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# Sustainability of Coalitional Equilibria within Repeated Tax Competition

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**Abstract**

This paper analyzes the sustainability of capital tax harmonization agreements in a stylized model where countries have formed coalitions to agree on a common tax rate in order to avoid the inefficient, fully non-cooperative Nash equilibrium. In particular, for a given coalition structure we study to what extent the sustainability of tax agreements is affected by the coalitions that have formed. In our setup, countries are symmetric, but coalitions can be of arbitrary size. We analyze sustainability by means of a repeated game setting employing simple trigger strategies and we allow a sub-coalition to deviate from the coalitional equilibrium. For a given form of punishment we rank the sustainability of different coalition structures. We show that sub-coalitions consisting of singleton regions have the largest incentives to deviate and that the sustainability of cooperation depends on the degree of cooperative behavior ex-ante. Bilateral agreements between pairs of regions turn out to be the form of cooperation that is the easiest to sustain.

**JEL Classification**: C71, C72, H71, H77

**Keywords**: capital tax competition · tax coordination · coalitional equilibria · repeated game



## 1 Introduction

This paper studies the sustainability of capital tax harmonization agreements in a model where countries have formed coalitions to avoid the inefficient, fully non-cooperative Nash equilibrium. As incentives for deviations from the cooperative behavior continue to exist, we analyze the sustainability of any given but arbitrary coalition structure by means of a repeated game setting accounting for deviations by a whole subgroup of countries.

Capital tax competition has been the subject of increasing political and academic interest since the mid-1980s. Next to Wilson (1999) and Wilson and Wildasin (2004) recent surveys of the literature are given by, e.g., Griffith et al. (2008) and Keen and Konrad (2013). It is well established that the structure of payoffs in a standard tax competition model resembles a classical "prisoner's dilemma". In such a static, one-shot model the non-cooperative Nash equilibrium of tax rates is inefficiently low compared to harmonized tax rates. Therefore, a coordination of tax policies can avoid the negative externality that is associated with mobile capital tax bases. For example, the contributions by Zodrow and Mieszkowski (1986), Wildasin (1989), Bucovetsky (1991) and Wilson (1991) analyze if there are Pareto-improving reforms which harmonize capital income taxes. Given the high costs of tax competition, global tax harmonization is desirable but very unlikely because some countries, e.g., tax havens, prefer lower taxes for commercial reasons. From a political perspective, partial harmonization among a subgroup of countries is therefore easier to achieve (cf. Konrad and Schjelderup, 1999). This is what has been promoted by a variety of policy efforts from several countries, economic unions and international institutions. One example is the announcement of the Council of the European Union to reinforce fiscal stability as a response to the financial crisis by the coordination of a common band of fiscal policy measures, for instance, by the introduction of a common corporate tax base (Council of the European Union, 2011). Other examples include the efforts by the OECD's Center for Tax Policy and Administration, such as the list of harmful tax practices. In fact, even if no explicit agreements on the political agenda have been made, there may

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