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Tax competition and tax coordination in an optimum income tax model

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Abstract

The paper uses the self-selection approach of Stiglitz (1982) to study tax competition and tax coordination in a many country–optimum income tax model. In the model, the government can impose a non-linear tax schedule on wage income and a (source-based) tax on mobile capital. In an uncoordinated equilibrium, it turns out that countries can use the capital tax instrument to weaken the self-selection constraint. The paper presents examples where positive and negative capital taxes are optimal from a single country perspective. If the production function is weakly separable between labor and capital, it can be shown that the optimal capital tax is zero. The paper also shows that, contrary to the standard tax competition model, the uncoordinated equilibrium can be efficient. If the wealth distribution (the endowments with capital among individuals), is egalitarian, a coordination of capital taxes does not affect welfare. For non-egalitarian wealth distributions, a coordinated increase in capital taxes can raise or lower welfare depending on the redistributive impact of a higher capital tax.

Keywords: Optimal income taxation; Tax competition

JEL classification: H21; H73

1. Introduction

An important part of the literature on fiscal competition analyzes whether the tax rates on mobile capital are too high or too low if countries (or, equivalently,

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jurisdictions in a federation) choose their policies non-cooperatively. Starting with Zodrow and Mieszkowski (1986), the consensus emerging from this literature is that, in an uncoordinated equilibrium, capital tends to be undertaxed.[1] In the Zodrow and Mieszkowski model, the government can only impose a (source-based) capital tax. The under-taxation result in their model corresponds to an underprovision of public goods. If there are additional (distortionary) tax instruments like, e.g., labor taxes, other contributions such as, e.g., Bucovetsky and Wilson, 1991 (p. 343) make clear that under-taxation may also reflect an overtaxation of other goods and factors.[2] One common feature of most of these models is that they employ a representative agent setting in which lump-sum taxation is ruled out by assumption. While this framework, which is also used in the literature on optimal commodity taxation, represents a simple way to set up an optimal tax problem, it is not without problems. One important caveat often raised against this modelling strategy (see, e.g., Kay (1990); Stiglitz, 1987) is that there is no justification of why lump-sum taxes are ruled out. An alternative approach which does not have this weakness is the optimum income tax model pioneered by Mirrlees (1971) and further refined by Stiglitz (1982); Stern (1982).[3] In the optimum income tax model, the (optimal) use of lump-sum taxes is constrained by informational restrictions and is no longer stipulated.

The purpose of this paper is to analyze the taxation of mobile capital in an optimum income tax model.[4] One key issue is, of course, whether the under-taxation result obtained in the representative agent framework also carries over to this model. The analysis shows that this is true only to a very limited extent. Under certain conditions, non-cooperatively chosen capital tax rates are efficient or can even be too high. It is, therefore, misleading to interpret the representative agent framework as a simplified version of a more complex optimum income tax model. In fact, the two approaches yield substantially different results.

The model of the paper adopts elements of both the tax competition and the optimum income tax literature. Each (identical) country in this model is populated by high-skilled (high wage) and low-skilled (low wage) individuals. In line with the optimum income tax literature, we assume that the government is able to observe and thus to tax the wage incomes (wage times labor supply), but not the skills (wages) of individuals. One departure from the standard model is that

[1]For this assessment see Keen and Marchand (1996). There are, however, also models where overtaxation can occur. One reason can be leviathan tendencies (see Edwards and Keen, 1996) another one can be foreign firm ownership (Mintz and Tulkens, 1996).

[2]In what follows we will refer to this second variant of the undertaxation result. Notice that, as Bucovetsky and Wilson point out, undertaxation of capital always tends to occur if a country is not able to impose residence-based taxes and can only rely on source-based capital taxation.

[3]See Tuomala (1990); Guesnerie (1995) for a survey.

[4]The term tax coordination is used here in the sense that certain elements of tax policy are cooporatively chosen. More specifically, we will consider how an agreement to jointly increase capital taxes will affect welfare.