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Buffer stock saving in retirement accounts ☆

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Abstract

We use a dynamic programming model to explore the possibility and extent of precautionary saving in tax-sheltered accounts such as the 401(k). The main policy experiment examines the behavior of saving for different levels of unemployment insurance (UI), which is a perfect substitute for precautionary saving against job loss. Our results indicate that increasing the generosity of UI crowds out 401(k) contributions made by younger workers, who save primarily for precautionary reasons. At the aggregate level, we find that 401(k)s increase national saving and that the magnitude of the effect depends on the generosity of UI.
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1. Introduction

In 2004 President Bush outlined a proposal to reform Social Security that would allow workers to invest a fraction of payroll taxes in private accounts. If enacted, the proposal

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will further the trend toward tax-sheltered accounts that began in the late 1970s with the inauguration of the IRA and 401(k) programs. Critics of private accounts point to the poor performance of 401(k)s during the recent decline of the U.S. stock market in 2001 to argue that private accounts are too risky. But if the stock market decline highlighted the riskiness of 401(k)s, the recession that followed illustrated a potential advantage: flexibility. Unlike traditional pensions or Social Security, the 401(k) rules allow participants to make pre-retirement withdrawals when they leave their jobs. The withdrawals are penalized at 10%, but they can still provide a buffer against income loss during unemployment. While the riskiness of 401(k)s has received a lot of attention from the media, the potential for 401(k)s to provide self-insurance against income fluctuations has been largely ignored. We examine the conditions under which a 401(k) plan can serve as a precautionary saving vehicle and explore the implications this has for national saving.

The economy in the paper extends the life-cycle frameworks of Engen et al. (1994) and Laibson et al. (1998) by modeling job loss and unemployment insurance (UI). The inclusion of UI allows us to measure the extent of precautionary saving in the 401(k) by observing how contributions and saving respond to changes in the UI replacement rate. Since UI is a perfect substitute for buffer saving against unemployment shocks, its effect on saving both inside and outside the 401(k) provides information about the motive for saving. In particular, if an account is used as a precautionary vehicle against employment risk, higher rates of UI should reduce saving in that account during periods when the precautionary motive is dominant. Results from the model simulations show that increasing the generosity of UI crowds out 401(k) contributions made by younger workers, who save primarily for precautionary reasons. Using the benchmark parameters, we find that raising the UI rate from 10% to 70% reduces the ratio of contributions to income by an average of 86% for the first 10 years of working-life. In contrast, saving in the unsheltered account falls only slightly in response to higher rates of UI.

The possibility of early withdrawals from the 401(k) has fueled concern about leakage from retirement saving. Munnell and Sundén (2004) report that individuals who took a lump-sum distribution from a 401(k) plan cashed out a median amount of $6,000 (in 2001 dollars). Poterba et al. (2001) estimate the loss in retirement savings associated with these cashouts and find it to be about 5%. These studies measure the losses due to early withdrawals, but they do not account for the increase in contributions attributable to the possibility of self-insurance in the 401(k). Instead of interpreting early withdrawals as a consequence of bad decision making, we find that a rational saver will not only withdraw from the 401(k) during unemployment, she will actually *plan* to do so.

The introduction of 401(k) plans affects national saving in the model economy through two channels. First, the flexibility of the plans allows agents to use the 401(k) to self-insure against unemployment shocks, and consequently, there is a substitution of saving from the unsheltered account to the 401(k). Second, the substitution is complemented by higher saving because the 401(k) is a more attractive vehicle for life-cycle saving. Simulations suggest that 401(k)s have a positive effect on overall saving. Relative to a model economy without 401(k)s plans, we find that introducing 401(k)s increases the steady-state national saving rate by between 1 and 3 percentage points, depending on the assumptions about UI. Consistent with previous simulations of the UI system (e.g., Engen and Gruber, 2001), we find that increasing the generosity of UI decreases national saving for both economies, but