

# WORKING PAPER

## *Executive Summary*

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### EMPLOYER MATCHING AND 401(K) SAVING: EVIDENCE

### FROM THE HEALTH AND RETIREMENT STUDY

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In order to stimulate voluntary saving through personal accounts, many Social Security reform proposals call for the federal government to match part or all of individual account contributions. For example, the President's Commission on Strengthening Social Security (CSSS) put forth three models for Social Security reform. Model 3 linked the voluntary personal account contribution to a matching contribution by the government. While there have been numerous studies of the role of voluntary personal accounts in reforming Social Security, no studies have examined the potential impact of government matching contributions on personal account participation. This is quite surprising because the impact of personal accounts on the long-run fiscal position of Social Security depends on the level of participation in these accounts. For example, the Commission provided for Model 3 estimates of individual benefit and program fiscal conditions for three personal account participation rates – 0, 67, and 100 percent – and the effect of reform with personal accounts varied by the participation rate or

One logical point of departure in order to understand the effect of government matching on voluntary personal account participation might be to draw lessons from the existing ad hoc reduced-form literature on the impact of employer matching on 401(k) plan participation. Unfortunately, there is actually strikingly little consensus among researchers on this issue. A central shortcoming in this literature has been the failure to exploit the fact that employer matching in 401(k) plans is based either on a multiple match-rate schedule or caps on the generosity of the match, both of which induce kinks in the intertemporal budget constraint. Furthermore, even though 401(k) participation involves the substitution of resources across time, previous studies have not couched their analyses in formal models of intertemporal choice. This means that previous reduced-form estimates cannot be interpreted as estimates of life-cycle-consistent uncompensated demands for 401(k) saving necessarily, because the empirical specifications may not be consistent with underlying utility maximization. So, while previous studies have been quite informative descriptive analyses, they say little about how personal account participation may respond to government matching under various Social Security reform proposals.

In this project, we take an alternative approach and use estimates from a structural life-cycle consistent model of the impact of employer matching on 401(k) participation that explicitly accounts for non-linearity in the intertemporal budget set to simulate the potential impact of government matching contributions on voluntary personal account participation. We make the following contributions:

- We lay out the economics of matching contributions in a simple, stylized two-period model of consumption and saving to generate basic intuition on the potential impact of matching on personal account contributions.

- We then characterize the Commission on Strengthening Social Security (CSSS) Reform Model 3 in this two-period framework.
- In Model 3, the individual voluntarily contributes 1 percent of OASDI earnings; in return, the government matches by redirecting a portion of the payroll tax to the personal account. The magnitude of this match is determined by four plan design parameters and the differential return personal account assets receive above the notional return.
- We formulate and estimate the structural model of behavior and use comprehensive data on older workers eligible for 401(k) plans from the 1992 Health and Retirement Study.
- We use those estimates to simulate the impact of government matching on voluntary personal account participation in CSSS Model 3 for older workers (age 40-70).
- The simulated impact is very non-linear: moving from a zero to 10 percent match rate substantially raises personal account participation, but the effect is modest and linear for higher match rates.
- Under Model 3, a real return of 12.5 percent on personal account assets would be required to achieve a 67 percent participation rate, but participation would be about 60 percent if the personal account real return was only 5 percent.

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