Social security, public education and the growth–inequality relationship

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Abstract

We study how the relationship between economic growth and inequality depends upon the levels of funding of two of the largest government programs, public education and social security. We do this in the context of an overlapping generations economy with heterogeneous agents where the government collects a tax on labor income to finance these programs. We show that in our model an increase in government spending on social security reduces income inequality and can have a non-monotonic effect on growth. When the initial level of social security funding is low, as is the case in most poor economies, then its increase will enhance growth. When its funding level is high as is typical for developed countries, we show that its further increase can slow down growth while reducing income inequality. These results obtain regardless of whether the increase in social security funding is financed by a tax increase or by cutting the public education budget. We also find that the effects of increasing the level of public education expenditures or the overall size of the government budget (holding the budget composition fixed) are characterized by similar non-monotonic growth–inequality relationships.

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1. Introduction

The relationship between income inequality and economic growth has been studied extensively in recent years. One of the first contributions to this literature is a model by
Galor and Zeira (1993) which studies inequality within a paradigm of human capital driven growth. They show that in the presence of credit constraints on human capital investments high initial inequality may be harmful to long-run growth, while redistribution may have a positive effect. In a similar framework, Maoz and Moav (1999) argue that income redistribution can have a positive or adverse effect on growth depending on whether the distortionary effect of higher taxation is dominated by a pro-growth effect due to relaxing of a credit constraint on human capital investment for some individuals. Galor and Moav (2004) generalize the analysis by comparing the human capital driven growth to the early stages of industrial development, when the lion’s share of growth was due to physical capital accumulation. They argue that at the early industrial stage high inequality was conducive to growth because the rich have a higher propensity to accumulate physical capital, whereas at later stages associated with an increasing role of human capital high inequality may be an impediment to growth according to the aforementioned credit constraints argument.

The effects of inequality on growth are also investigated in the political economy literature, exemplified by Persson and Tabellini (1994), as well as the literature on the political economy of public expenditures (such as Saint-Paul and Verdier, 1993 and Alesina and Rodrik, 1994) which typically postulates a political mechanism that determines public policy as a function of the income distribution, while public policy in turn affects economic growth. Most of the papers in this literature find a monotonic relationship between inequality and the level of redistributive taxation, and between the tax rate and growth. According to Aghion et al. (1999), who summarize the bulk of this literature, the predictions of these papers are “impressively unambiguous, since they all suggest that greater inequality reduces the rate of growth.” Our paper is related to this literature through our focus on how growth is affected by public policies.

We depart from the political economy literature in two ways. First, we take all public policy measures as exogenous and study implications of changes in public policy on growth and income inequality. Second, we study two redistributive government programs, pay-as-you-go (PAYG) social security and public education and their individual and combined effects on growth and inequality in a general equilibrium framework. In contrast to the political economy literature, we find a complex and non-monotonic relationship between public policies and growth. Moreover, the inequality–growth relationship turns out to be non-monotonic as well.

The implications of each of these programs (separately) for long-run growth as well as income inequality are addressed in a large and growing body of theoretical literature. The effects of public provision of education on growth and/or income distribution have been explored by Glomm and Ravikumar (1992), Eckstein and Zilcha (1994), Benabou (1996, 2002), Fernandez and Rogerson (1996) and many others. This literature supports the view that public education enhances both growth and equitable distribution. The literature on the growth effects of PAYG social security programs includes, among others, Feldstein (1974), Hubbard and Judd (1987), Laitner (1988), Pecchenino and Utendorf (1999), Docquier and Paddison (2003), and Lambrecht et al. (2005). The most common threads in this literature are that PAYG social security, while reducing inequality, is harmful to growth.1

1However, Zhang and Zhang (1998) argue that social security can reduce fertility, hence increase human capital investment and growth. Kaganovich and Zilcha (1999) show that the introduction of PAYG social security system
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