TAX COMPETITION vs. TAX HARMONISATION IN A DYNAMIC WORLD ECONOMY

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Introduction

It is often argued that, in an environment in which capital is able to move freely, governments' ability to rely on capital taxation becomes increasingly constrained. Fiscal authorities would then be made better off by more actively coordinating their tax policies or, alternatively, by relinquishing their tax authority in favour of a supranational authority. While the common wisdom that capital mobility exerts a "race-to-the-bottom" on capital tax rates is widely spread in the theoretical literature on tax competition, the empirical literature so far has found little support for this outcome.

The theoretical literature on tax competition is largely based on conventional static frameworks,[1] in which the tax game lasts only one period, thereby disregarding the possibility of repeated interactions between policymakers. Concerning capital income taxation, in particular, it traditionally relies on the assumption that capital owners are sensitive to net returns to capital (*i.e.* to tax differentials) when making portfolio choices or investment decisions. Settings of these tax competition models are essentially twofold. On the one hand, small open economies compete for a fixed amount of internationally mobile capital (e.g. Zodrow and Mieszkowski, 1986), but fail to internalise the impact of their respective tax policies on the world after-tax return to capital. On the other hand, governments are assumed to engage in tax games *à la* Nash, in the context of which they are, however, aware that their tax policy affects the after-tax return to capital (see for instance Wildasin, 1988). Under both settings, capital mobility drives down capital tax rates, albeit to a lower extent in the latter class of models. When tax revenues finance public goods, this results in an under-provision of local public goods that negatively affects the citizens' welfare. Nevertheless, tax competition is welcome if governments are revenue-maximisers and subordinate their competitive behaviour to, for example, the aim of increasing their size. Clearly, a normative assessment of tax competition ultimately depends on the views one has on the preferences of governments (Edwards and Keen, 1996).

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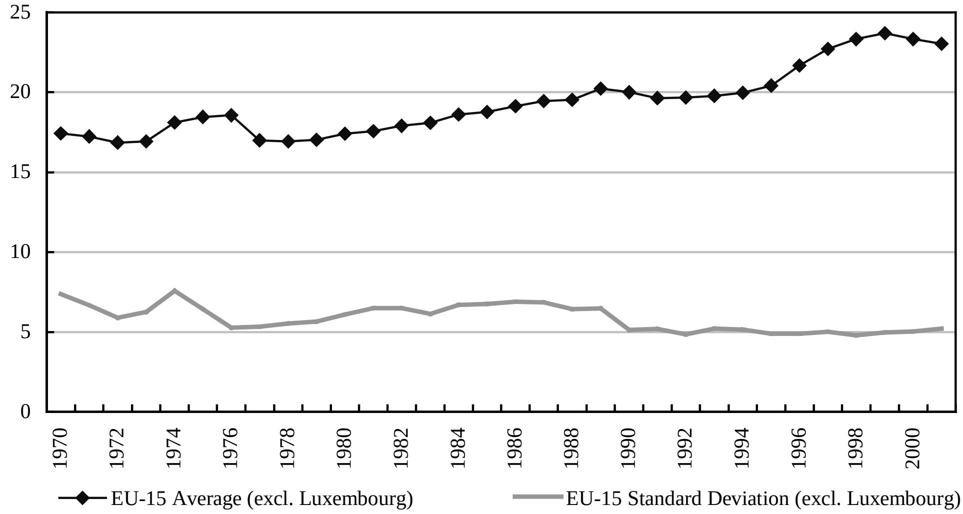
The views expressed in this paper are the ones of the authors and do not necessarily reflect those of the European Central Bank. The authors wish to acknowledge comments from Vieri Ceriani, David Heald, Michael Keen, Ranjana Madhusudhan and other seminar participants at the 5th Banca d'Italia Workshop on Public Finance. Comments on an earlier draft from Bertrand Crettez, Luca Onorante, Pierre Pestieau, Ludger Schuknecht, Rolf Strauch, Emmanuel Taugourdeau and Juergen von Hagen are also gratefully acknowledged. The usual disclaimer applies.

[1] See Wilson (1999) for a comprehensive survey.

Chart 1

Average Effective Tax Rates on Capital, 1970-2001



Source: Martinez-Mongay (2000) and own calculations.

Despite the fact that the above static tax competition models generally conclude that tax competition leads to a "race-to-the-bottom", empirical research has so far found limited support for a significant downward effect of capital mobility on tax rates. In this regard, a recent review of empirical studies on the sensitivity of capital flows to tax rates by Krogstrup (2003) has also confirmed that there is no strong empirical evidence supporting the conclusions of tax competition models. Regarding the location choice of foreign direct investment, it is also stressed that empirical evidence supports the view that the tax policy of a country does not affect the choice of its resident investors between home and foreign investment. On the other hand, a country's tax policy affect the investment decisions of prospective foreign investors.

