Frameworks for negotiating tax reforms: what can we learn from the economic literature

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Plan of presentation

Let us take corporate and capital income taxation in the EU to exemplify some difficulties in the implementation of structures that help to achieve the best for the group when group members are self-interested.

- Evidence for tax competition (demonstration that the problem is relevant)
- Methodological remarks on tax competition (obtain structures)
- Status of tax coordination in the EU (not much on that)
- Methodological remarks on tax coordination (obtain structures)
- Conclusions

Evidence – FDI

De Mooij and Ederveen (2003):

- Basic economic argument: Tax-arbitrage by investors;
- Their meta-analysis: summary of a large body of literature;
- A 1%-point reduction in the host-country tax rate raises foreign direct investment in that country by 3.3%;

Evidence – overall profit shifting

Egger, Eggert and Winner (2010):

- Basic economic arguments: Transfer pricing (or licensing), debt shifting, preferential tax treatment of foreign-owned firms;
- Compare 507 542 foreign- and domestically-owned subsidiaries in 31 European countries;
- Tax savings amounts to about 57% for the average foreign-owned subsidiary relative to a comparable domestic unit;
- Profit tax payments of foreign-owned firms are lower than those of domestic firms in high-tax countries but higher in low-tax countries.

Evidence – Profit shifting through debt shifting

Egger, Eggert, Keuschnigg and Winner (2010):

- Economic Argument: MNEs might reduce their overall tax liability by shifting debt, taking advantage of the high-interest deduction in the high-tax jurisdiction;
- Estimate the average difference between a foreign-owned and a domestically owned firm's debt ratio, treating the mode of ownership as endogenous;
- An increase of the statutory corporate tax rate by one percentage point leads to an increase in the debt ratio by about 0.7 percentage points.

Bottom line

Robust evidence:

- Location of FDI and the location of profits are sensitive to tax treatment by independent EU member states;
- Redistribution of tax revenues from high-tax to low-tax countries.

Tax competition and tax coordination

Tax competition in the workhorse model of Zodrow and Mieszkowski (1986) is a situation where:

1. each of identical countries strategically chooses source-based taxes on mobile tax bases
2. to maximize national payoff
3. in an environment where decisions are made only once (static!) on the basis of perfect information;

... what are the economic mechanisms and outcomes?

Tax competition and a social dilemma

Example with symmetric payoffs :

	Payoff order i, j	Country j cooperates	Country j defects
Country i	cooperates	10,10	0,15
	defects	15,0	5,5

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Cooperation (theoretical construct!) gives payoffs (10,10).

Tax competition and a social dilemma

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Deviation increases country-specific payoffs since $15 - 10 > 0$.

Tax competition and a social dilemma

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Equilibrium in dominant strategies: The fact that countries *can* cooperate does not mean that they *will* cooperate.

Tax competition and a social dilemma

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The difference between the payoff under cooperation and the payoff under non-cooperation measures the loss from decentralized policy.

Status of tax harmonization

Harmonization of capital taxation has to be based on Art. 100, which allows for a mandatory adjustment of national legislation in order to back the functioning of the internal market;

The Commission nevertheless initiated a series of investigations and negotiations in the past. Notably

- proposed harmonization of the corporate income tax in 1975;
- nomination of the Ruding-committee in 1990;
- the 2002 report on company taxation.

All initiatives failed to find unanimous support in the Council;

Possible explanation: Subsidiary principle (unanimity) is central, high weight on national sovereignty.

Outside enforcement

Wildasin (1989), DePater and Myers (1994):

		Country j	
		cooperate	defect
Country i	cooperate	10,10	0,15-x
	defect	15-x,0	5-x,5-x

Rule: {non-cooperation is "unfair", punishment x by outside authority};

Solution: for $x > 5$ cooperation is enforced equilibrium;

Solution is mathematical correct, but outside enforcement is problematic;

More compelling: Derive the rule as the outcome of a (super)game.

Tacit collusion

Itaya, Okamura and Ymaguchi (2009) build on pioneering work by Aumann: two asymmetric countries play the tax competition game again and again until infinity.

Suppose that the countries choose behavior strategies for each repetition according to grim trigger: If one country j deviates from cooperation, then the other country i can credibly punish j by returning to the non-cooperative path.

Main result:
The closer the connection between the regions through international trade in capital, the more likely (in the sense that non-cooperation is always among equilibria in repeated games) is cooperation self-enforcing.

Renegotiation

Grim trigger strategies are credible (subgame perfect) but rather counter intuitive:
Countries shall have an incentive to skip the punishment phase and when one country make such a proposal the opponent should agree since punishment hurts the punisher himself.

Eggert and Itaya (2009) build on Farrell and Maskin and allow for renegotiation: If one country j deviates from cooperation, then the other country i demands that the opponent j allows country i to defect once to restore the balance between the two countries.

Core results: (1) Renegotiation makes cooperation self-defeating (harder to establish). (2) The lower the international mobility of the tax base the less likely countries will return to the cooperative path.

Coordination

Eggert and Kolmar (2002, 2004) characterize an economic environment where the problem faced by two countries is to coordinate their strategies in international information exchange on savings income to avoid the bad outcome (Schelling).

	Payoff order i, j	Country j exchange info	Country j no exchange
Country i	exchange info	10,10	0,10
	no exchange	10,0	5,5

Main result: Clarification of the institutions that create a coordination game (presence of a market for financial capital).

Coalitions I

Sovereignty means that relations between countries are essentially non-cooperative. Nevertheless, we observe treaties and alliances. Whenever an alliance is formed, the expectation is that by working together and choosing a joint strategy the alliance will improve their payoff.

McCain (2009): International treaties should correspond to a non-cooperative equilibrium, because they would not be kept otherwise.

Coalitions II

Burbidge, DePater, Myers and Sengupta (1997) use a model of coalition formation:
Whenever a coalition of some countries is possible, it may only be maintained on the condition that no strong coalition can be formed against it.

Coalition formation with externalities is uneasy to tackle (research frontier!). More clear-cut results are obtainable using stronger assumptions. Konrad and Schjelderup (1999), Bucovetsky (2009) and Itaya, Okamura, Yamaguchi (2009) study the effect of coalitions on outcomes, taking the coalition as exogenous.

Coalitions III

Some insights when coalitions are exogenous:

- Partial tax coordination raises not only the welfare of participants but also of non-participants (positive externality of a merger: merger increases the average tax rate);
- a grand coalition achieves Pareto-efficiency but is not easily sustainable. Medium size coalition: solves the trade-off between Pareto-optimality and sustainability;
- Bucovetsky (2009): biggest potential obstacle to tax harmonization within a subgroup "is free riding by small jurisdictions which set low source-based taxes, and benefit from high tax rates elsewhere, caused by policy coordination among the larger countries."

In conclusion

Analyses that pick up the precise institutional environment in the EU are short in supply. This and data problems makes model selection a difficult task;

Also, we ignored a huge body of literature – thus the mechanisms we discussed should not be oversold – but mechanisms suggest some circumstances that favor successful commitment in negotiations :

- long lasting repeated interaction, preferably without need for renegotiation;
- a large positive difference between payoffs under cooperation vs. payoffs resulting from non-cooperation (concentrate on most pressing problems);
- no small free-rider (no competing alliances);
- trust and social norms to solve coordination problems;
- patience (long-sighted political institutions).

Also, do not forget: In the EU there is evidence for non-cooperation (e.g., tax-competition). At the same time

- the EU itself is based on enforceable agreements (Maastricht);
- and market exchange is itself a cooperative activity;

Brandenburger and Nalebuff (1997): This is “co-opetition”.