Generational Selfishness and Social Security: A Note on a Time-Inconsistency Problem in Parametric Reforms of PAYG

Yigit Aydede

In the face of adverse demographic shocks, governments use parametric reforms to keep pay-as-you-go (PAYG) systems functioning, at least in the short run. Like any other fiscal policy, the optimality of these reforms should be determined on the basis of their feasibility, generational fairness, and effects on welfare, even when the very existence of the system is not optimal. However, it is a fact that around the world these reforms tend to phase in so gradually that the senior members’ rights are partially protected while more of the burden gets shifted onto new members and coming generations. In their recent paper, Dobrescu, Kotlikoff, and Alberto argue that the dramatic decline in national saving rates can be explained by the fact that developed countries are placing increasing weight on the well-being of contemporaneous older generations. As discussed in the literature, this bias can be explained as a consequence of prevailing political equilibrium with changing social preferences on age-weighting over time. In this paper, I examine this same rising generational selfishness in parametric reforms of PAYG systems as a possible outcome of time-inconsistency problems in optimal policies, which results in governments abusing the system by moving toward Ponzi schemes.

When unexpected adverse demographic shocks occur in the system, policy makers have a range of options: from terminating the program to engaging in a full-scale Ponzi scheme. Each policy option chosen by parametric reforms distributes the burden in different ways generationally: the contribution rate can be stabilized and the whole burden of the shock can be borne by retirees, or the benefit level can be fixed and the working population bears the entire burden. Therefore, the determination of a compromise policy between these two extreme principles should be addressed to understand its optimality. Unlike the intergenerational-risk sharing studies that define the optimal policy as being the one that minimizes variance in the system’s implicit rate of return among

1 Assistant Professor, Department of Economics, Sobey School of Business, Saint Mary’s University, Halifax, Nova Scotia B3H 3C3, Canada. Email: yigit.aydede@smu.ca.
generations, I define the policy’s optimality by its direct effects on a social welfare function without referring to whether the very existence of the system is optimal in the first place.

Since Samuelson’s prominent paper\(^3\) appeared in 1958, it has been a well-known debate point that if the economy is dynamically inefficient there can be a PAYG system that improves the lifetime well-being of every subsequent generation. As also shown by Marini and Scaramozzino\(^4\), even in the absence of this inefficiency, if the society weighs highly enough the gain for the old, who receive benefits without paying for it, to exceed the total loss for future generations, an unexpected introduction of PAYG increases the total social welfare. This occurs only if the social discount rate for future generations is sufficiently high in the social planner’s welfare function. Therefore, since an optimal social security critically depends on the level of this exogenous discount rate, the existence of PAYG can be justified entirely on ethical grounds. In using a social welfare function, this paper’s efficiency criterion resembles the one used by Marini and Scaramozzino (1999) and Calvo and Obstfeld\(^5\). More specifically, the present analysis relaxes the binding policy assumption in the Marini-Scaramozzino model and focuses on the time-inconsistency problem in optimal policies when they are piecewise and nonbinding, and are evaluated based on a time-consistent social welfare function in the face of demographic shocks.