Tax Competition in the European Union

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Abstract

Tax competition poses two problems for international cooperation: defection and distributive conflict. Multilateral cooperation to stop tax competition may fail because states face incentives to renege on their promises or because they face adverse distributional consequences, either of which makes cooperation an unattractive option for them. Conventional wisdom in international relations concentrates on the first problem, highlighting that the problem of tax competition resembles a Prisoner's dilemma. We argue instead that it is the peculiar distributional consequences of tax competition which explain why all attempts to regulate it cooperatively have failed. Combining theoretical analysis with empirical research on the European Union's unsuccessful record of tax cooperation, we show how distributive, "within-group" conflict amongst potential cooperators interacts with the constraints imposed by a non-cooperating "outside world" to make multilateral tax cooperation an especially elusive goal for international collaboration.

Zusammenfassung

Der Steuerwettbewerb stellt die internationale Kooperation vor ein Defektions- und ein Verteilungsproblem. Die Kooperation kann scheitern, weil Kooperationszusagen opportunistisch ausgebeutet werden oder weil Verteilungskonflikte verhindern, daß es überhaupt zu solchen Zusagen kommt. Die bisherige Literatur hat sich fast ausschließlich auf das erste Problem konzentriert. Sie zeigt, daß der Steuerwettbewerb die Struktur eines Gefangenendilemmas hat und erklärt dadurch das regelmäßige Scheitern von Kooperationsversuchen. Wir argumentieren dagegen, daß dieses Scheitern in erster Linie auf Verteilungsprobleme zurückzuführen ist. Modelltheoretische Überlegungen und empirische Befunde aus dem europäischen Binnenmarkt zeigen, wie Verteilungskonflikte sowohl zwischen den potentiellen Kooperationspartnern als auch zwischen diesen und dritten Staaten den Steuerwettbewerb zu einem schwer lösbaren Kooperationsproblem werden lassen.

Contents

1 Tax Competition and Economic Integration

"Governments need money. Modern governments need lots of money".[1] Collecting this money is a tricky problem because nobody particularly likes to pay taxes. As the level of taxation reaches 30, 40, or even 50 percent in contemporary welfare states, the premium on tax avoidance, and tax evasion, rises. At the same time, the costs of doing so go down. The growing integration of the world's economies, the progress in trade liberalization and capital decontrol, and the rapid innovations in communication and transport technologies have not only made it easier to move goods, services, capital, and jobs across national borders, but also more difficult to subject these factors to national taxes. Nowadays, taxpayers can, in many cases, avoid high domestic taxes by shifting the tax base to another country which is less demanding tax-wise. *Exit* has become a viable option and a credible implicit threat.

Governments may try to exploit this situation by undercutting the taxes of their neighbours. Tax-sensitive business is lured away from foreign markets, and improves domestic growth rates, employment figures, and fiscal revenues, provided that other countries do not respond in kind and lower their taxes as well. Yet, since there is no obvious reason why any country should hold firm and let itself be victimised by other countries' *beggar-thy-neighbor* policies, many economists warn that the competition for mobile tax base will inevitably lead to a fiscally ruinous *race to the bottom*. Once started, the competing states will interactively cut their taxes on capital and other mobile factors to ever lower levels, with potentially serious implications for welfare policy and income distribution. "In equilibrium, the tax rate on capital in each state will be driven to zero."[2] Political scientists have concluded that tax competition resembles a "standard Prisoners' dilemma."[3]

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1 Steinmo (1993: 1).

2 Frey (1990: 89). See also Thirsk (1983: 427); Lee / McKenzie (1989); Frenkel / Razin / Sadka (1991: 213–214); Sinn (1992).

3 Hallerberg (1996: 328); see also Steinmo (1994); Radaelli (1997: 11).

The prisoners' dilemma is endemic to international politics. It complicates cooperation, but does not make cooperation completely impossible. As is well known, repeated interaction and the long shadow of the future can mitigate the risk of defection, and often enable actors to capture the benefits of cooperation. Institutions may further reduce the incentive to cheat by facilitating the monitoring of behavior and the punishment of defectors. Given long time horizons and effective institutions, states are reluctant to free-ride for fear of retaliation and loss of reputation.[4] Numerous examples of successful international regimes illustrate the point. In policy fields as diverse as trade, money, telecommunications, or environmental protection, states have established institutions for international cooperation, and adhere to their rules.

In tax policy, however, international cooperation is conspicuously absent. Tax experts occasionally call for a sort of GATT-type agreement whereby governments lay down common rules of conduct for tax policy.[5] Various international fora, including the IMF, the OECD, and the G-7 have echoed these calls, and, at one time or another, discussed the possibility of multilateral agreement. But, as yet, little international cooperation has emerged to stop tax competition. Even in the European Union, where the economic integration is deeper and the record of successful cooperation better than anywhere else in the world, most attempts to regulate tax competition collectively have been unsuccessful. The European Commission asserts that the need for Community action is large, but its proposed directives are regularly blocked in the Council of Ministers.[6] Tax competition, it seems, is a particularly intractable problem for international cooperation. The purpose of this paper is to explore why this is the case. Why does collective action so persistently fail in tax competition? The answer is interesting not only for the specific problems of tax policy in a context of open borders. It may also improve our understanding of the general problems of international cooperation. Most research on international cooperation, so far, has focused on examples of successful cooperation. It seems about time to provide for some variation in the dependent variable, and also study cases of unsuccessful cooperation.

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4 E.g., Axelrod (1984); Keohane (1984); Milgrom / North / Weingast (1990); Zürn (1992); Garrett / Weingast (1993); Martin (1993).

5 E.g., Tanzi / Bovenberg (1990: 190); Carey / Chouraqui / Hagemann (1993: 12–13).

6 Kommission (1996: 8).

2 Why Is International Cooperation to Stop Tax Competition So Difficult?

The international political economy literature highlights two potential causes of cooperation failure: defection and distribution.[7] Defection may prevent cooperation by making it risky; distribution may prevent cooperation by making it controversial. In the former case, cooperation fails because actors suspect that once agreed upon the cooperation cannot be maintained; in the latter case, cooperation fails because actors cannot agree if and how to bring it about. In one case, the problem is that cooperation is not a Nash equilibrium and, therefore, inherently vulnerable to opportunism; in the other, the problem is that there are multiple equilibria and no obvious way to choose amongst them. Defection is a post-contractual dilemma raising issues of monitoring, enforcement, and unforeseen contingencies. Distribution is a pre-contractual dilemma resulting in haggling, delay, and indecision. The (2x2) prisoners' dilemma has come to be regarded as the shibboleth for the former problem, the (2x2) battle of the sexes game for the latter.

The analysis of tax competition has been preoccupied with only one of these two problems, the defection problem. The usual reference to the prisoners' dilemma strongly suggests that incentives for opportunistic behavior are the main cause of cooperation failure. Maybe tax cooperation[8] involves particularly severe issues of monitoring, enforcement, and incomplete contracting, which make it all but impossible to provide potential cooperators with sufficient safeguards against opportunism. On closer inspection, however, there are reasons for doubt. It is not obvious why tax cooperation should be more difficult to stabilize and maintain than, for example, cooperation in money or trade. Tax policy is a highly politicized affair. No democratic government can hope to change its tax code without making a noise, and hardly any other government can fail to notice. Cursory interviews with finance ministry officials quickly reveal that they usually have a very clear picture of what is going on in other countries' tax policy domains. Hence, monitoring does not seem to be an insurmountable obstacle. Enforcement and unforeseen contingencies may pose more serious problems, but again, it is not obvious why these problems should be of an entirely different magnitude than in trade or money. Given the stringency of EC law, the European Community, at least, should be able to deal with them.[9] The Community's legal system

7 See, e.g., Stein (1982); Snidal (1985); Krasner (1991); Garrett / Weingast (1993).

8 The term "tax cooperation" could potentially mean many different things. In this paper, we use it in the restricted sense of multilateral action to stop tax competition.

9 The European Union (EU) consists of three different "pillars", the European Communities (EC), the Common Foreign and Security Policy (CFSP), and the Justice and

makes it next to impossible for member states to renege on formal agreements,[10] and has enabled them to tackle the "series of prisoners' dilemma games"[11] involved in the creation of the single market. Why should it not also enable them to master the prisoners' dilemma game inherent in tax competition?

To say that tax competition is a prisoners' dilemma is only the first step toward understanding the collective action problems involved. The risk of free-riding is real, but it is not the only, or even the most important, cause of cooperation failure. In this paper, we argue that the distributional implications of tax competition are more significant for understanding why it is such a tough nut to crack for international cooperation. We analyze what these implications are and how they obstruct agreement.

