Journal of Urban Economics 71 (2012) 177–188

Contents lists available at SciVerse ScienceDirect

Journal of Urban Economics

www.elsevier.com/locate/jue

Fiscal centralization versus decentralization: Growth and welfare effects of spillovers, Leviathan taxation, and capital mobility

Angus C. Chu [a,b], C.C. Yang [c,d,e,*]

[a] Durham Business School, Durham University, Durham, United Kingdom
[b] School of Economics, Shanghai University of Finance and Economics, Shanghai, China
[c] Institute of Economics, Academia Sinica, Taipei, Taiwan
[d] Department of Public Finance, National Chengchi University, Taipei, Taiwan
[e] Department of Public Finance, Feng Chia University, Taichung, Taiwan

ARTICLE INFO

Article history:
Received 14 September 2010
Revised 18 October 2011
Available online 29 October 2011

JEL classification:
D72
H20
O41
O43

Keywords:
Fiscal decentralization
Spillovers of public goods
Tax competition
Leviathan taxation

ABSTRACT

This paper develops an endogenous growth model with spillovers of public goods, Leviathan taxation, and mobile capital to examine the relative merits of centralized and decentralized fiscal systems for economic growth and social welfare. We show that a decentralized system dominates a centralized system in terms of economic growth; however, the difference in social welfare between a decentralized and a centralized system is non-monotonic and displays a hump-shaped relationship with respect to capital mobility. Since higher capital mobility induces stronger tax competition, this finding implies that there is an optimal degree of tax competition; some tax competition is desirable, but fierce tax competition may be harmful. We also show that there is a critical level of spillovers of public goods above which centralization dominates decentralization in terms of social welfare, as in previous studies; however, if spillovers are below this critical level, capital mobility also matters in the welfare comparison between centralized and decentralized systems.

1. Introduction

This paper develops an endogenous growth model with spillovers of public goods, Leviathan taxation, and mobile capital to examine the relative merits of centralized and decentralized fiscal systems for economic growth and social welfare. Fiscal centralization (FC) internalizes spillovers across jurisdictions and eliminates tax competition for mobile capital via the coordination of fiscal policy, while fiscal decentralization (FD) features tax competition and spillovers due to coordination failures. Put differently, whether or not fiscal policy is coordinated between jurisdictions is the defining characteristic that distinguishes between FC and FD in our study.[1]

We consider a plausible scenario in which politicians are partly self-interested (i.e., Leviathan or rent seeking) and partly benevolent (i.e., citizen-welfare maximizing). The "weight" that politicians attach to their self-interest could be viewed as reflecting the varying extent of government accountability across different political institutions (Lockwood, 2006). With such political preferences, we develop an endogenous growth model characterized by three exogenous parameters capturing (i) the degree to which politicians are rent seeking, (ii) the degree of spillovers of public goods across jurisdictions, and (iii) the degree of capital mobility. Different economies, due to their histories or for other reasons, are likely to vary in terms of these three parameters. The central purpose of this paper is to provide a framework to analyze the advantages and disadvantages of FD versus FC under different combinations of these three parameters. We examine how economic growth and social welfare are impacted by the choice between FC and FD.

Under FC, the central government internalizes spillovers and provides a relatively high level of public goods, but the economy is vulnerable to excessive Leviathan taxation due to the lack of tax competition. Under FD, local governments are constrained in Leviathan taxation due to the presence of tax competition, but they fail to internalize spillovers and may provide an insufficient

* Corresponding author at: Institute of Economics, Academia Sinica, Taipei, Taiwan.

E-mail addresses: anguscccc@gmail.com (A.C. Chu), ccyang@econ.sinica.edu.tw (C.C. Yang).

[1] This defining characteristic is consistent with that in Lockwood (2006). The so-called "central government" in FC may be understood as an institutional arrangement that facilitates and accomplishes fiscal coordination.

0094-1190/$ - see front matter © 2011 Elsevier Inc. All rights reserved.
doi:10.1016/j.jue.2011.10.003

level of public goods. We show that FD dominates FC in terms of economic growth; however, the social welfare difference between FD and FC is non-monotonic and displays a hump-shaped relationship with respect to capital mobility. Since higher capital mobility induces stronger tax competition, this finding implies that there is an optimal degree of tax competition; some tax competition is desirable, but fierce tax competition may be harmful. We also show that there is a critical level of spillovers of public goods above which centralization dominates decentralization in terms of social welfare, as in previous studies; however, if spillovers are below this critical level, capital mobility also matters in the welfare comparison between centralized and decentralized systems.

