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Fiscal federalism and economic growth

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Abstract

This paper uses an endogenous-growth model with overlapping generations to explore the connection between fiscal federalism and economic growth. The analysis shows that federalism, which allows public-good levels to be tailored to suit the differing demands of young and old consumers, who live in different jurisdictions, increases the incentive to save. This stronger incentive in turn leads to an increase in investment in human capital, and a byproduct of this higher investment is faster economic growth.

Keywords: Fiscal federalism; Endogenous growth

1. Introduction

Fiscal federalism, under which provision of public-goods is decentralized to subnational governments, allows public consumption levels to be tailored to suit the preferences of a heterogeneous population. This beneficial outcome, first emphasized by Tiebout (1956) in a classic paper, is achieved via sorting of individuals into demand-homogeneous jurisdictions, each of which provides a different amount of the public-good. The drawbacks of federalism, which have also been noted in the literature, include the sacrifice of scale economies due to smaller jurisdiction sizes (Oates, 1972; Alesina and Spoalore, 1997), losses from interjurisdictional tax competition when government revenue comes from taxation of a mobile tax base (Brueckner, 2004), and failure to properly account for public-good spillovers across jurisdictions (Oates, 1972; Besley and Coate, 2003).[1]

A recent empirical literature explores a different effect of fiscal federalism by studying the impact of decentralized public spending on economic growth. This inquiry was inspired in part by the work of Oates (1993), who conjectured that better targeting of growth-enhancing

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[1] For overviews of the literature on fiscal federalism, see Wildasin (1986) and Oates (1999).

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infrastructure investment under federalism could raise an economy's growth rate. In a related argument, Davoodi and Zou (1998) show that, if national and subnational public-goods enter as separate inputs in a Cobb–Douglas aggregate production function, then growth maximization requires an appropriate degree of fiscal decentralization, with the subnational spending share matching its Cobb–Douglas exponent. The initial contributions to the empirical literature, which include Davoodi and Zou (1998), Zhang and Zou (1998), Woller and Phillips (1998), and Xie et al. (1999) disconfirm Oates' conjecture by finding a zero or negative connection between fiscal decentralization and growth, with the latter result possibly consistent with excessive decentralization under the Davoodi–Zou framework. However, other papers by Yilmaz (1999), Lin and Liu (2000), Akai and Sakata (2002), Thiessen (2003), Stansel (2005) and Iimi (2005) all find a positive relationship between decentralization and growth, suggesting that Oates may have been right after all.

Despite this intense empirical focus, little additional theoretical effort has been devoted to studying the decentralization-growth nexus. The present paper is intended to remedy this omission in the literature. The analysis builds on the earlier work of Brueckner (1999), who used an overlapping generations (OLG) model to show that, in a dynamic context, federalism affects the incentive to save. It does so by replacing a common tax burden, associated with uniform national provision of the public good z, with head tax burdens that differ between young and old consumers, who live in separate jurisdictions where z is provided at different levels in response to age-dependent demands. Federalism thus alters the time path of after-tax income over the life cycle, thereby affecting the economy's level of saving.

Because Brueckner's analysis relied on the traditional Diamond (1965) OLG model, this difference in saving altered the economy's steady state capital intensity without affecting its growth rate, except in the transition between the "unitary" system (where a common z level is provided nationally) and federalist system. To generate results more closely linked to the empirical literature, the present paper makes use of an endogenous-growth model with overlapping generations, where the choice between the unitary and federalist systems affects the economy's growth rate. The analysis adapts the OLG model of Yakita (2003), where consumers invest in human capital while young to enhance their earning power in old age. While education thus plays a key role in the analysis, the public good itself is assumed to be unrelated to the educational process, instead representing goods such as health services, transportation, public safety, recreation, etc. Relaxation of this assumption is left for future work.

In common with other endogenous-growth models, a key feature of Yakita's framework is rising income over the life cycle, a consequence of the work-time sacrifice required for schooling while young combined with the payoff to this schooling in old age. Given this income pattern, the public-good demands of the young and old are, respectively, low and high. While these demands are fulfilled under the federalist system, where the young and old live in separate jurisdictions, a unitary system provides a common, intermediate level of z. As a result, z rises for the young and falls for the old in moving from federalism to a unitary system, and the head taxes paid by the two age groups move in step. But viewed from a single individual's life cycle perspective, these changes reduce after-tax income when young while raising it when old. The resulting alteration in the time path of income then reduces the incentive to save.

The lower saving incentive under the unitary system disrupts equilibrium in the market for physical capital, requiring an adjustment that restores some of the lost savings. This adjustment comes partly from a reduction in investment in human capital, achieved by a decline in the share of a young person's time devoted to schooling. Since this change raises income for the young and lowers it for the old, the result is an offsetting increase in the incentive to save. But since the