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What will my account really be worth? Experimental evidence on how retirement income projections affect saving

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ABSTRACT

Many investment companies have begun providing their defined-contribution pension participants with individualized, retirement income projections. The U.S. Congress is currently considering whether to require them all to do so. Evidence on the potential impact is scant, though a large body of economic research suggests that individuals are not currently making optimal retirement-saving decisions. Through a field experiment, we measure how provision of retirement income projections along with enrollment information affects individuals' contributions to employer-sponsored retirement accounts. We find that the intervention boosted annual contributions to employer retirement accounts by $85, equivalent to 3.6% of the average contribution level or 0.15% of average salary, relative to those who received no intervention. In addition, randomly-assigned assumptions regarding retirement age, investment returns, and hypothetical contribution amounts were used to generate the projections and were found to have significant impacts on saving behavior. This finding suggests that care is warranted in the design and communication of projections.

1. Introduction

With the shift toward defined contribution (DC) retirement plans, Americans' retirement security increasingly requires individuals to make responsible, informed wealth accumulation decisions over their working years (Hacker, 2006; Even and Macpherson, 2007; Skinner, 2007). Among Americans with pensions, the share with only a traditional defined benefit pension fell from 60 to 10% between 1980 and 2003. Over the same period, the share with only a DC plan rose from 17 to 62% (Buessing and Soto, 2006). Because individuals only have one shot at saving for retirement, the stakes are high and the consequences of suboptimal choices on economic well-being are potentially large.

Economists debate the extent to which Americans save too little, too much, or just the right amount for retirement (Scholz et al., 2006; Ameriks et al., 2007; De Nardi et al., 2010; Lusardi and Mitchell, 2011). In standard models of retirement saving, individuals with low levels of saving are interpreted as responding optimally given a strong taste for present rather than future consumption, anticipation of steep earnings growth, or binding liquidity constraints. However, a growing body of work raises concerns about how well-equipped individuals are to make optimal saving decisions. They may be cognitively constrained, as evidenced by low rates of financial literacy (Lusardi and Mitchell, 2007). Many are affected by behavioral factors outside of standard models, such as procrastination or inertia (e.g., Thaler and Benartzi, 2004; Choi et al., 2004), default rules (e.g., Madrian and Shea, 2001; Beshears et al., 2009; Mitchell et al., 2009; Goda and Manchester, 2013), peers (e.g., Duflo and Saez, 2002, 2003; Beshears et al., 2011), and how information is conveyed or framed (Bernheim et al., 2011; Choi et al., 2012).

A key requirement for optimal saving decisions is an accurate understanding of both the accumulation of retirement saving contributions to assets at retirement, and the decumulation of assets to income in retirement. Many individuals systematically underestimate the effects of exponential growth (Eisenstein and Hoch, 2007; Stango and Zinman, 2009; McKenzie and Liersch, 2011; Levy and Tasoff, 2014), which distorts one's view of intertemporal budget constraints and could lead to suboptimal saving decisions. How individuals adjust saving in response to reductions in this bias is subject to countervailing income and substitution effects and is determined by the elasticity of intertemporal substitution (EIS). The income effect occurs because current assets will be worth more than previously expected, which encourages additional consumption now and reduced saving. The substitution effect occurs because the opportunity cost of current consumption rises, encouraging additional saving. Empirically, a growing body of research has suggested that negative exponential growth bias is associated with lower levels of savings (Stango and Zinman, 2009; Levy and Tasoff, 2014).

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This paper evaluates the effect of providing employees with retirement income projections of current contributions to employer-provided retirement accounts using a large-scale field experiment. Using administrative data on nearly 17,000 employees at the University of Minnesota, we measure the causal effect of our informational intervention on employee contributions. We find that providing income and balance projections along with general plan information and materials assisting people through the steps of changing contribution rates resulted in a 1.2 percentage point increase in the likelihood of changing one's contribution relative to the control group, which received no information. In addition, individuals sent this treatment changed their annual contributions by +$85 more than the control group during the study period, an effect equal to 3.6% of the average baseline contribution level or 0.15% of average salary. Our findings suggest that both the provision of retirement planning materials and the projections contribute positively to the average treatment effect, although there is not strong evidence that either the planning materials or the projections alone induced a significant increase in contributions. We also find that sending account balance projections to employees *without* income projections increased the spread of contribution changes relative to the control group.