Our plan is as follows. First, we develop a simple model of tax competition. The model is much too stark to give a true picture of everything that is relevant in international tax policy. But it allows us to develop two baseline hunches about how distributional concerns may interfere with tax cooperation (section 3). Next, we confront the model with data on an archetypical empirical case. Analyzing the tax competition for financial capital in the single European market, we check how far the two hunches can account for the EC's failure to stop this competition through collective action (section 4). As it turns out, the model is quite good at predicting the basic pattern of the competition. Yet, the explanation it offers for the cooperation failure is not entirely convincing. We return to the model, extend it, and refine our argument (section 5). In the concluding section, we summarize our results and speculate on their potential implications for international relations research at large (section 6).

Home Affairs (JHA). Since the problem of tax competition falls entirely within the realm of the first pillar, we will henceforth refer to the EC rather than the EU.

10 This is what Joseph Weiler calls "the closure of Selective Exit". See Weiler (1991: 2412). The stringency of the EC legal system is also emphasized by other authors, for example, Garret / Weingast (1993); Moravcsik (1993); Burley / Mattli (1993); Scharpf (1996).

11 Garret (1992: 537).

3 A Model of Tax Competition

3.1 Building Blocks

It is tricky to try to discuss everything that might occur because of tax competition, all at once. In order to understand the basic strategic pattern, we start out with a model that focuses on only a very few system level variables. The building blocks include a two-country world and one potentially mobile tax base. Index countries I and II. For convenience, we assume that the private sector can be summarized by an aggregate production function yielding a single, homogenous output good (one might think of it as GDP). We suppose a neoclassical production function,[12]

(1) $$Y_i = F(K_i), F' > 0, F'' < 0, i = I, II,$$

where Y_i is output, and K_i, capital input, is the mobile tax base. In the background, there are other inputs, which are assumed fixed and immobile, and therefore can be ignored. Since only capital is mobile between the two countries, capital input is subject to diminishing returns.[13]

We suppose that the world capital stock is fixed,

(2) $$K_I + K_{II} = \overline{K},$$

where $\overline{K} > 0$ is a constant.[14]

We now bring in the government. In each country, there is a government which needs to raise revenue for welfare, redistribution, and other purposes. To keep the story simple, we make two assumptions: Each government is a revenue

12 For convenience, we also assume that both countries have access to the same technology, which can be interpreted to be the result of perfect technological diffusion.

13 It has become common to argue that real world production techniques are characterized by increasing returns. However, this result is elusive in the data. Indeed, rigorous econometric testing almost invariably turns up aggregate constant returns (see, for instance, Dwyer 1995: Table 2), which implies that if some factors cannot be adjusted, then the other factors will be subject to diminishing returns. Hence, our assumption of a neoclassical production function.

14 It turns out that this is innocuous, since the equilibrium will not depend on $\overline{K}$. Formally, the decision variables turn out to be homogenous of degree zero in $\overline{K}$. This means that the logic of the results is unaffected if we allow the world capital stock to grow or shrink.

maximizer, and has access to only a single tax instrument, a source income tax on the mobile factor, i.e., capital, where $0 < t_i < 1, i = I, II,$ is the tax rate.[15] The after-tax rate of return for the investor, r_i , is given by:

(3) $r_i = (1 - t_i)F'(K_i), i = I, II.$

Total tax revenue of the government, R_i, is:

(4) $R_i = t_i F(K_i), i = I, II,$

where we suppose that the source income tax on capital is ad valorem in nature.[16]

3.2 Exercising the Model

We now have all the necessary ingredients to tell a simple story about governments chasing mobile tax bases. In reality, there are differing degrees of tax mobility, but for analytical clarity, we consider the two polar cases of no mobility and perfect mobility.

Consider first the closed economy. Capital is immobile, because institutional, technological, or cultural factors make the cost of transborder mobility prohibitive. The logical conclusion is that a given country's tax base, K_i, is essentially fixed and exogenous. However, if K_i is fixed, this also implies that total output, $F(K_i)$, is fixed. In this situation the tax revenue of a country is a monotonically increasing function of the tax rate. In fact, R_i is linear in t_i. The government can extract up to $F(K_i)$ in tax revenue. As a revenue maximizer, it will set a tax rate equal to one.[17] This is the "Garden of Eden" situation for the tax state. The upper limit to taxing capacity is defined only by the size of the economy, and there is no policy dilemma.

This stands in marked contrast to the case of perfect transborder mobility. Here, international arbitrage ensures that differences in earnings opportunities are equalized between countries. If the rate of return in one country were lower than

15 In this simple setting, one could just as easily interpret it as a sales tax on output.

16 This is innocuous. If it were a specific tax, revenue would be a function of K_i rather than $F(K_i)$.

17 To be sure, this is unrealistic. However, since we are not concerned with taxation in the closed economy, but in the strategic effects of tax competition, we exclude domestic sources of distortion which place independent constraints on the ability to tax. It follows that, in our closed economy model, taxation is not inherently distorting, but rather redistributive.

in the other, capital owners from the low-return country would shift their assets to the high-return country, until rates of return were equalized. Therefore, there is a unified world rate of return,

(5) $r_I = r_{II}$,

which implies that after-tax returns in the two countries are equalized:

(6) $(1-t_I)F'(K_I) = (1-t_{II})F'(K_{II})$.

Due to this arbitrage condition, the equilibrium split of the world capital stock is now endogenous, and depends on the tax rates of both countries. To make this functional dependence explicit, consider the following special case of the production function (Cobb-Douglas),

(7) $F(K_i) = (\frac{1}{\alpha+1})K_i^{\alpha+1}, -1 < \alpha < 0,$

where α is a parameter which measures returns to scale. It is then possible to obtain closed form solutions for the two countries' capital stocks:

(8) $K^*_I = \overline{K}(\frac{\tau}{1+\tau})$,

(9) $K^*_{II} = \overline{K} - K^*_I$,

where

(10) $\tau \equiv (\frac{1-t_{II}}{1-t_I})^{\frac{1}{\alpha}}$.

In order to understand what the implications of arbitrage are for government tax policy, we have to answer two questions. First, what is a country's optimal tax policy given tax base mobility; and, second, is a country's government better or worse off under tax base mobility as compared to the closed case? We can focus without loss of generality on country I.

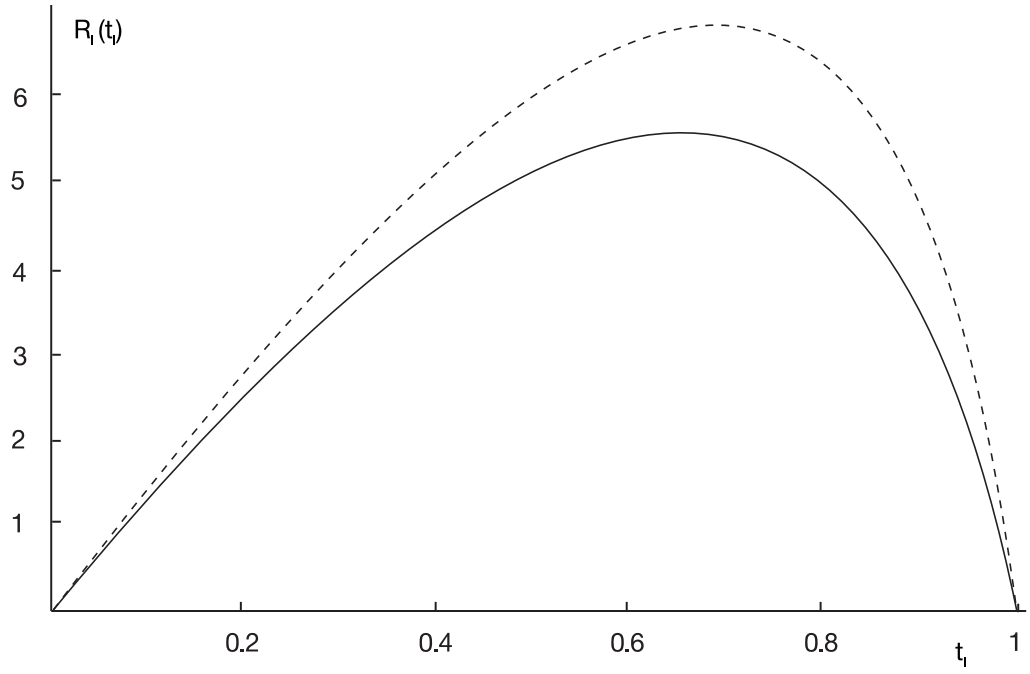
Consider first the case in which country I takes country II's tax rate as given. This could either be because country II does not realize the strategic interdependence of the two countries' tax policies or because country I is so small that is has a negligible impact on country II's tax revenue. In either case, we suppose that country II's tax rate is fixed at some exogenous level, $\bar{t}_{II}$. Then, country I's tax revenue is given by:

(11) $R_I(t_I) = t_I F(K^*_I(t_I, \bar{t}_{II}))$.