A simple inspection of the evolution of effective tax rates on capital in the European Union over the past three decades confirms the absence of a significant downward pressure on capital taxation (see Chart 1). The upward trend of capital tax rates, which stands at odds with the standard predictions of the tax competition literature, applies to both big and small countries,[2] suggesting that some form of tax coordination might be at work (see Chart 2).

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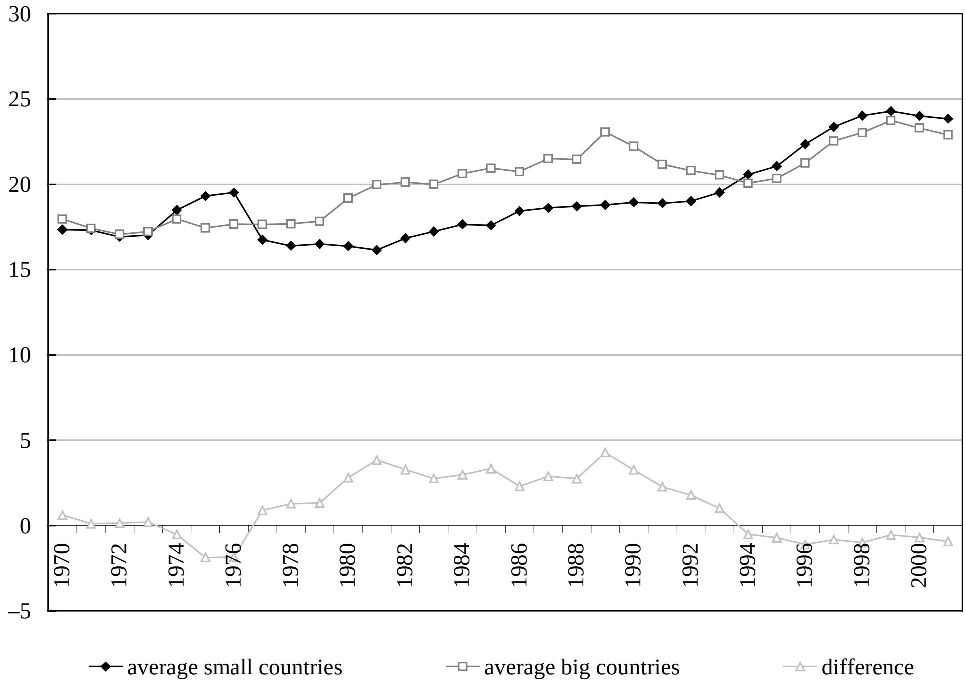
[2] The tax development in "big" countries has been computed by averaging effective tax rates on capital in Germany, France, Italy, the United Kingdom and Spain.

Chart 2

Average Effective Tax Rates on Capital, 1970-2001
Big vs. Small Countries



Source: Martinez-Mongay (2000) and own calculations.

This paper attempts to reconcile theory and evidence by extending the basic tax competition model to account for repeated policy interactions between governments. When the latter are associated to a systematic "punishment" of the deviating policymaker, the Nash equilibrium outcome of static tax competition models may not necessarily coincide with the outcome of the tax game in a repeated interaction framework. On the contrary, governments may secure a cooperative or coordinated outcome by threatening to retaliate if one of them deviates from the coordinated tax rates. In such a case, explicit policy coordination via a supranational tax authority – a federal government – would not be necessary. However, one could argue that some explicit tax coordination may continue to be desirable in order to avoid the pitfalls of competition from smaller economies. This policy asymmetry relates to the fact that large regions face a weaker response of the capital stock to tax rates, which means that they are less inclined to engage in tax competition. By contrast, as competition generally benefits smaller economies, the latter are more likely to be the source of negative externalities to large countries in the absence of supranational regulation.

To our best knowledge, there are only few papers in the literature addressing the topic of fiscal competition in a repeated interaction framework. In his model of property tax competition, Coates (1993) assumes that governments do not take into account the externalities associated to the use of their domestic tax rate, showing that there may be incentives to subsidise capital. Cardarelli, Taugourdeau and Vidal (2002) extend upon the framework developed by Coates, setting up a repeated interactions model of tax competition and establishing the conditions under which tax policy harmonisation can result from repeated interactions between the policymakers. They show that tax harmonisation will not prevail in the case of strong regional asymmetries,[3] in which case the establishment of a centralised fiscal authority is suggested as a solution to the tax competition problem. In a related game theoretical approach inspired by Barro and Gordon (1983), Fourcans and Warin (2002) also find that the lack of explicit tax harmonisation may not lead to a "race-to-the-bottom" of tax rates, as a cooperative outcome can result from repeated interactions between governments.