Edwards and Keen (1996) introduce Brennan and Buchanan's (1980) idea of taming the Leviathan via tax competition to the standard tax competition literature.[2] We follow their paper closely, but with three departures. First, while Edwards and Keen analyze the welfare effects of tax competition versus tax coordination in a static framework, we analyze both the growth and welfare effects in a dynamic framework. As will be shown, pursuing growth and welfare may be in conflict with each other. Second, while Edwards and Keen consider the "local" case where capital is perfectly mobile, we allow for all degrees of capital mobility. We show that higher capital mobility under FD tends to tame the Leviathan government in taxing capital, which promotes economic growth, but at the same time, higher capital mobility could worsen social welfare by reducing the provision of public goods relative to FC. The tradeoff leads to an optimal degree of capital mobility preferred by citizens and a hump-shaped welfare difference between FD and FC with respect to the degree of capital mobility. This non-monotonic hump-shaped relationship is absent in Edwards and Keen (1996) since they only consider the "local" case where capital is perfectly mobile. Third, interactions between governments could come from the expenditure side as well as the revenue side. We address both interactions in our model, whereas Edwards and Keen only address the interaction on the revenue side. It will be shown that leaving spillovers out of the picture in an analysis of tax competition may overweigh the beneficial power of tax competition in taming the Leviathan.

In the absence of tax competition and in a static framework, Besley and Coate (2003) adopt a political economy approach to the choice between centralization and decentralization.[3] They basically show that there is a critical level of spillovers of public goods above (below) which FC dominates (is dominated by) FD in terms of welfare. This result resembles Oates's (1972) classic finding regarding the tradeoff between FC and FD, but its derivation is immune to the artificial assumption of policy uniformity across jurisdictions as in Oates. We also follow Besley and Coate (2003) closely and, indeed, a main part of our model is borrowed directly from their paper. However, unlike Besley and Coate (2003) in which an explicit political process is modeled, we summarize the inefficiency of the political process with a parameter capturing the degree to which politicians are rent seeking. Epple and Nechyba (2004, p. 2455) sum up the gist of the recent political approach to FC versus FD as popularized by Besley and Coate (2003): "decentralization becomes less attractive as inter-jurisdictional spillovers increase, and inefficiencies in political systems provide a decentralizing force." Within our model, the political inefficiency of FC relative to FD arises due to the lack of a discipline device in the form of tax competition in FC. As will be shown, Besley and Coate's results will be qualified to a significant extent when tax competition is present.

A number of studies, such as Devereux and Mansoorian (1992), Lejour and Verbon (1997), Razin and Yuen (1999) and Koethenbuerger and Lockwood (2010), analyze the growth effect of tax competition versus tax coordination. Brueckner (1999, 2006) considers a growth model with overlapping generations of households and shows that economic growth is higher under fiscal federalism.[4] However, all of these studies follow the Pigouvian tradition by assuming that governments are benevolent. This approach assumes away the potential role of tax competition in constraining the extravagant public sector and, consequently, FC always dominates FD in terms of welfare since FC internalizes externalities while FD does not.[5] By contrast, FD may dominate, or be dominated by, FC in terms of welfare in our framework.

Our study follows Rauscher (2005) in exploring the possibility of taming Leviathan governments via tax competition in an endogenous growth model, but we differ from Rauscher (2005) in terms of the modeling details and derived results. A key difference is that we compare the performance of FD versus FC in terms of both economic growth and social welfare while Rauscher's study is confined to the growth performance within FD.

The remainder of the paper is organized as follows. Section 2 introduces our model. Section 3 performs the analysis. Sections 4 and 5 make comparisons between FD and FC in terms of economic growth and social welfare, respectively. Section 6 concludes. Proofs are relegated to the Appendix.

2. Model

Our model may be viewed as a complement to Edwards and Keen (1996) and Besley and Coate (2003) in the sense that (i) while Edwards and Keen address the effects of tax competition under perfect capital mobility in a static model without spillovers of public goods, we address the effects of tax competition under all degrees of capital mobility in a dynamic model with spillovers of public goods, and (ii) while Besley and Coate address the effects of spillovers in a static model in the absence of tax competition, we address the effects of spillovers in a dynamic model in the presence of tax competition. Both Edwards and Keen (1996) and Besley and Coate (2003) confine their analysis to consumption-type public goods. To facilitate comparisons with them, we follow their confinement.[6]

2.1. Citizens

There is a continuum of identical citizens, who reside in each of two geographically distinct but symmetric jurisdictions. For simplicity, we shall suppress the jurisdiction index and use a superscript $*$ to denote foreign variables. The two jurisdictions may be understood as two neighboring districts of some metropolis like Tokyo, or two neighboring member states in the EU such as France and Germany. The two jurisdictions are assumed to have equal

[2] See also Rauscher (1998, 2000).

[3] See also Lockwood (2002).

[4] In addition to Brueckner (1999, 2006), in a recent interesting study Hatfield (2009) also analyzes the growth effect of fiscal federalism. He finds that fiscal decentralization maximizes growth but results in an underprovision of public goods, while fiscal centralization achieves the optimal provision of public goods under a median voter.

[5] This may explain why all of these studies focus on the growth rather than the welfare comparison between FD and FC. Although correct in our context, the statement "FC always dominates FD in terms of welfare" may be a sweeping generalization; see Kehoe (1989), who shows that coordination of capital taxation can be counterproductive in mitigating the time inconsistency problem, even if politicians are benevolent.

[6] For analyses of production-type public goods, see Rauscher (2000, 2005).