13	0.34	0	1
Age	55.09	4.53	50	84
Female	0.58	0.49	0	1
Married	0.71	0.46	0	1
Tenure	15.58	9.84	1	48.5
White	0.71	0.45	0	1
Black	0.23	0.42	0	1
Hispanic	0.09	0.29	0	1
Fair/poor health	0.13	0.33	0	1
Less than HS	0.11	0.31	0	1
High School	0.23	0.42	0	1
Some College	0.21	0.41	0	1
College	0.16	0.37	0	1
College +	0.3	0.46	0	1
Teacher	0.28	0.45	0	1
Earnings ($2012)	49,356	39,309	0	506,098
PV_Vested/Deferred	151,900	225,000	0	4,731,000
ER age	57.93	4.31	51	
NR age	60.18	4.22	51	80
PV_ER ($2012)	213,700	26,610	0	4,731,000
PV_NR ($2012)	390,200	31,550	0	5,483,000
Employee cont. %	3.36	4.53	0	25
Zero EE cont. %	0.48	0.50	0	1
Offered ER	0.10	0.30	0	1
Total Assets ($2012)	340,500	609,800	-119,300	13,330,000
SScov	0.84	0.36	0	1
UAAL_GASB	9,047,529	1,550,000	-1,680,000	93,500,000

Notes: Most of these values are measured at a respondent's entry into the survey with 2,647 observations. Pension values are measured in the year of retirement with 1,437 observations.

Table 2 presents the maximum likelihood estimation results of the complementary log-log response probability. I report only the marginal effects of interest, but also have included

age dummies, wave dummies, gender, race, education, marital status, fair or poor health self-reported status, whether a spouse is retired, broad occupation dummies, as well as the teacher indicator, tenure in the current job, and earnings and assets transformed as discussed earlier. I focus on columns (1)-(4) in my discussion – column (5) includes a PPD plan measure of plan underfunding that significantly reduces the sample size.

The marginal effects of the dummy variables are interpreted as changes in the probability of retiring from one's public sector job. Having employer-provided health insurance increases the probability of retiring by .034 and the estimate is statistically significant in columns (1) and (2) that use all the data. Coverage in Social Security has no statistically significant separate effect, but eligibility to claim Social Security is estimated to increase the probability of retiring by .061 in column (4) that holds fixed the public pension options available.

I define the early retirement and normal retirement indicators to be mutually exclusive. In plans without an early retirement option programmed in the PEP, the normal retirement indicator is on and stays on once the normal retirement age is reached. Becoming eligible for normal retirement increases the retirement probability by .093 in column (4) and is highly statistically significant. I estimate a positive as expected, but very small, statistically insignificant impact of retirement wealth on retirement.

The findings are similar for early retirement. Reaching the age of eligibility for early retirement increases the probability of retirement by .113 – the largest estimated effect in column (4) and the most statistically significant. As in the case of normal retirement, the effect

of pension wealth at early retirement while positive is insignificant economically and statistically. Defined contribution balances (transformed) are also statistically insignificant.

The *peakdiff* coefficient measures the effect of forward-looking incentives – the increase in retirement wealth from continuing to work. Recall, this is measured as the difference between pension wealth in the current wave (the present value of deferred vested benefits calculated in the PEP at that age) and the maximum value of pension wealth, transformed as described previously. So, a ten percent higher future value of retirement benefits is estimated to reduce the probability of retirement by .0006. This is an economically small effect that is statistically significant in all models.

Aside from the variables that reflect the structure of the plans programmed into the PEP, I include one policy variable – offered early-out retirement incentives– that estimates responsiveness to supplemental options designed to encourage retirement.[18] These offers are estimated to increase the probability of retirement by about .04 in columns (3)-(5) but is only marginally statistically significant in (3).

In column (5) I include a PPD measure of plan financial health – UAAL - the (transformed) actuarial accrued liabilities under GASB rules. This has a small, statistically significant negative effect on the probability of retirement – for every ten percent increase in the unfunded accrued liability, the probability of retiring falls by .0001. This is a tentative finding – given the small sample size – but taken at face value suggests that employees are taking the likelihood of eventual payment into account when deciding to work longer. This is consistent with work by Fitzgerald (2015) that could be interpreted as evidence that the

[18] This data item is from the RAND-Fat file in xx.

teachers take the financial fitness of their pension plan into account. She finds that Illinois public school teachers are willing to pay only 20 cents on average for a dollar increase in the present value of expected retirement benefits. While this seems low, note that this is the estimated value teachers placed on an increase in benefits from an already relatively generous pension plan that is notoriously underfunded.

5. Discussion and Conclusions

Evidence presented here suggests that public employee retirement is responsive to program eligibility focal points – becoming eligible for the plan's early retirement or normal retirement benefit but no evidence that pension wealth influences retirement separately. I estimate a small drop in the probability of retirement the larger the difference between wealth in the current wave that is vested but deferred and the maximum value attainable with continued work. There is some evidence that special early-out provisions encourage earlier retirement and that participants may work longer if they fear the plan finances are at risk. These findings suggest that state legislative action to affect retirement decisions and reduce future pension costs would be most effective operating through plan eligibility rules and early-out incentives.

This work has several limitations that should be addressed going forward. In particular the loss of observations with the restricted pension data should be explored. It may be possible to use later, more complete employer survey data in earlier years to increase coverage for the original HRS sample. In addition, this work does not control for Social Security wealth which is known to influence retirement along with pensions (Coile and Gruber, 2007). It may be

possible to use some of the publicly available SSW measures to address this. Finally, this work focuses on the decision to fully retire from the public sector. It would be valuable to extend the focus to exit from the public sector job as in S-S (2014) to include exit into part-time work. A competing risks analysis might be especially pertinent in the public sector where early retirement ages are common.

Table 2. Impact of Retirement Options on the Probability of Retiring from the Public Sector

	(1)	(2)	(3)	(4)	(5)
Ret. Health Ins.	.034*** (.006)	.032*** (.007)	.020 (.015)	.022 (.015)	.021 (.019)
SS Cov		-.008 (.011)		-.020 (.028)	-.041 (.037)
Elig SS		.045** (.019)		.061* (.037)	.068* (.042)
Elig ER			.118*** (.041)	.113*** (.041)	.131*** (.051)
ER wealth			.002 (.002)	.002 (.002)	.003 (.002)
Elig NR			.095*** (.036)	.093** (.037)	.079* (.041)
NR wealth			.001 (.003)	.001 (.003)	.002 (.003)
Peakdiff			-.006** (.003)	-.006** (.003)	-.006* (.003)
DC balances			-.002 (.003)	-.003 (.003)	-.002 (.004)
Offered EO			.044* (.027)	.042 (.028)	.048 (.031)
UAAL					-.001** (.001)

Based on 11,846 person-wave observations in columns (1) and (2); 4,830 in columns (3)-(4). Column (5) is estimated on 2,370 observations. Marginal effects are reported above standard errors clustered at the household level. Personal/job characteristic controls include age and wave dummies, a female dummy, race and ethnicity, marital status, fair/poor health indicator, occupation dummies, education dummies, tenure, and total assets. Total assets and pension wealth variables are transformed via the logmodulus transformation. SS = Social Security, ER = early retirement, NR = normal retirement, DC = defined contribution.

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