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ANALYSIS

Environmental consequences of social security reform: a second best threat to public conservation

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Abstract

The work postulates that investments in environmental stewardship function as an informal intergenerational contract in the current social security system. An immediate pension system reform that orders a transition from a pay-as-you-go system to a 'what you save is what you get' system can erode incentives to maintain environmental conservation efforts. If environmental conservation is highly productive in the long run, pension reform could (1) damage every generation through time, (2) place perhaps a modest but unnecessary drag on economic performance or, at the other extreme, (3) destabilize the ecological system entirely by destroying a highly prized environmental resource critical to future welfare. Several reform amendments are presented, but one may be especially attractive. By formalizing an intergenerational annuity to reward a generation directly for its public conservation investments through the existing pension structure, inefficiencies can be eliminated, up front sacrifices can be reduced and reforms can employ the existing social security apparatus to collect payroll taxes and to disburse pension benefits to implement the amended intergenerational contract.

Keywords: Sustainability; Renewable resources; Social security; Overlapping generations

JEL classification: H5; C6; Q2

1. Introduction

The well-being of future generations motivates numerous public policies. Education reform, health care access, research and development policy, pension reform and of course environmental protection all affect future generations. What is not always obvious is that the policies may be interrelated. This work treats a possible conflict between public pension reforms that seek to reduce the reliance on transfer payments to finance retirement and other public commitments to finance education, research and development and the environment. If poorly

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coordinated, policies to make pension savings more efficient can exacerbate an existing undersupply of productive public services and may harm the future. One policy alternative is to reward pensioners better for previous public investments and remove any sectoral bias in savings.

The link between pension reform and other sustainability objectives gravitates around an imbalance in the way markets reward private investments versus the way public pensions reward public investments. Assets accumulated during working life return the marginal value product of assets saved; yet productive public investments only return directly the taxable share of economic gains through future social security taxes. This means that investors receive from public pensions only a percentage of the marginal value product of the public investments they make.

This work extends an observation by Nerlove et al. (1988) that negative bequests inside the household defined as transfers from the working young to their parents motivate previous child-rearing efforts beyond paternalism—or 'endowments' to the future are often self-motivated at the margin. I treat the social security system as a society-wide contract between overlapped generations with powerful built-in negative bequests—a promise of elderly care tomorrow that helps to motivate conservation of productive publicly managed resources today. Alarmingly, many proposals to make pension savings more efficient disrupt this contract and install no new mechanisms to fill shortfalls in education or environmental stewardship that may occur. Among the public assets threatened, the environment is particularly vulnerable as nonconvex resource renewal exposes the economy to catastrophic diminution of highly productive natural resources. If society inaugurates pension reform but fails to integrate it competently with choices to finance productive public sector investments, some efficient opportunity is foregone through time, and the consequences of this oversight could be quite severe.

2. Background

Structural reforms across the globe seek to wean citizens from a reliance on transfers from subsequent generations to finance their retirements. The goal is to move closer to a self-financed system that reduces but does not eliminate altogether public pension transfers (OECD, 2001b). This work considers a problem, reduce reliance on future income, and you may reduce support for policies that increase future income.

The second best concern raised here departs from numerous works that assume pension savings reforms unambiguously benefit the future. In this work, the net impact on the future is not predetermined; rather robust effects from a policy announced today that reduces the share of GNP that can be allocated to pension transfers tomorrow include:

(1) the first generation receives a drop in lifetime welfare from its ex ante position and
(2) the distortion between productive public investments to private investments worsens.

If publicly managed natural resources replenish by sigmoid, nonconvex processes, this adds:

(3) the quantity of resource conservation necessary to prevent catastrophic exhaustion becomes larger, or ecological instability becomes a more acute risk.

Whether the welfare of the future increases or decreases is not assumed, but the assumptions that allow more than one result may not be so controversial. First, the model allows some public services to be productive. This departs from works that model public services as consumer goods only (Pecchenino and Pollard, 1998). Second, agents are not perfectly altruistic. This is consistent with the use of the overlapping generations models (olg) that dominate the pension reform literature as olg models collapse to Ramsey–Solow models under perfect altruism (Fischer and Blanchard, 1989). Third public financing of education, R&D and environmental integrity can change over the several decades of a working life. This departs from works that assume future wages, and public choices that impact those wages are predetermined (Wendner, 2001). Finally, the model allows pension policy and public 'endowments' to be linked, and some empirical work supports this link (Honeyman, 1995).