What happens if country I raises its tax rate? There are two conflicting effects. The direct effect is to increase tax revenue for a given tax base (tax rate effect). However, there is also an indirect effect, because a higher tax rate causes an outmigration of part of the mobile capital stock, reducing the tax base, and thus reducing tax revenue (tax base effect). The net effect is therefore ambiguous.

This ambiguity is captured by the *Laffer Curve*, a bell-shaped relationship between total tax revenue and the tax rate. In contrast to the usual Laffer Curve of public economics, which arises due to distortions and other inefficiencies of taxation,[18] this Laffer Curve, and the implied policy dilemma, are generated solely by tax base mobility. We can plot the Laffer Curve explicitly for a specific parameterization.[19]

Figure 1 Laffer Curve



We are now in a position to answer the first question: country I's optimal tax policy, given tax base mobility, is to select t_I to attain the peak of the Laffer Curve; denote this by t_I^*.

This leads to the second question: is country I's government better or worse off as a consequence of tax base mobility? In order to answer this question, we need to

18 See, for instance, Dehejia / Rowe (1995).

19 The parameterization used is: $\overline{K} = 100, \alpha = -0.6, t_{II} = (0.25, 0.5)$, where the solid lines are for the lower value and the dashed lines for the higher value of country II's tax rate.

compare the maximum tax revenue in the mobile case with the maximum tax revenue in the closed case. Recall from equation (4) that tax revenue in the closed case is a function of the tax base, K_I. Tax revenue in the mobile case is a function of t_I^* and not of K_I. By equating the two quantities, we can solve for the critical level of the initial endowment, $\tilde{K}_I$, which will make country I just indifferent between the two cases insofar as tax revenue is concerned. If country I's initial tax base is larger than this critical value, the government of country I will be worse off in the mobile case, whereas if country I's initial tax base is smaller than this critical value, the government of country I will be better off in the mobile case.

Formally, we set:

(12) $F(\tilde{K}_I) = R(t^*_I)$.

This implies that $\tilde{K}_I$ is given by:

(13) $\tilde{K}_I = F^{-1}(R(t^*_I))$.

Therefore we can say that whether a country would prefer tax base mobility over immobility depends on its initial conditions. An initially small country can exploit tax competition as a type of *beggar-thy-neighbor* policy, by capturing part of the other country's mobile tax base, and therefore will prefer mobility to immobility. By contrast, an initially large country is more likely to be a victim of tax competition, losing tax base to the other country, and therefore would prefer immobility to mobility.

Until now, we have supposed that country II's tax policy was exogenous and fixed. We can now perform a comparative statics experiment by asking what happens if country II changes its tax policy. How would country I's government adjust its tax policy? To put it differently, how does R_I (and therefore t_I^*) change as $\bar{t}_{II}$ changes? Formally, we are looking for the functional dependence of country I's tax revenue on country II's tax rate.

As Figure 1 shows, the Laffer Curve shifts up and to the right, with an increase in $\bar{t}_{II}$. Therefore, if country II raises its tax rate, it is optimal for country I to respond by an increase in its own tax rate, t_I^*. What that means is that the direct effect (the tax rate effect) outweighs the indirect effect (the tax base effect) and it is optimal for country I to respond country II's tax increase by increasing its own tax rate rather than to lower its tax rate further. Intuitively, if country II's tax rate is higher, country I has greater room to maneuver, since there is, *ceteris paribus*, a weaker incentive for capital outmigration. This benefit outweighs any additional advantage that country I could extract through exploiting tax base mobility by decreasing its tax rate.

This finally leads us to the strategic case, in which the two countries' governments recognize the interdependence of their tax policies. If governments adjust their tax policies in response to changes in the tax policies of their counterparts, and if both governments recognize this strategic interdependence, where will this process of mutual adaptation lead? Will it lead to a stable resting point, or will it keep cycling? And, if it leads to a resting point, where will that be?

The model allows us to formalize these two questions. First, we construct the two governments' reaction functions:[20]

$$(14) \qquad \frac{\partial R_I}{\partial t_I}(t_I, t_{II}) = 0 \rightarrow t_I = \varphi_I(t_{II}),$$

$$(15) \qquad \frac{\partial R_{II}}{\partial t_{II}}(t_I, t_{II}) = 0 \rightarrow t_{II} = \varphi_{II}(t_I).$$

Next, we search for the noncooperative Nash equilibrium. Formally, it is a pair, $(\hat{t}_I, \hat{t}_{II})$, satisfying:

$$(16) \qquad \varphi_I(\hat{t}_{II}) = \hat{t}_I, \varphi_{II}(\hat{t}_I) = \hat{t}_{II}.$$

Using the same parameterization as in Figure 1, we plot the reaction curves in Figure 2.

Evidently, there exists a Nash equilibrium, which is unique and bounded above zero.[21] This implies that there is a resting point to the tax competition game at a positive level of taxation for both countries. The race to the bottom bottoms out above zero taxation. In other words, the model can explain a "race *toward* the bottom",[22] but does not find evidence for a "race *to* the bottom".[23] Nevertheless, the downward pressure on taxes may still be serious enough to cause severe political trouble. As the model also shows, this trouble is likely to affect countries differently depending on their relative size. Large countries are likely to suffer revenue losses while small countries may actually gain.[24]

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20 The reaction functions come from equation (11) for country I and a symmetric equation for country II.

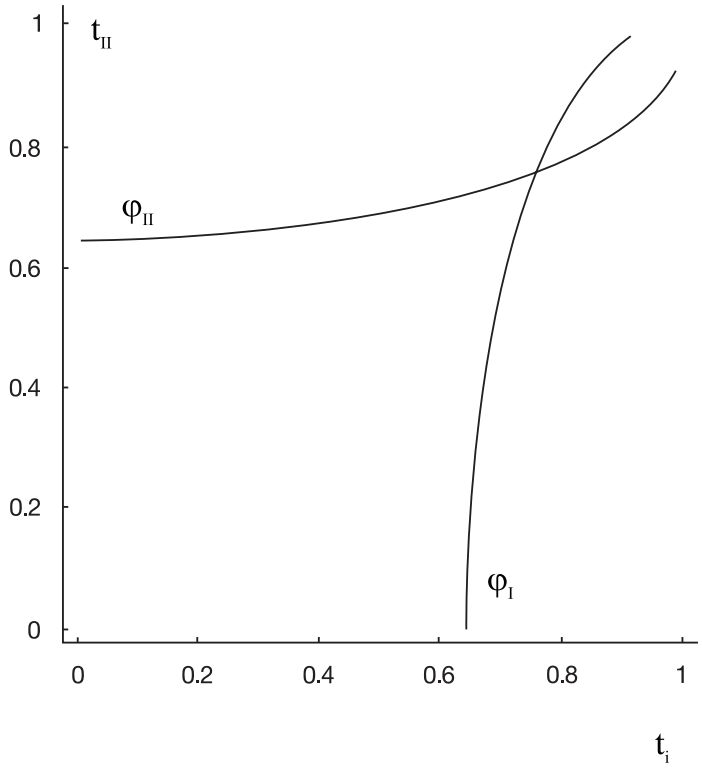
21 Note also that the equilibrium is symmetric, because of the assumption of identical technologies. However, we would generally expect to find asymmetric equilibria if states enter the competition with differing technologies.

22 Wilson (1996: 393).

23 Recall, e.g., Frey (1990: 89).

24 This is a core result of most models which focus on the size issue in tax competition. See, for example, Bucovetsky (1991); Wilson (1991); Kanbur / Keen (1993); Eggert / Haufler (1996).

Figure 2 Reaction Curves under Tax Competition



3.3 Two Hunches about Tax Competition

On the basis of the model we can now derive some basic propositions about distributional obstacles to tax cooperation. Assuming that states determine their preferences for or against tax cooperation with reference to their noncooperative position in the tax competition game, we can distinguish two likely causes of cooperation failure. First, if countries happen to start out with tax rates in the near vicinity of the noncooperative Nash equilibrium, the intensity of tax competition will be low and the fiscal consequences will be minor. Hence, cooperation fails because governments do not find it worth the haggling costs and sovereignty losses of a multilateral agreement. If they would not raise more revenue under cooperation than under competition, why should they bother?[25] We call this the "close to equilibrium" hunch. Second, if countries start out away from equilibrium, tax competition will be intense, and likely to favor small countries over large countries. In this case, cooperation is likely to fail because the former have nothing to gain from it. The large country's loss is the small country's benefit. We call this the "small is competitive" hunch.