The goal of our paper is to build upon the paper by Cardarelli *et al.* by looking at capital tax competition in a repeated interaction framework characterised by the absence of capital mobility sunk costs. While such costs were postulated in their paper to avoid a zero tax rate on capital under the assumption of linear technologies, the underlying assumption in our paper is that production occurs according to Cobb-Douglas technologies. Furthermore, we analyse the role of cross-country asymmetries on the outcome of the tax competition repeated game. We adopt the view that governments compete for a fixed world supply of capital and abstract from welfare considerations, assuming that governments only aim to maximise tax revenues. Moreover, governments are either short-sighted, maximising only current revenue, or far-sighted, seeking to maximise a discounted sum of current and future tax revenues. Only under the second scenario is the coordinated tax outcome ultimately sustainable, provided cross-country asymmetries remain limited and governments are sufficiently patient.

The paper proceeds as follows. Section 1 develops a streamlined classical one-shot model of tax competition. Section 2 extends this model to account for repeated interactions, while section 3 presents a simple numerical exercise. Section 4 concludes.

1. The "one-shot" tax game

Let us consider a world economy consisting of two countries (indexed with subscripts i and j), whose governments compete to tax the income of a fixed and exogenously given world supply of capital. The allocation of capital between country i and j satisfies:

[3] Taugourdeau (2002) extends the analysis of Cardarelli *et al.* (2002) by considering a bargaining equilibrium between governments.

$$2k = k_i + k_j \tag{1}$$

where *2k* stands for the world total supply of capital. Labour is perfectly immobile and in fixed supply, whereas capital is perfectly mobile. The gross return to capital invested in country *i* is given by:

$$r_i = \alpha\ A_i\ k_i^{\alpha-1} \tag{2}$$

where A_i is a country specific scale factor, capturing cross-country differences in their endowments of immobile factors such as, for example, labour or land, or even differences in total factor productivity. The underlying production technologies are assumed to be of the Cobb-Douglas type. Governments levy taxes on capital according to the source principle of taxation.[4] The capital tax revenue in country *i* is:

$$T_i = t_i\ \alpha\ A_i\ k_i^{\alpha} \tag{3}$$

where t_i is country *i*'s capital income tax rate. Perfect capital mobility implies that net returns to capital are equal in all locations. The equilibrium capital allocation is therefore determined by the arbitrage condition:

$$(1 - t_i)\alpha\ A_i\ k_i^{\alpha-1} = (1 - t_j)\alpha\ A_j\ k_j^{\alpha-1} \tag{4}$$

Governments act strategically with a view to maximising capital income tax revenue. In order to address the question of whether tax coordination is feasible in the absence of any coordinating supranational authority, we assume that governments are intrinsically revenue-maximisers, hence departing from the view of governments as benevolent social planners. In this context, it should be noted that our model abstracts not only from labour income taxation but also from spending, so that we are focusing on a precise aspect of tax policy, namely the taxation of internationally mobile capital.

Governments choose their capital income tax rate under the constraint that capital is perfectly mobile, taking other governments' tax policies as given. This is a Nash tax game, where government *i* maximises its capital income tax revenue (3) from an internationally mobile tax base under the arbitrage condition for capital (4), taking government *j*'s capital tax rate as given. Government *i*'s reaction function is the solution to the following maximisation programme:

$$\max_{\{t_i, k_i\}}\ t_i\ \alpha\ A_i\ k_i^{\alpha}$$

[4] There are two polar principles of international taxation: the residence (of the taxpayer) principle and the source (of income) principle. Under the residence principle, residents are taxed on their whole income regardless of its origin. Under the source principle, all incomes originating in a country are taxed in this country regardless of the country of residence of the taxpayer. The source principle is usually assumed in models of tax competition; see Razin and Sadka (1994) for a survey on tax competition.

subject to:

$$(1-t_i)\alpha\, A_i\, k_i^{\alpha-1} = (1-t_j)\alpha\, A_j\, k_j^{\alpha-1}$$

The reaction function of government *i*, $t_i = R_i(t_j)$, is characterised by the system of two equations:

$$\frac{t_i-(1-\alpha)}{1-t_j} = (1-\alpha)\frac{A_j}{A_i}\left(\frac{2k-k_i}{k_i}\right)^{\alpha-2} \tag{5}$$

$$\left(\frac{k_i}{2k-k_i}\right)^{\alpha-1} = \frac{A_j(1-t_j)}{A_i(1-t_i)} \tag{6}$$