Our study contributes to the literature in several ways. First, it provides initial evidence as to the effect of retirement income projections on saving behavior. The U.S. Congress is considering the Lifetime Income Disclosure Act (S. 267; HR. 1534), which would require DC plan administrators to annually provide retirement income disclosures that would project the value of a lifetime annuity that the plan participant could purchase at retirement given her current retirement savings. This kind of intervention has common sense, bipartisan policy appeal as it does not entail a saving subsidy or mandate and can be provided at negligible marginal cost. However, the effects of such a policy have never before been tested. Related studies on the causal impact of providing additional information about future Social Security benefits on retirement decisions provides mixed evidence: Liebman and Luttmer (2011) finds a positive impact on labor force participation, especially among women, while Mastrobuoni (2011) finds a positive impact on knowledge but not on behavior. Existing evidence on correcting exponential growth bias and saving decisions is limited to lab evidence that shows increased saving motivation after learning about exponential growth (McKenzie and Liersch, 2011) and evidence in a developing country context (Song, 2012). Our findings suggest that on average, individuals contribute more, albeit a small amount, when provided with information about how current saving translates into income in retirement along with enrollment information. While we find that the intervention had a small positive effect on contributions, these results are meaningful to the literature on retirement saving given that the intervention was also low cost. Importantly, though we can precisely estimate the effect of the intervention on contributions to the employer accounts, we do not observe total saving and cannot rule out off-setting changes in other accounts.

Second, we randomize the assumptions used to generate the projections across employees, creating the opportunity to measure their causal impact on contributions. Assumptions about rates or return, retirement age, hypothetical contribution levels and other factors are inherent in the policy of offering projections and these incidental aspects of the projections may affect behavior in ways that affect welfare. Inadvertently, projection assumptions may directly shift individuals' beliefs about likely or appropriate retirement ages or rates of investment return, and the assumed contribution levels may act as psychological anchors or cues. Indeed, we find that a higher assumed retirement age has a significant positive impact on the propensity to change one's contribution amount. We also find that both a higher assumed retirement age and higher assumed hypothetical contribution amount induce a larger increase in contributions relative to those assigned a lower assumed retirement age and contribution amount, though the assumed rate of investment return does not appear to have an effect. These findings provide clear evidence that these incidental design features merit careful attention.

Third, we explore potential mechanisms that may have generated the observed effects on contributions. Using survey responses from a self-selected subset of our study population, we find suggestive evidence that treatment effects are due to a combination of factors, including improved understanding of the relationship between contributions and retirement income and psychological cues. The evidence that the treatments operated by increased salience, reduced transaction costs, or directly shifting individuals' beliefs regarding expected rates of investment return or retirement age is weaker. However, differential selection into survey response limits the strength of the conclusions about the relative importance of these mechanisms.

The remainder of our paper proceeds as follows. Section 2 describes our experimental design, including details regarding our treatment groups and randomization procedure, and Section 3 explains our analytic approach. Section 4 presents and discusses results on the effect of the intervention on contribution behavior, while Section 5 explores possible mechanisms by which these effects may operate. Section 6 concludes the paper.

2. Experimental design

2.1. Setting and sample characteristics

The setting of our study is the University of Minnesota. Nearly all employees at the University participate in Social Security and a retirement plan that mandates relatively high levels of retirement saving.[1] In addition to these mandatory plans, most employees are also eligible to participate in Voluntary Retirement Plans (VRPs), which allow them to make additional tax-deferred contributions of up to $33,000 per year if they desire. Participants can choose to make a flat dollar amount election each pay period or contribute a percentage of their salary.[2]

The study sample consists of all individuals eligible to participate in the VRPs and under age 65 at the start of the experiment, which amounts to 16,881 employees dispersed among 1385 departments across five campuses and various extension offices who were employed by the University in both October 2010 (Period 1, prior to intervention) and May 2011 (Period 2, following the intervention). We obtain administrative data from the Office of Human Resources with the assistance of an independent third party in order to protect employee anonymity. We observe each employee's VRP contribution decision in each period.[3]

Table 1 describes the administrative data for our study sample. In Period 1, 24.1% participate in a VRP while 24.9% participate in Period

[1] Civil servants and non-faculty bargaining unit employees participate in the Minnesota State Retirement System (MSRS), while faculty, academic professionals, and administrators participate in the Faculty Retirement Plan (FRP). Most MSRS participants receive a defined benefit pension equal to 1.7% of the average of their five-highest salaries for each year of service starting at age 65; reduced benefits are available for early retirement. The employee and employer each contribute 5% of the employee's gross salary to the retirement plan. FRP is a defined contribution plan in which most eligible participants make a required tax-deferred contribution of 2.5% of their covered salary, supplemented by a 13% contribution by the University.

[2] There are two choices of VRP, the Optional Retirement Plan (ORP) and the Section 457 Plan. Participants must choose between several different vendors and investment options within each plan. Employees face a maximum annual tax-deferred contribution of $33,000 in 2010 and 2011 ($16,500 in each plan). Contributions automatically cease once a $16,500 annual plan limit is reached. Individuals age 50 and above are allowed to make additional catch-up contributions of $5500 in the ORP plan annually.

[3] We never observe VRP account balances or values of mandatory retirement accounts. This prevents us from offering total retirement income projections, as laid forth in the Lifetime Income Disclosure Act. We therefore focus our interventions on providing projections of additional retirement balance and income from hypothetical additional contributions while working, a marginal decision relevant for everyone who is not contributing to the maximum.