25 Recall that the only motive driving government decisions in our model is revenue maximization.

4 Empirical Evidence

How well does our bare bones model stand up to the intricacies of real world tax competition? In this section we present an empirical case study to check whether the trends and tendencies predicted by the model do obtain, and whether the hunches derived from this model help to understand the failure of tax cooperation. The withholding tax case, which we have chosen for this purpose, promises to be particularly instructive on two grounds. First, interest income from savings and bonds forms probably the most mobile tax base of all.[26] Hence, tax competition should be especially pronounced, and its attendant problems easy to observe. Second, the EC has a well-developed institutional infrastructure for the maintenance of agreements. If the member states nevertheless fail to stop the competition by agreeing on a common withholding tax, we can safely infer that the reason is not a prisoners' dilemma type defection problem, but rather has something to do with the distributional issues that our model tries to capture.

4.1 The Agonies of Withholding-Tax Harmonization in the EC

In 1987 the European Commission proposed a directive eliminating all capital controls within the EC. The free movement of capital was generally welcomed by the member states as an important step towards a single European capital market. But it also aroused fears of capital tax competition and fiscal degradation. Some economists worried that the single market would transform the European Community "into a single (large) tax haven".[27] France and Italy were particularly concerned that the liberalization of capital movements would undermine their fiscal position.

In order to calm these fears, an additional paragraph was added to the capital movements directive before it was finally passed in June 1988.[28] This paragraph instructed the Commission to make proposals on how to prevent tax competition, and committed the Council to decide on these proposals by mid-1989.[29] In keeping with this task, the Commission in February 1989 proposed the introduction of a common 15 percent withholding tax on interest income from savings and bonds. Some member states already levied such taxes, but the tax rates differed widely, and some member states did not levy any withholding taxes at all – Lux-

26 Commission (1996, 8).

27 Giovannini / Hines (1991: 172).

28 Council directive 88/361/EC of 8 July 1988 for the implementation of Article 67 of the EC Treaty.

29 Helleiner (1994: 158).

embourg, the Netherlands, and Denmark. A common tax rate seemed necessary to prevent free capital movements and tax arbitrage from creating a *race toward the bottom*.

The response of the member states to the Commission's proposal was mixed. The British government flatly denied the necessity for any tax coordination, and criticized the withholding tax plan as a disguised retreat from the full consequences of free capital movements. Luxembourg complained that the proposed tax was "anti-European" and would drive money away from the EC to financial centers elsewhere. If there was to be any tax coordination at all it should be arranged on a higher plane, such as the OECD, where the most important non-EC financial centers are also involved. To varying degrees the Netherlands, Greece and Denmark also raised objections to the Commission's proposal, while the Italian government thought that it did not go far enough.[30]

As the controversy on the Commission's proposal unfolded, Germany's position turned out to be pivotal. In January 1989 the German government had introduced a national withholding tax on savings and bonds to combat excessive tax fraud in capital income taxation. The similarity of the new German tax to the Commission's proposal – and the near coincidence of its introduction to the proposal's presentation – worked as a powerful reinforcement. In April 1989, however, in an unexpected reversal of policy, the German government decided to abolish the withholding tax, supposedly because it had done serious harm to German capital markets. The announcement of the tax had led many German investors to buy DM Eurobonds and other tax-free offshore assets instead of lending in the domestic market. This had contributed to a record outflow of funds in 1988. The DM exchange rate came under pressure, domestic bond yields rose, and it became more expensive for German residents, including the government, to borrow in DM than for non-residents. Germany lost attractiveness as a location for financial services.[31]

Since Germany joined the ranks of the dissenters in EC negotiations as well, the chances of winning unanimous agreement on a common European withholding tax were reduced to nothing. In May 1989, during a meeting of EC finance ministers, the Commission's proposal was quietly laid to rest.[32] The problem of tax competition did not go away, however, and forced the hand of at least some member state governments. Upon capital liberalization, a couple of member states lowered their withholding tax rates or extended tax exemptions in order to

30 Financial Times, 9 February 1989, 2; Financial Times, 14 February 1989, 28; Financial Times, 11 April 1989, 2; Financial Times, 18 April 1989, 3.

31 IMF (1990, 64); Schlesinger (1990).

32 Financial Times, 22 May 1989, 4.

prevent an outflow of funds. This was particularly true of Belgium, which, while a small country in the EC context, is the large partner in the currency union with Luxembourg. In early 1990, the government slashed the withholding tax rate from 25 percent to 10 percent to stem the steady drain of Belgian funds to its tiny, withholding-tax-free and secretive neighbor.[33]

Despite this unilateral move, however, the Belgian government also continued to look for multilateral ways to put effective limits on tax competition. In 1993 it joined forces with Germany to relaunch the plan for a common withholding tax. As of January 1993, Germany had reintroduced a national withholding tax, and, again, suffered from a massive outflow of funds. The main beneficiaries were Luxembourg and the German banks doing business there. The main loser was the Federal treasury. In 1993 it took in DM 11 billion of gross revenues from the new withholding tax instead of DM 24 billion as initially projected.[34] Struggling to finance German unification, the government found this impossible to accept, and demanded Community action to plug the "loophole" Luxembourg.[35]

The British government was most outspoken in its criticism of the Belgian-German initiative. It argued that a common withholding tax would drive business away to New York and Tokyo, and called for a free market in taxation. Luxembourg was equally opposed to the tax, reiterating that the EC was the wrong forum for tax coordination. Common rules and rates should be introduced on the OECD level rather than just among the EC member states.[36] The Netherlands criticized technical details of the plan. Germany went out of its way to secure agreement. But at the end of its presidency in late 1994, it became clear that the rerun of the withholding tax plan had failed like its predecessor.

The next attempt to relaunch tax coordination was started in spring 1996.[37] The Commission issued a report on the dangers of tax competition and asked the member states to agree on a comprehensive package of tax measures to defend fiscal revenues from erosion. The member states' reaction was slow. Struggling to meet the Maastricht fiscal criteria, France, Germany, and Italy looked quite positively upon attempts to regulate tax competition.[38] Yet the negotiations proved to be difficult. A 'tax policy group' composed of personal representatives of the finance ministers met several times during 1997 to work out a deal, but was able to do so only after the most contentious issues were dropped from the agenda.

33 Defeyt (1992: 65).
34 Deutsche Bundesbank (1994: 49–55).
35 Frankfurter Allgemeine Zeitung, 8 April 1993, 15.
36 Financial Times, 12 July 1994, 3.
37 Kommission (1996).
38 Agence Europe, 27/28 January 1997, 7.

When finally, in December 1997, the finance ministers signed a 'code of conduct' for tax policy, it was non-binding in nature, and fairly restricted in purpose.[39] Basically, the code just contains a pledge of the contracting parties to phase out an as yet unspecified range of "harmful" selective tax benefits for companies by 2003. Interest taxation is not covered by the agreement. Some member states had hoped to make it one of the agreement's key elements, but the issue proved too controversial to allow for even a non-binding understanding. All that was agreed upon was that the council of ministers should come back to this issue at a later date. But then, this had already been agreed upon in 1988.

4.2 Explaining the Failure

The harmonization of interest taxation is a story of persistent failure. The issue stays on the European agenda but is never turned into serious policy decisions. Does our model help to account for these failures? Recall the two hunches. The "close to equilibrium" hunch would suggest that the member states' tax rates before capital liberalization were already close to non-cooperative equilibrium values, so that capital de-control did not result in significant downward pressures on tax rates. Tax competition was slight, and, therefore, the member states did not devote much attention and resources to stop it. Alternatively, the "small is competitive" hunch would suggest that some member states had a vested interest in the non-cooperative status quo. Since they gained from tax competition, they blocked agreement on tax coordination in the Council. Let us check both hunches in turn.

4.3 The "Close to Equilibrium" Hunch

While it is possible to state a formal correlate of this hunch rigorously in the model, it is too abstract to allow for direct empirical testing, since we do not know in reality where the equilibrium lies. What we can do is to observe certain proxies which indicate governments' distance from the equilibrium. The most obvious is cross-border movements of mobile tax bases. The closer we are to the non-cooperative Nash equilibrium, the smaller such flows will be, *ceteris paribus*. Hence, if we do not observe intense cross-border capital flows, or if these flows do not show a consistent pattern, this would suggest that interest taxation in the EU is "close to equilibrium". Another indicator is tax rates and tax bases: if the withholding tax rates as well as the tax base definitions remained basically un-

39 Agence Europe, 3 December 1997, 4–5.

changed after the liberalization of capital movements or if the changes do not show any consistent pattern, this would also tend to confirm the "close to equilibrium" guess. What does the evidence show?

