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A note on tax competition and public input provision

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Abstract

This note reconsiders and extends the tax competition analysis of Zodrow and Mieszkowski (Journal of Urban Economics 19, (1986) 356–370) regarding public inputs. In their model with capital mobility, both the underprovision and overprovision of public inputs may result from tax competition. However, this note shows that when firms are also mobile across jurisdictions, local governments competing for capital choose inefficiently low levels of public inputs.

Keywords: Tax competition; Public inputs

JEL classification: H79; R50

1. Introduction

The study of tax competition has included investigations of the inefficiency of local public policies which raise funds for public services only by imposing a distortionary tax on interjurisdictionally mobile capital. Following the seminal work of Oates (1972), Zodrow and Mieszkowski (1986) demonstrated formally that the levels of public services resulting from tax competition are less than the efficient levels that equate marginal benefits with marginal costs. This inefficiency arises because a higher capital tax in a jurisdiction reduces its capital stock by increasing the cost of capital investment there. With hopes of expanding the tax

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base, local governments keep tax rates low and set public service levels that are inefficiently low. Zodrow and Mieszkowski argued that this underprovision result applies to both public goods for residents and public inputs into the production process. However, Noiset (1995) offered opposition to their argument regarding public inputs by drawing attention to the impact of public expenditure on the tax base. He noted that while a higher tax rate itself drives out capital, the tax base may be expanded if the revenue raised is spent on public inputs that attract capital by increasing its productivity. As a result, local governments competing for capital may have an incentive to provide public inputs beyond the efficient levels. This possibility of overprovision was not considered in Zodrow and Mieszkowski.[1]

The purpose of this paper is to show that potential overprovision is of limited importance. It occurs within the Zodrow–Mieszkowski model because the fixity of the number of firms in each jurisdiction is implicitly assumed. Once this assumption is relaxed, the underprovision result becomes valid for public inputs. To make this clear, unlike the previous tax competition analyses, this study explicitly distinguishes two types of public inputs: the factor-augmenting type and the firm-augmenting type. The former type serves private factors and its benefits are realized in the increased productivity of factors. The latter type serves not only factors but also firms because it generates firms' profits. This classification of public inputs is in accordance with the literature on public inputs such as Hillman (1978), McMillan (1979), Feehan (1989) and others. The factor-augmenting type of public input can be shown to be underprovided within the Zodrow–Mieszkowski model. On the other hand, the variability of the number of firms is needed to show that the firm-augmenting type of public input is also underprovided because of tax competition. Given the presence of positive profits generated by this type of public input, this paper assumes that firms move across jurisdictions to maximize their profits. This modest extension removes the possibility that tax competition results in the overprovision of public inputs.[2]

2. The model

The basic structure of the model is based on the Zodrow–Mieszkowski model. Consider a national economy consisting of a large number of small jurisdictions.

[1]More precisely, the underprovision result derived by Zodrow and Mieszkowski depends on their assumption (16) that has no reasonable justification. Noiset pointed out that relaxing it creates the possibility of public input overprovision.

[2]Recently, Richter (1994) and Richter and Wellisch (1996) have incorporated mobile firms into the analysis of decentralized decision making about public input provision. Noiset and Oakland (1995) examined public input provision using a spatial tax competition model with free entry into production. The analysis of Noiset and Oakland mainly focuses on tax exporting that arises because a central city fails to internalize the full cost of using capital taxation. They did not clarify the fact that the variability of the number of firms has an important implication for the tax competition analysis of public inputs.