The effect of pension design on employer costs and employee retirement choices: Evidence from Oregon

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ABSTRACT

We use administrative data from Oregon’s Public Employees Retirement System (PERS) to study the effect of pension design on employer costs and employee retirement-timing decisions. During our 1990–2003 sample period, PERS calculates each member’s retirement benefit using up to three different formulas (defined benefit (DB), defined contribution (DC), and a combination of DB and DC), and PERS pays the maximum benefit for which the member is eligible. We show that this “maximum benefit” calculation results in average ex post retirement benefits that are 54% higher than if they had been calculated using only the DB formula and that employees receiving DC benefits are significantly more likely than employees receiving DB benefits to retire before the plan’s normal retirement age. Monte Carlo simulations verify that the higher costs could have been predicted at the start of our sample period. Exploiting exogenous plan changes, we show that employees respond to within-year variation in their retirement incentives and, consistent with peer effects, that they respond more strongly to these incentives when more of their coworkers face similar incentives. Finally, consistent with the emerging literature on financial mistakes by households, we show that a small but noteworthy fraction of retirees would have benefited from shifting their retirements by as little as one month.

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1. Introduction

Employers must weigh the expected benefits of the pension plans they offer to employees against the expected costs. Among other benefits, offering a generous pension plan may allow an employer to attract and retain higher quality employees. Governor Tom McCall emphasized these potential benefits in 1967 when arguing to reform Oregon’s Public Employees Retirement System (PERS):1

“...We are in a time of inflation and high employment. I have personal experience with the difficulty of recruiting top quality people at the available salaries and personal knowledge of the real sacrifices made by some who have accepted positions in my administration.... At all levels our state employment has shown heavy turnover. This requires extensive recruiting and training programs and threatens a real loss of competency if not checked....”

The idea was that a more generous pension plan would improve the quality of the services provided by state and local employers while reducing the administrative and other costs associated with employee turnover. On the other hand, increasing expected retirement benefit payments imposes a direct cost on employers who must cover the larger pension payments. It may also impose indirect costs insofar as changes to plan generosity affect employee behavior.

1 The quote comes from page 12 of “The Oregon Public Employees Retirement System History, the First 60 Years,” published by PERS on July 6, 2010.
PERS was created in 1946 and has been modified over the years by the state legislature. By 1990, PERS had evolved into a complex pension plan with both defined benefit (DB) and defined contribution (DC) elements, serving essentially all non-federal public employees across the hundreds of non-federal public employers in Oregon. 2 In particular, during our 1990–2003 sample period, PERS calculates each member’s retirement benefit using up to three different formulas (DB, DC, and a combination of DB and DC), and PERS pays the maximum benefit for which the member is eligible. The DB benefit depends upon the member’s salary and years of service. The DC benefit depends upon the accumulation of assets in one or two DC-style retirement accounts. To be clear, the DC elements in PERS differ significantly from those in a traditional 401(k) plan: Oregon manages the investments, provides an annual return of at least 8% to certain plan members, and converts DC account balances into life annuity payments using annuity factors that Chalmers and Reuter (2012) show to be better than actuarially fair. 3

The second major source of exogenous variation arises from PERS’ use of stale returns in January 2000 and in regressions using members’ retirement incentives to predict their retirement dates. While our findings suggest that the typical member is able to determine whether she benefits from having her DC account balance calculated using stale returns, we also find that several hundred of the members who retired in February, and therefore had DC benefits calculated using stale prior-year returns, would have been better off retiring in March, when the prior-year returns were finalized. In other words, just as Campbell (2006) finds that some households make costly financial mistakes, we find that some members make costly mistakes with respect to the retirement-timing decision.

The second major source of exogenous variation arises from PERS’ adoption of updated annuity factors in July 2003. Because the old annuity factors were based on mortality tables from 1978, and because life expectancies have subsequently increased, the new annuity factors reduced DC retirement benefits between 1.4% and 17.8%. Consistent with members seeking to avoid this well-publicized reduction in benefits, we observe more retirements during the first six months of 2003 than during any other six-month period between 1990 and 2003. Furthermore, in our regressions, we find that members facing larger reductions in annuity factors are more likely than those facing smaller reductions to retire before July 2003. This highlights the challenge that employers face when seeking to reduce pension costs: attempts to lower pension costs by cutting future benefits are likely to trigger additional retirements, which are likely to both attenuate the cost savings and impose administrative costs on employers, at least in the short run.

2 See Snell (2012) and the following link for a listing of state and local plans that provide complex benefits plans that share some common characteristics with the Oregon plan: http://www.nasra.org/resources/HybridBrief.pdf.

3 Goda et al. (2009) discuss similar policy issues that arise from the retirement incentives built into the U.S. Social Security system.
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