There is no systematic survey on the size of tax-induced cross-border portfolio flows in the single market.[40] But there is anecdotal evidence which suggests that some member states, at least, entered capital liberalization with "out of equilibrium" withholding tax policies.

- The abolition of exchange controls in the UK in 1979 was followed by a "marked increase in outward portfolio investment" as domestic investors shifted their assets abroad to avoid tax. [41]

- When Germany introduced a 10 percent withholding tax on interest income in 1989, at least DM 100 billion of financial capital fled within a year and a half.[42] The reintroduction of a withholding tax in 1993 also led to large-scale capital flight.[43]

- When, in March 1990, Belgium reduced its withholding tax rate from 25 percent to 10 percent, the outflow of portfolio capital moved from a deficit exceeding 3 percent of GNP 1989 to a small surplus in 1990, as domestic investors liquidated their foreign assets.[44]

However, anecdotes can be misleading. Even if we accept that three EC countries entered capital liberalization "out of equilibrium", the rest of the member states may still have been "close to equilibrium". In order to control for this possibility, we look for the second indicator: If tax rates and tax base definitions remained basically unchanged after liberalization in most member states, or if changes did not show any consistent pattern, this would tend to confirm a "close to equilibrium" explanation. As a first cut, Tables 1a and 1b compare member states' withholding tax rates on savings and bonds shortly before capital liberalization (1989), shortly after liberalization (1991), and after some time with putative competition (1996).

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40 See Commission (1992: 94) for some of the methodological obstacles to such a survey.

41 Leigh-Pemberton (1986: 66). This qualifies somewhat the UK government's assertions in 1989 that other member states' treasuries would have nothing to fear from capital liberalization. See, e.g., Financial Times, 9 February 1989, 2.

42 CEPR (1993: 69).

43 Deutsche Bundesbank (1994).

44 Gardner (1992: 68).

Table 1a Withholding Taxes on Interest from Bonds

States	Tax rate in percent[a]					
	residents			non-residents		
	1989	1991	1996	1989	1991	1996
Belgium	25[c]	**10**[c]	**15**[c]	25	**10**	**0**
Denmark	0[b]	0[b]	0[b]	0	0	0
France	0[b]	0[b]	**19.4**[bc]	25[d]	**15**[d]	**0–15**[d]
Germany	10	**0**	**32.25**	10	**0**	0
Greece	25	**10**[c]	**15**[cd]	56.35	**46**[c]	**15**[cd]
Italy	12.5[c]	12.5[c]	**12.5–30**[cd]	30[d]	30[d]	**12.5**[d]
Ireland	35	**29**[d]	**27**	35	**29**[d]	**27**[d]
Luxembourg	0	0	0	0	0	0
Netherlands	0[b]	0[b]	0[b]	0[b]	**0**	0
Portugal	10	**25**[cd]	25[cd]	10	**25**[d]	25[d]
Spain	20	**25**[b]	25[b]	20	**25**[d]	25[d]
United Kingdom	25	25	25	25[d]	25[d]	25[d]

Table 1b Withholding Taxes on Interest from Savings

States	Tax rate in percent[a]					
	residents			non-residents		
	1989	1991	1996	1989	1991	1996
Belgium	25[c]	**10**[c]	**15**[c]	25	**10**	**0**
Denmark	0[b]	0[b]	0[b]	0	0	0
France	0[b]	0[b]	**19.4**[b]	46[d]	**35**[d]	**0**
Germany	10	**0**	**32.25**	10	**0**	0
Greece	0	**10**[c]	**15**[cd]	0	**10**[c]	**15**[cd]
Italy	30[c]	30[d]	30[c]	30[d]	30[d]	30
Ireland	35	**29**	**27**	0	0	0
Luxembourg	0	0	0	0	0	0
Netherlands	0[b]	0[b]	0[b]	0[b]	**0**	0
Portugal	15	**20**[c]	20[c]	15	**20**	20
Spain	20	**25**[b]	25[b]	20	**25**	25[d]
United Kingdom	23.25	**25**	25	0	0	0

Bold type indicates tax rate change.

a General rates; no double taxation agreements, no special rates or exemptions.

b Automatic reporting.

c Final tax if no assessment for income taxation.

d Various special rates and exemptions for special types of investment.

Source: BMF (1988, 1991, 1996).

Recording 47 instances of tax rate change (shown in bold), Tables 1a and 1b clearly dispel the notion that withholding taxes in the EU have remained basically unaltered since capital liberalization. On first sight, however, they do not seem to reveal any clear pattern of change: 26 tax rate cuts face 21 tax rate increases.[45] Yet, upon closer inspection, we find three indications that tax competition among the EC member states has been intense, and forced a downward adaptation of tax levels on average.

The first indication is that the rate cuts, recorded by Tables 1a and 1b, are concentrated on the taxation of bond income, and non-resident income, whereas tax rate increases cluster on the taxation of savings income, and resident income: Of the total of 13 changes in the taxation of non-resident bond income, 11 involve tax rate cuts, as compared to a total of 12 changes in the taxation of resident savings, eight of which involve tax rate increases. This suggests that EC governments have reduced their exposure to tax competition by shifting the withholding tax burden from bondholders to savers, who, on average, are less sophisticated, less tolerant to risk, and less prepared to move their assets abroad in response to small differentials in taxation.[46] At the same time, in order to lure foreign investors, governments have cut withholding taxes on non-resident investment. In most member states withholding taxes on non-resident income have been reduced to fairly low levels, if not abolished completely.

A second indication is that withholding taxes are increasingly treated as final.[47] In 1989, investors could opt for the withholding tax as the final tax on their investment income[48] in only four cases. In 1991, this number had increased to nine, and in 1996 to 11. Since most investors are fairly wealthy individuals, whose income is taxed at marginal income tax rates higher than the withholding tax rate, this amounts to a de facto reduction of the effective tax burden on financial investment (for the honest investor).[49]

The third indicator, finally, is that the coverage of withholding taxes is increasingly circumscribed by exceptions.[50] In 1989, special withholding tax rates and/or partial or total exemption from withholding tax for special types of investment were granted in only 5 instances. By 1991 this number had increased to 11, and in

45 The fact that the Dutch government discontinued automatic reporting of the interest income of foreign bondholders between 1989 and 1991 has been counted as a tax rate cut.

46 Commission (1992: 148).

47 See *c* in the cells in Tables 1a and 1b.

48 That means that after paying the withholding tax, the income is tax-free and need not be assessed for further taxation under the general income tax.

49 Müssener (1996: 1104).

50 See *d* in the cells in Tables 1a and 1b.

1996 it reached 13. Most significantly, in 1996 every country which levied withholding taxes on non-resident investment offered partial or total exemptions for certain types of bonds. Thus, the facade of withholding taxation remains intact, while important parts of its structure are effectively torn down.[51]

In conclusion, then, the "close to equilibrium" hunch is not supported by the evidence. The data suggests that most member states entered capital liberalization with higher-than-equilibrium withholding taxes and were subsequently forced to adapt them downwards overtly, by cutting tax rates, or less overtly, by making the tax base definition more restrictive. In light of this finding, it looks implausible to argue that collective action failed in interest taxation because no country seriously suffered from tax competition.

4.4 The "Small Is Competitive" Hunch

In contrast to the "close to equilibrium" story, the "small is competitive" argument accounts for the stalemate of withholding-tax harmonization by maintaining that tax competition is too intense. According to this view, small countries block agreement on tax coordination because they profit from competition.[52] In order to evaluate this explanation, we have to check, first, if the small member states did indeed win a disproportionately large share of the interest tax base, second, if they profited fiscally and, third, if it was they who blocked agreement on withholding tax harmonization.

Measuring the interest tax base is not easy, since debt instruments come in many guises. However, there seems to be general agreement in the relevant literature that one particularly important instrument for tax evasion purposes is investment funds.[53] First introduced in Luxembourg in the early 1980s, the use of these funds for tax evasion purposes has subsequently been observed on many occasions. During the run up to the (re-)introduction of a German withholding tax in 1993, for example, Luxembourg investment funds were the vehicle of choice for German investors to evade the impending tax. German investment in Luxembourg funds jumped more than five-fold,[54] leading to faster growth and higher capitalization of the Grand Duchy's fund industry as compared to its German counter-

51 IMF (1994: 23).

52 Given that taxation decisions in the EU require unanimity in the Council, even a single potential loser is enough to obstruct agreement. On the impact of the unanimity rule on European policy outcomes, see Scharpf (1988, 1996).

