Tax competition when firms choose their organizational form: Should tax loopholes for multinationals be closed?

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1. Introduction

Literature on tax discrimination:

Janeba/Peters (EJ 1999) : tax discrimination occurs in non-cooperative equilibrium; is mutually harmful

Keen (NTJ, 2001) : tax discrimination is mutually beneficial

Janeba/Smart (ITAX 2003) : both results can hold, depending on various elasticities

all these papers: discrimination occurs by simultaneously setting different tax rates on two different tax bases
here: multi-stage game

1. countries choose long-term discrimination policy, either cooperatively or non-cooperatively

2. firms make fixed investment in subsidiary to become a MNE

3. countries non-cooperatively choose tax rates

4. mobile firms choose location

example: Belgian coordination centres

basic tax preference for MNEs in effect since 1983, five changes in corporate tax rates in this period
2. The symmetric model

- two identical countries \( i \in \{1, 2\} \); each maximizes welfare of representative individual; exogenous weight of public revenue \( \beta > 1 \)

- fixed capital stock; endogenously divided between immobile and mobile capital. Fixed investment costs of setting up organizational structure are traded off against tax advantages to mobility

- governments choose share of mobile capital that enters tax base in first stage (discrimination parameter \( \rho \)) and uniform nominal tax rates in last stage.

**Trade-off for discrimination policy:** more discrimination induces more firms to become mobile, but allows higher effective tax rates \( (\tau) \) in third stage.
Two very different regimes

**Regime I:** if elasticity with which firms can change their organizational form is large, then a tax discrimination policy is costly. Governments will therefore choose moderate degrees of tax preferences in first stage and interior levels of tax rates in third stage.

In this regime an increase in the discrimination parameter raises the effective tax rate on both immobile and mobile firms.

**Intuition:** more discrimination reduces average elasticity of the capital tax base.

Coordinated increases in mobile tax base (less discrimination) reduce effective tax rates and welfare in both countries.

⇒ corresponds to results of Keen (2001)
**Regime II:** if elasticity with which firms can change their organizational form is very low, then discrimination is ‘cheap’ for governments. They will therefore choose high degrees of tax preferences in first stage and maximum levels of tax rates in third stage.

In this regime an increase in the discrimination parameter lowers the effective tax rate on both immobile and mobile firms.

**Intuition:** exogenous upper bound on nominal tax rate implies lower effective tax rate when discrimination increases (tax base falls)

coordinated increases in mobile tax base (less discrimination) increase effective tax rates and welfare in both countries

⇒ corresponds to results of Janeba/Peters (1999); there the response of organizational form is zero
3. Countries of different size

- assumptions: countries differ only in size $s_1 \geq s_2$; quadratic production function and uniform distribution of fixed costs within some interval $(0, A)$

- → tax rates and division of firms can be explicitly calculated, but not the optimal discrimination policy

<table>
<thead>
<tr>
<th>exogenous parameters</th>
<th>endogenous variables</th>
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<tbody>
<tr>
<td>$s_1$ $s_2$ $\varepsilon$ $\beta$</td>
<td>$\rho_1$ $\rho_2$ $\tau_1$ $\tau_2$</td>
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<tr>
<td>(1) 0.5 0.5 0.5 1</td>
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<td>(5) 0.9 0.1 0.5 5</td>
<td>0.022 0.063 2.183 0.899</td>
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Results

1. smaller countries levies lower tax rate and discriminates more

   **Reason:** as larger country levies higher effective tax it faces higher costs of tax discrimination since the incentive to choose a multinational form depends on the total tax advantage $\rho \times \tau$

2. similarly, a higher benefit of public revenues $\varepsilon$ raises effective tax rates, but reduces tax discrimination

3. higher elasticity of firms’ choice of organizational structure reduces both tax rates and tax discrimination

4. More discrimination remains welfare increasing in Regime I, even with differences in size.
4. Policy applications

**Code of Conduct:** ring-fencing of existing tax preferences implies that home-based MNEs cannot take advantage of tax breaks

→ induced effect on organizational form is very low

→ non-cooperative tax rate setting likely to lead to Regime II, characterized by excessive tax discrimination → coordinated reduction in tax discrimination is probably welfare improving

**Profit shifting:** reduced profit shifting opportunities are likely to affect number of MNEs

→ non-cooperative policies may lead to tax setting equilibrium in Regime I, with too little tax discrimination

→ tighter controls on profit shifting may well be welfare reducing