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Public pensions and growth☆

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Abstract

This paper investigates the relationship between the size of an unfunded public pension system and economic growth in an overlapping generation economy, in which altruistic parents finance the education of their children and leave bequests. Unlike the existing literature, we model intergenerational altruism by assuming that children's income during adulthood is an argument of parental utility. Unfunded public pensions can promote growth when families face liquidity constraints preventing them from investing optimally in the education of their children. We consider two alternative ways of financing a public pension system, either by levying social contributions in a lump-sum manner or in proportion to labour income. We find that there is no case for unfunded public pensions in economies where bequests are operative. By contrast, there exists a growth-maximising size of the public pension system in economies where bequests are not operative and individuals are sufficiently patient.

JEL classification: H55; I20; D91

Keywords: Public pension; Education; Growth

1. Introduction

This paper investigates the relationship between the size of a public pension system and economic growth in an overlapping generation economy, in which altruistic parents may affect their children's income through education and bequests.

☆ The views expressed in this paper are those of the authors and do not necessarily reflect those of the European Central Bank (ECB).

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Individuals' reaction to fiscal policy, which determines the effectiveness of policy making in stimulating growth,[1] mainly depends on the span of their forecasting horizon. The current income-driven consumer of the Keynesian paradigm is typically short-sighted, which contrasts with the far-sighted Ricardian individual, who is able to see through the government's intertemporal budget constraint and to counter the effects of fiscal policy. Whereas pay-as-you-go public pensions fully crowd out private savings in the textbook version of overlapping generation models,[2] where individuals' horizons are limited to their own life-cycle, successive generations of altruistic individuals are nested through a chain of bequests, thereby making fiscal policies ineffective (Barro, 1974).

A large body of literature has examined and qualified the conditions under which Ricardian equivalence holds in altruistic overlapping generation models (e.g., Abel, 1987; Weil, 1987; Thibault, 2000). If bequests are operative both before and after a policy change, fiscal policy is ineffective. This literature is based on Barro's seminal assumption that individual preferences are defined by a recursive relation (a Bellman equation), which extends the planning horizon of economic agents to infinity in spite of a finite lifetime. Regardless of bequests, significant altruistically-motivated transfers of human capital take place in the family, as children are not capable of caring for themselves or making contractual arrangements to self-finance education (Becker, 1991). Drazen (1978), extending Barro's model to transfers of both human capital (education) and physical capital (bequests), assumes that altruistic parents face a trade-off between education and bequests, which is determined by returns on investment in each type of capital. Parents invest in the education of their children as long as the return on education is higher than the rate of interest. The main result of this approach (see also Becker and Tomes, 1986) is that households who cannot leave bequests underinvest in the formation of their children's human capital, inasmuch as the rate of return on education in these households remains above the rate of interest. Parents cannot borrow to invest more in the education of their children, since they are forbidden by law to force their children to reimburse them. Obviously, publicly-provided intergenerational transfers such as unfunded public pension benefits can alleviate such a liquidity constraint by transferring resources from children to parents, thereby increasing the level of education. This could enhance growth, provided that public pensions do not offset the favourable impact on human capital formation by crowding out savings. The question addressed in this paper is, under which conditions of preferences and technology can an increase in the size of a public pension system be good for growth?

Our approach departs from much of the literature on public pensions and growth, which assumes either that individuals have an infinite planning horizon and face binding bequest constraints (Caballé, 1995) or that intergenerational transfers are motivated by joy-of-giving altruism (Kaganovich and Zilcha, 1999; Sanchez-Losada, 2000). Kaganovich and Zilcha consider only transfers of human capital and analyse the role of government's allocation of revenue between public spending on education and

[1] For a review of the effectiveness of fiscal policy in stimulating economic activity, see Hemming et al. (2002).

[2] See Blanchard and Fischer (1989).