53 See, e.g., Giovannini (1989: 362); Levich / Walter (1990: 86); Gardner (1992: 67); Doggart (1993: 45–50).

54 Deutsche Bundesbank (1994: 50–53).

Table 2 Growth of Investment Fund Assets in Large and Small EC Member States

	GDP	Assets of Investment Fund Companies		
	bn $, 1993	bn $, 1990	bn $, 1995	% growth
Small States				
Luxembourg	11	95	317	234
Ireland	47	7	8	14
Greece	73	1	8	700
Portugal	84	3	15	400
Denmark	135	4	6	50
Belgium	211	5	23	360
Netherlands	309	24	53	121
Spain	479	12	93	675
Large States				
United Kingdom	946	92	159	73
Italy	986	42	79	88
France	1,251	379	540	42
Germany	1,726	71	125	76
Total				
Small States	1,348	150	523	249
Large States	4,909	583	902	55
Total EC-12	6,257	733	1,425	94

Source: IMF 1995; HSBC James Capel 1996, authors' calculations.

part. It seems fair, therefore, to take investment funds as a rough indicator for the tax-sensitive interest income tax base. If the "small is competitive" hunch is valid, we should observe that after capital liberalization, the investment fund industry in small EC member states grew faster and attracted a larger share of total European investment than the fund industry in large EC states (Table 2).

Table 2 seems to corroborate these predictions. If on the basis of GDP the EC member states are divided into a group of small states – Luxembourg, Ireland, Greece, Portugal, Denmark, Belgium, Netherlands, and Spain – and a group of large states – UK, Italy, France, Germany – the difference in the growth rate of investment fund assets is quite striking. Net asset growth was almost five times faster in the former than in the latter group of countries (249 percent as compared to 55 percent). All large states registered lower than average increases, while the expansion was higher than average in all but two of the small states. As a consequence, the small states' share in the total European investment fund market has increased markedly (Table 3).

Table 3 Distribution of Investment Fund Assets among Large and Small EC Member States

	% of Total EU-12 GDP	% of Total EU-12 Investment Fund Assets	
	1993	1990	1995
Small States	22	20	37
Large States	78	80	63
Total EC-12	100	100	100

Source: HSBC James Capel 1996, IMF 1995, authors' calculations.

While in 1990 the small states' percentage share of the total European investment fund market was still roughly in line with their share of total European GDP, by 1995 the former had grown far larger than the latter. This suggests that the small states have in fact attracted a disproportionately large share of European investment in mutual funds, and, by inference, of the mobile European interest tax base. Apparently, small is indeed competitive, as predicted by the "small is competitive" hunch.

Is it also true, then, that the small countries' tax base gain translates into improved fiscal revenues as this hunch implies? Unfortunately, there is no quantitative estimate, but anecdotal evidence suggests that the inflow of financial capital did indeed improve the small states' fiscal standing, even if the tax base effect works less straightforwardly than in our simple model. Take Luxembourg as an example. Given a zero withholding tax, the Luxembourg treasury does not directly benefit from increased foreign financial investment. But it does so indirectly, because increased investment means increased financial intermediation, which in turn means increased tax receipts from the financial services sector. The re-introduction of withholding taxes in Germany, for instance, led to an increase in the number of foreign banks in Luxembourg from 187 in early 1992 to 213 in 1993.[55] As a result of Luxembourg's growth as a financial center, nearly 20,000 people work directly in banking and up to 7,000 more in related legal, advisory and other activities. Banking and investment account for more than 15 percent of GDP and 40 percent of tax revenues (including banks and their employees).[56]

55 Frankfurter Allgemeine Zeitung, 24 March 1993, 26.

56 Financial Times, 28 March 1996, 3. Note, however, that the inflow of tax-shy capital tends to be self-limiting, because, as assumed in our model, it is subject to diminishing returns. According to the Luxembourg Bankers Association the banking boom of 1993 has caused a hike in staff costs of 30 percent. As a consequence, operating expenditure went up, and profitability went down. In 1996, net profit before commissions was only 53 percent of gross earnings, which, according to the Financial Times,

Likewise it has been suggested that tax competition and the tax base effect account for the recent improvement of public finances in the Netherlands, Belgium, and Ireland, and the concomitant deterioration in Germany.[57]

Even if the "small is competitive" hunch is quite good at predicting the winners and losers of tax competition, it is much less good at predicting policy preferences on tax coordination. In the withholding tax case, not all losers favored harmonization, and not all winners favored continued competition. Germany's, France's, and Italy's support for, as well as Luxembourg's staunch opposition to the introduction of a common European minimum withholding tax fit the pattern, but the UK's resistance to, and Belgium's support for a common withholding tax clearly do not. Given the former Conservative government's sovereignty-mindedness, and free market zeal, the British stubbornness probably does not come as a surprise. But it is inexplicable in terms of our model's systemic level variables. Belgium's 'anomalous' behavior, by contrast, can at least in part be accounted for by a systemic level factor, namely its currency union with the even smaller Luxembourg. The behavior of the rest of the small states is ambiguous. Some of them, most notably the Netherlands, and Denmark, raised objections to the proposal of a common withholding tax but never went so far as to threaten to block tax cooperation altogether. Prima facie, this lack of determined opposition would seem to contradict the "small is competitive" hunch. On closer inspection, it may turn out, however, that these countries just strategically misrepresented their true preferences: Since the vociferous opposition of the UK and Luxembourg already ensured that the withholding tax plan would not come about, there simply was no reason for them also to clearly signal their opposition, and thereby attract the wrath of France, Germany and Italy.

5 The Outside World Constraint

To summarize, our simple model does fairly well at predicting general trends or tendencies toward which patterns of behavior tend to converge under interest tax competition. As the data has shown, it was the small states which gained from tax competition while the large states lost. The model is less good at predicting the precise policy preferences of individual countries. While in general it seems to be true that the winners of tax competition oppose tax cooperation, and the losers support it, this prediction does not hold true for literally every country. In order

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is poor by international standards, and well below the 1993 ratio of 62 percent. See, Financial Times, 28 May 1997, 10.

57 Littmann (1996: 466).

to explain the deviant cases, we would have to give up the systemic-level focus and integrate unit-level variables into the analysis.

Even if we stay on the systemic level, however, there are problems with our preliminary results. In terms of our model's "small is competitive" hunch, the critical reader may wonder how a small state can siphon off a large state's tax base without ever being punished. Why does the large state not use its power to make the small state behave?[58] In terms of the withholding tax case, she may ask how a coalition of Luxembourg and the UK – a midget-state and an ideologue – could possibly have been powerful enough to block tax harmonization for an extended period of time, despite this issue's high salience for notionally powerful states such as France and Germany. It is hard to imagine that Luxembourg should not be susceptible to threats, or side-payments. Why were no such payments offered? The UK is larger and less easy to bully. Nevertheless has it often been forced by its European partners to accept outcomes that it does not prefer. Think of the negotiations of the Single European Act as an example, where Germany and France exploited the threat to exclude the UK from the single market project to coax the British government into agreement.[59] Why was such a threat not also exercised in the case of withholding tax harmonization? Evidently, the cause of cooperation failure was not only the opposition of the UK and Luxembourg, but also the lack of resolve of France, Germany and the other pro-cooperation states to overcome this opposition by appropriate means.

If we do not want to assume that these countries were just inept, or unconscious of their power, we have to conclude that there must be a systemic reason for their restraint. Hints as to what this reason might be, can be gleaned from the case study. As will be recalled, Luxembourg and the UK routinely raised the specter of intra-EC tax harmonization being exploited by extra-EC jurisdictions to justify their opposition. Instead of generating additional tax revenues for EC member states, they argued, withholding tax harmonization would result in a massive capital outflow to non-EC jurisdictions. It is easy to see how this argument provided an ideal cover for their political intentions. But even the proponents of withholding tax harmonization admitted to its potential validity.

When in the late 1960s the Commission first raised the idea of a common withholding tax on savings and bonds, it acknowledged that this would result in capital flight to non-EC countries unless complemented by the introduction of a common system of capital controls at the outer perimeters of the Community.[60] In

58 See Krasner (1991) for a discussion of how states can exploit their power to settle distributional conflicts with less powerful states.

59 Moravcsik (1991); Garrett (1992: 547).

60 Kommission (1967: 12). See also Kommission (1975: 8); Commission (1980: 11–12).

the late 1980s the notion of capital controls was no longer politically feasible. Given the international political climate in general, and the capital movements directive of 1988[61] in particular, it was impossible to use controls to either seal off a 'tax cooperation zone' within the single market (no selective exclusion), or to ring-fence the single-market vis-à-vis the outside world. Instead, the Commission proposed to hedge against the risk of capital flight to non-EC countries by restricting the coverage of a common withholding tax, suggesting a large number of loopholes for non-resident investors and Euro-securities. This, however, limited the potential fiscal benefits of the tax, and, by inference, the ability to generate rents to be distributed to the opponents – no side-payments either.[62]

These considerations, then, raise the even more fundamental question, would there be any benefits from tax cooperation at all? Probably not. In a much-cited paper, Roger Gordon speculates that in a world of high capital mobility, "there should not be important gains from coordination within any small group,"[63] because most of the cooperation benefits will leak to the non-cooperating periphery.

