ELSEVIER

Social security and self control preferences

Çağri S. Kumru[a,b], Athanasios C. Thanopoulos[a]

[a]*Department of Economics, University of Pittsburgh, Pittsburgh, PA 15260, USA*
[b]*Department of Economics, Celal Bayar University, Manisa, Turkey*

Abstract

We analyze the welfare effects of an unfunded social security system. We do so using an overlapping generations economy wherein agents have self-control preferences, face mortality risk, individual income risk, and borrowing constraints. Given our specification of preferences, unfunded social security helps reduce the agents' temptation to consume in every period; consequently, the welfare costs it otherwise entails are substantially mitigated. While both social security and self-control when considered separately reduce welfare, their combination renders this effect considerably less severe. Moreover, if the cost of resisting temptation is very high, the introduction of social security might even improve welfare.
© 2007 Elsevier B.V. All rights reserved.

1. Introduction

The economic benefits of an unfunded social security system are largely summarized in providing intra- and intergenerational risk sharing. Still, this is accomplished at the significant cost of encouraging early retirement, while also entailing distortions in agents' labor supply and private savings decisions. The latter can be readily shown in an overlapping generations model where consumers supply

labor inelastically (Diamond, 1965). Since social security redistributes income from the young to the old generation, it lowers savings and consequently, the steady-state capital stock. In addition, Auerbach and Kotlikoff (1987), Imrohoroglu et al. (1995), and Hugget and Ventura (1999), using large-scale overlapping generations models, show that an unfunded social security system generates distortions in labor supply and capital accumulation, yielding a net reduction in aggregate welfare.

Interestingly, the redistribution mechanism of social security and its induced between-and-within-generation allocation of risk is not the only factor that affects welfare: potential idiosyncrasies in agents' preferences highlight yet another important source of ambivalence with regard to the welfare implications of social security. Many studies, both theoretical and empirical, have argued on the welfare gains that can be accrued thanks to social security when households lack the foresight to save adequately for their retirement.[1]

Two distinct research approaches have provided empirical support as well as theoretical machinery that could serve in explaining the observed anomalies. It is well documented in the experimental economics literature that subjects facing intertemporal choice problems often exhibit preference reversals, or that their preferences feature some kind of time inconsistency (e.g. see Gul and Pesendorfer, 2001, 2004a, b). Furthermore, theoretical advances have elucidated underlying factors that induce these anomalies. In a seminal paper Phelps and Pollak (1968) introduce an intertemporal framework involving quasi-hyperbolic discounting (in lieu of exponential discounting) and utilize it in order to study intergenerational altruism (we shall henceforth refer to the preference structure developed by Phelps and Pollak, 1968 as "time-inconsistent preferences").[2]

In a recent study that enhances considerably the insights found in Feldstein (1985), Imrohoroglu et al. (2003) investigate the welfare effects of unfunded social security in an economy populated by agents with time-inconsistent preferences who suffer from inability to commit to future actions and hence, save inadequately. In Imrohoroglu et al. (2003), there is a government that engages in savings on behalf of the quasi-hyperbolic discounters through the social security system. Their main findings are that (1) quasi-hyperbolic discounters incur substantial welfare costs due to their time-inconsistent behavior; (2) to maintain old-age consumption, social security is not a good substitute for a perfect commitment technology; and (3) there is little room for social security in a world of quasi-hyperbolic discounters.

In spite of their theoretical appeal in providing an alternative that adequately explains observed patterns of behavior, quasi-hyperbolic discounting models entail a non-recursive structure that renders them computationally intractable. This is because quasi-hyperbolic discounting structure does not allow a desire for commitment to one's future actions.

---

[1] Imrohoroglu et al. (2003) provide a concise review of the relevant literature, as well as an interesting discussion of the debate as to whether myopia is indeed empirically identified from e.g. unforeseen events and other factors that cause a sudden drop in consumption at retirement.

[2] Laibson (1997), Diamond and Koszegi (2003), Krusell et al. (2002a), and Krusell and Smith (2003) analyze various macroeconomic models by using time-inconsistent preferences.