

1 Leviathan Government

Consider the model of fiscal competition based on Zodrow-Mieszkowski when government are corrupt, e.g. if government maximize their tax revenue.

There are n Leviathan governments which engage in tax competition.

The government's objective function is given by the total amount of tax revenue τK minus the cost of collecting taxes, $c(\tau) = \tau^2$.

So, each Leviathan i solves:

$$\max \pi_i = \tau_i K_i - \tau_i^2.$$

Capital is assumed to be mobile such that an increase in the tax level affects the capital flows.

The capital market equilibrium is given by

$$n\bar{K} = \sum_{i=1}^n K_i.$$

a) Solve for the Leviathan's optimal tax rate. How is the capital stock in country i affected by an increase in the tax rate in country i ?

b) How is the Leviathan's optimal tax rate affected by an increase in the number of nations?

c) Assume that the Leviathan has to bargain with a powerful oligarch over the tax revenues. The oligarch takes a fraction $(1 - \alpha)$ of total revenues. How does the share α influence the tax rate?

2 Lump-Sum Transfers to Workers

Modify the basic tax competition model by Zodrow - Mieszkowski in two respects:

- There are two types of individuals: capitalists and workers. For simplicity there is only one worker and one capitalist. The capitalist has a capital endowment \bar{K} and the worker supplies one unit of labor.
- Capital tax revenues are transferred to the worker which gives him/her an income of $w + T$ where T denotes a lump-sum transfer. The capitalist has an income of $r\bar{K}$.

a) What is the worker's preferred tax rate in a closed economy?

b) How does the integration of capital markets affect the worker's preferred policy choice?

c) What happens in a small open economy? Explain the intuition for the prevailing policy choice. Draw a diagram in addition to the analytical reasoning.

3 Infrastructure Provision

Assume the model presented by Sinn (2003) with the modification that the local government cannot tax capital at source and must finance its expenditures on infrastructure by a lump-sum tax, τ^L , on labor.

- a) Derive analytically the response of capital to a marginal increase in the amount of locally-provided infrastructure.
- b) Characterize formally the amount of infrastructure the local government provides in equilibrium. Relate the locally-optimal provision rule to the Samuelson rule.
- c) Explain why (or why not) the optimal provision rule deviates from the Samuelson rule.
- d) Suppose $c(K, W)$ is independent of K , i.e. $c(K, W) = c(W)$. Show formally whether infrastructure is efficiently provided? Explain your result!
- e) Provide the intuition for why infrastructure good provision is efficient if a lump-sum tax and a tax on capital is available.