5.1 Partial Cooperation and the Leakage Effect

With a straightforward extension of our original two-country model to a many-country world, we are capable of formalizing this intuition. For this purpose, we now consider a world consisting of n countries. Index countries by $i = 1, \ldots, n$. All other building blocks of the model remain the same. As before, we summarize the private sector by an aggregate production function (equation 1), and again we specialize to the Cobb-Douglas type (equation 7). The world capital stock is fixed (analogous to equation 2). Governments continue to be revenue maximizers, and are still restricted to a single policy instrument, a source income tax on the mobile factor, i.e., capital .

To consider the implications of tax competition in this multi-country setting we move immediately to the case of the open economy. As the reader will recall, after-tax rates of return must be equalized across all countries in this setting (analogous to equation 5). With this specification, we obtain the following closed form solutions for the equilibrium capital stocks,

$$(6) \qquad K_i^* = \frac{\overline{K}}{1 + \sum_{j \neq i} \left(\frac{1 - t_j}{1 - t_i} \right)^{\frac{1}{\alpha}}}, i = 1, \ldots, n,$$

61 See section 4 above.

62 Gardner (1992: 68).

63 Gordon (1990: 20).

where each country's capital stock, K_i^*, depends on the world capital stock, $\overline{K}$, and on every country's tax rate, t_j. Each country's revenue function is defined analogously to equation 4. As a reference point, we can construct, as in the two-country model, the non-cooperative Nash equilibrium, found by deriving the reaction functions for all n countries and solving for the fixed point (analogous to equation 16).

What are the prospects for partial cooperation in this model? To tackle this question, we suppose that a fixed subset, $m \leq n$, of countries coordinate tax policies amongst themselves to maximize their joint tax revenue, and then engage in non-cooperative Nash behavior with respect to the outside world.[64] Technically, this corresponds to the concept of a nested non-cooperative Nash equilibrium. The important question is, is it in the interest of the m-group to coordinate their tax policies? Does cooperation help them to improve their collective revenues over and above what that they would obtain in the benchmark non-cooperative case? While the model is not amenable to analytical solution, it is possible to generate numerical simulation results to address this question. The model's answer seems to be a resounding "no". Figure 3 plots member (cooperator) and outsider (non-cooperator) revenue for parameter values $K = 100, \alpha = -0.05, n = 5.$ (The model's behavior is qualitatively the same under alternative parameter specifications.)

Inspecting the simulation results, it is evident that the collective revenue under cooperation falls short of the collective revenue under non-cooperation. Partial cooperation is collectively immiserizing for the cooperators. The collective revenue of the outsiders exceeds the collective revenue of the cooperators for every m group smaller than the "grand coalition" ($m = n$).[65]

The result provides theoretical confirmation of Gordon's skepticism, and establishes the centrality of the "outside world constraint". The fact that attempts to coordinate capital taxes inevitably take place amongst a subset of potential cooperators significantly, and in the model itself critically, impinges on the likely success of these attempts. As the m group starts to cooperate, part of the mobile tax base outmigrates to the outside world in search of a lower tax burden. Given perfect capital mobility, this "leakage effect" implies that the benefits from tax cooperation do not accrue to the cooperating countries, but rather to the non-cooperating bystanders. Non-cooperation, while inferior to global cooperation, is actually better than partial cooperation.

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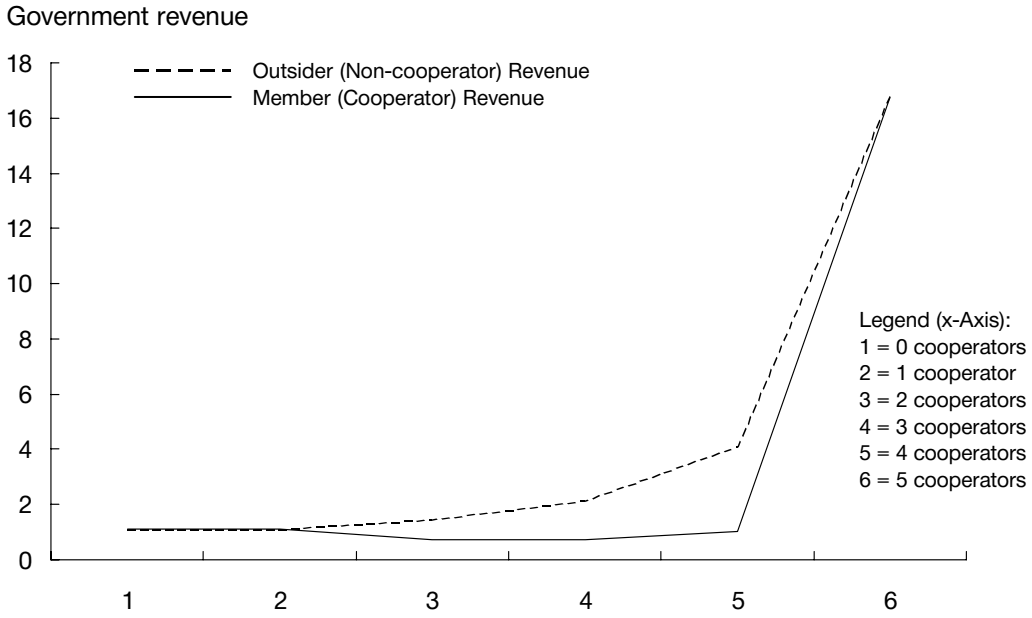
64 The membership of the m-group is taken as exogenously determined. Endogenizing the group of cooperators raises difficult issues which are still at the frontiers of game theory research. See, for example, Ray / Vora (1997).

65 Note also that the simulations reveal that partial cooperation is prone to defection, as suggested by the prisoners' dilemma metaphor.

Figure 3 Members vs. Outsider Revenue



5.2 Tax Creation and Tax Diversion

The problem with this theoretical result is that it is too stark. It does not explain why large states may be hesitant to bribe small states into agreement on tax harmonization, or, more specifically, why France and Germany may have been reluctant to offer large side-payments to Luxembourg. Rather, it shows that partial tax cooperation is a bad idea in the first place, and hence obscures why any rational government would ever pursue it. Since we do not want to suggest that the pro-withholding tax states simply did not know what they were doing, we conclude that this result is only part of the story about the outside world constraint. What does the model leave out?

The analogy with customs union theory is illuminating here, because it shows that the effects of partial cooperation may be more ambiguous than suggested by either Gordon's intuition or our extended model. Customs union theory analyzes under what circumstances it is beneficial or detrimental for two or more states to abolish tariff barriers between themselves and set a common tariff vis-à-vis the outside world. Intuition might suggest that any move towards free trade amongst a subset of trading nations would be advantageous for the cooperators. But, as the theory shows, this is not necessarily the case.[66] The removal of intra-union

66 E.g. Bhagwati / Panagariya (1996).

tariff barriers may shift demand from non-union sources to higher-cost union suppliers ("trade diversion"), or from domestic production to lower-cost output from a union partner ("trade creation"). Only if the trade creation effect dominates are the cooperators likely to benefit. If trade diversion prevails, the cooperation will likely be immiserizing for the cooperators.

The parallel between the concept of trade diversion and the leakage effect of our extended model is obvious. Indeed, the leakage effect can be thought of as "tax diversion". But is there also an equivalent to trade creation? Obviously, the model has no scope for "tax creation", but that does not mean that sources of tax creation do not exist. The Commission often argues, for example, that capital tax harmonization will reduce bureaucratic waste and enhance efficiency by facilitating tax administration and increasing the transparency of the European capital market. This, in turn, may lead to faster growth and higher tax revenues for the member states as a whole.[67]

A complementary, and potentially more important, source for tax creation is imperfect capital mobility between the European capital market and the rest of the world. In spite of what is nowadays often assumed, there is extensive evidence that international capital is not perfectly mobile. Indicators include a high correlation between domestic savings and investment, considerable real interest differentials across countries, and a heavy specialization of individual portfolios in domestic securities in spite of large potential gains from international diversification.[68] In a recent paper, Gordon and Bovenberg suggest that the reason behind this lack of mobility is asymmetric information: Capital owners hesitate to put their money abroad because they may be at a handicap due to their poor knowledge of local conditions.[69] Political uncertainty and currency risk may further dampen cross-border capital mobility.[70] In light of these factors, it seems plausible to assume that European capital owners are "single market biased": political risks are minimal, legal conditions are harmonized through EC law, and exchange rate fluctuations are low.

Anecdotal evidence corroborates the point. German economists have observed, for example, that the main reason for the high level of German tax evasion to Luxembourg is that, in Luxembourg, German tax evaders can do business with the same banks as at home. If the presence of German banks was smaller, and tax evaders would have to entrust their money to foreign banks, many of them

67 See, for example, Kommission (1989: 3–4); Gardner (1992: 61).

68 Gordon / Bovenberg (1996); Hallerberg / Clark (1997); and the literature reviewed therein.

69 Gordon / Bovenberg (1996: 1059–1060).

70 Feldstein (1994: 683).

would find the transaction costs of evasion too high, and the level of evasion would be lower.[71] In the same vein, Commission officials half jokingly argue, in informal conversation, that private investors often take a "Mercedes-length" approach to tax evasion, meaning that they never put their money in a place farther away than a Mercedes tank-full. Both observations suggest that the inclination to evade tax may be higher within the single market than across the single market's outer boundaries. It appears doubtful, therefore, that high levels of tax evasion between member states should be taken as an indication that the likely level of tax evasion between the EC and the rest of the world would be equally high, as is sometimes done in the literature.[72] Given less than perfect mobility between the European capital market and the rest of the world, the introduction of a common withholding tax may result in less leakage and more additional tax revenue than this indicator would lead one to expect.

However, the only way to find out for sure is, in fact, to try. Ex ante, it is impossible to know with any certainty how large the tax diversion effect of a common withholding tax will be, and if it will dominate tax creation, or be in turn dominated by it. While this fundamental uncertainty affects all political actors alike, it works decisively to the political advantage of the opponents of tax harmonization. They can operate from the safe grounds of the worst-case scenario of perfect capital mobility, while the proponents have to base their plans on the assumption that the worst case will not occur. There is a risk, however unlikely, that the worst case may appear, and, up to now, the pro-cooperation countries have avoided taking it. They have forwarded the withholding tax plan, but they have not invested much in buying off the opposition in the Council. Eventually, fiscal desperation, and the prospect of heightened tax competition under monetary union may push them over the brink. But the potential for regret is large: If they find that tax creation outweighs tax diversion, they may regret that they have waited for so long; if, in contrast, they find that the leakage-effect dominates the creation-effect, they will regret that they could ever have been so reckless as to embark on such a risky project. The prospects are uncomfortable, and exemplify the Solomonic insight of the "general theory of the second best": an incomplete move towards the optimum – tax harmonization across some, but not all relevant countries – may make matters either better or worse.[73]

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71 Härtel et al. (1996: 340).

72 Gardner (1992: 68).

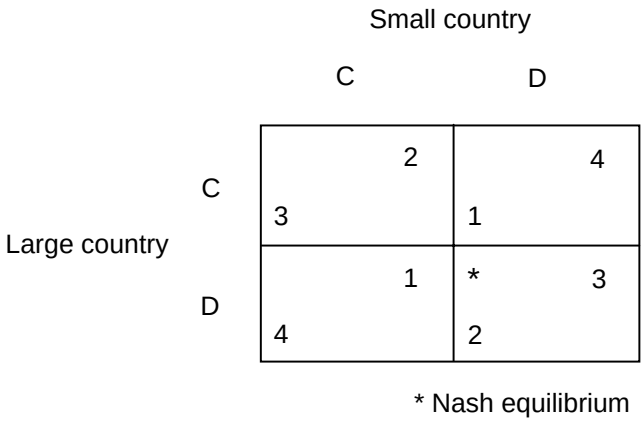
73 Customs union theory, cited above, is a specific instance of the "general theory of the second best", which establishes the somewhat counter-intuitive result that a partial move towards the optimum is not necessarily an improvement. The classic reference is Lipsey / Lancaster (1956–7). For a recent synthesis and extension of results in this literature, see Krishna / Panagariya (1997).

In conclusion, then, the *n*-country extension of our simple model brings into sharp relief the stringency of the outside world constraint, and, in doing so starkly, probably overstates its significance. There is no necessary reason to expect that all benefits of partial cooperation must inevitably leak to the non-cooperating outside world. But the possibility that they might works as a powerful restraint on the potential cooperators' willingness to spend resources on bringing the cooperation about.

6 Conclusion

Why does collective action so persistently fail in tax competition? The analysis of this paper suggests that two distributional conflicts are to blame. The first conflict concerns the winners and losers of tax competition. As our model has shown and the withholding tax case has confirmed, intense tax competition is likely to favor small countries over large countries. Large countries lose, and small countries win. Small countries, therefore, have little incentive to assist in removing the competition. The conflict resembles a game where a player with prisoners' dilemma preferences (large country) confronts another player with deadlock preferences (small country) (Figure 4). Evidently, there is no incentive for the small country to agree on the cooperative c-c outcome – unless the large country uses its power to change the payoff matrix.

Figure 4 References for Tax Competition (D) and Tax Cooperation (C)



Using power, however, comes at a positive cost. The large country will only spend resources on forcing or bribing the small country into agreement if it expects that the costs will be outweighed by the benefits. This is where the second

conflict kicks in, which concerns the distribution of the benefits of cooperation between the cooperators and the non-cooperating outside world. If the potential cooperators expect that most or all benefits will leak to noncooperating outsiders, their commitment to invest in cooperation will be correspondingly low. In the extreme case, they will not invest at all because the cooperation threatens to be collectively immiserizing.

This "outside world constraint" adds an important new twist to the defection problem, which focusses on how incentives to free ride make it difficult for potential cooperators to commit credibly to cooperation. The outside world constraint, by contrast, shows how incentives to free ride can thwart cooperation, even in the presence of credible commitment, if, as is normally the case, the cooperation does not from the outset extend to the entire population of relevant actors.

To be sure, within-group distributive conflicts and outside world constraints are also present in other policy fields, occasionally obstructing cooperation efforts there. What makes them so particularly intractable in the case of tax cooperation is that they occur in combination, and interfere with each other's solution. In order to solve the within-group conflict between winners and losers of tax competition, it would be useful to reduce the group size, or, to be more precise, to homogenize the country size of the group members. Germany, France, Italy, and whoever else wants to join should conclude a separate, Schengen-type agreement on withholding taxation, and, thus, elude the opposition of Luxembourg and the UK. However, the catch is obvious. Limiting tax cooperation to the losers of tax competition sharpens the outside world constraint. If the cooperation does not include at least some champions of tax competition as well, it is likely to be self-harming. This is the logic behind the warnings that the EC is not the right level for cooperation on capital taxation, and that negotiations on withholding tax harmonization should be shifted up to the OECD level or even higher. But obviously, as such moves increase the group size, and the heterogeneity of the group members, they are also bound to increase the within group conflict between the winners and losers of tax competition, which in turn would suggest that one should reduce the group size, which brings the argument full circle.

There is no presumption in this argument that a balance between the contradictory demands of the within-group conflict and the outside world constraint is impossible to find; just because withholding tax harmonization has not happened during the past ten years does not mean that it will not happen during the coming ten years. However, there is a presumption that this balance is extremely difficult to strike, and that this, rather than a prisoners' dilemma type defection problem, is the reason why collective action is so elusive in tax competition.

In conclusion, we would like to point to one potentially important implication for international relations theory at large. In recent years, there has been much debate between liberal institutionalists and neorealists about the preconditions of successful cooperation.[74] The positions of both camps differ widely, especially as to the ease and likelihood of cooperation, but their analytical treatment of the cooperation problem is amazingly similar in at least one particular respect. Both treat cooperation as a dichotomous variable, an all-or-nothing proposition where either all states cooperate or none do. Perhaps this is just a consequence of the dominance of 2x2 normal form games in international relations discourse. It has, in any case, prevented an analytical appreciation of the fact that in practice the choice is not between non-cooperation and total cooperation, but between non-cooperation and partial cooperation.[75] In reality, after all, the chances that cooperation could ever extend to literally all states is fairly low. As our analysis shows, the presence of noncooperating outsiders is not just a nuisance, a "second order" consideration that can be safely ignored, but may significantly, and, at times, critically condition the outcome. We do not suggest that the effect will always be negative. Indeed, it is very well conceivable that, under certain circumstances, the presence of non-cooperating bystanders may even facilitate agreement.[76] We do suggest, however, that the impact of the outside world on the likelihood of cooperation merits further theoretical attention.

74 For a collection of major contributions to this debate, see Baldwin (1993).

75 Genschel / Plümper (1997).

76 For an illustration of this principle in the case of the telecommunications industry, see Genschel (1997).

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