The relationship between t_i and t_j is obtained by plugging (6) into (5):

$$1-t_j = \frac{A_i}{A_j}(1-t_i)^{2-\alpha}\left[\frac{1-\alpha}{\alpha-(1-t_i)}\right]^{1-\alpha} \tag{7}$$

Although one does not obtain an analytical solution for government *i*'s reaction function R_i, the above expression implicitly defines this function, the property of which can be easily analysed. Equation (7) is of the form:

$$y = f(x) = \Gamma x^{2-\alpha}\left(\frac{1-\alpha}{\alpha-x}\right)^{1-\alpha}$$

where x, y and Γ denote $1-t_i$, $1-t_j$ and $\dfrac{A_i}{A_j}$ respectively. The domain of f is $[0,\alpha[$ and its range $[0,+\infty[$. One can easily check that f is strictly increasing on $]0,\alpha[$ and that $f(0)=0$, $\lim_{x\to\alpha} f(x)=+\infty$ and $f'(0)=0$.

Concerning the reaction function of government *j*, it is implicitly defined by:

$$1-t_i = \Gamma^{-1}(1-t_j)^{2-\alpha}\left[\frac{1-\alpha}{\alpha-(1-t_j)}\right]^{1-\alpha} \tag{8}$$

This expression, which can be easily obtained from (7) by substituting *i* with *j*, is of the form:

$$x = h(y) = \Gamma^{-1} y^{2-\alpha}\left(\frac{1-\alpha}{\alpha-y}\right)^{1-\alpha}$$

The qualitative properties of this function are the same as those of the function f we studied above. In particular, we can define the inverse function $g = h^{-1} : [0,+\infty[\to [0,\alpha[$, which is also strictly increasing on $]0,+\infty[$. One can easily check that $\lim_{x\to 0} g'(x) = +\infty$. The intersection of the curves representing the functions *f* and *g* characterises the Nash tax rates. The qualitative properties of these functions ensure the existence and uniqueness of the Nash equilibrium of this tax game, as illustrated by Figure 1. The Nash tax rates belong to the interval $]1-\alpha,1[$.

From (7) and (8) one obtains a simple relation between $x^N = 1 - t_i^N$ and $y^N = 1 - t_j^N$:

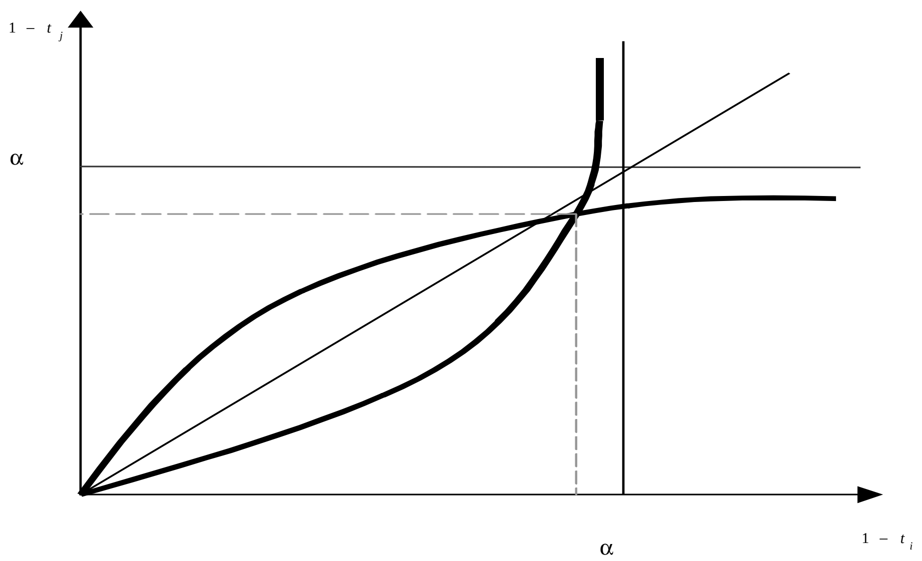
$$\left(\alpha - x^N\right)\left(\alpha - y^N\right) = (1-\alpha)^2 x^N y^N \tag{9}$$

Plugging this equation into the expression (7) yields a new equation, the solution of which characterises the Nash tax rate of government *i*, $t_i^N = 1 - x^N$:

$$\Gamma^{\frac{1}{1-\alpha}}(1-\alpha)\left(\frac{x}{\alpha - x}\right)^{\frac{2-\alpha}{1-\alpha}}\left[1-(2-\alpha)x\right]^{\frac{1}{1-\alpha}} = 1 \tag{10}$$

Figure 1

Nash Reaction Functions



When countries are symmetric ($A_i = A_j$ or $\Gamma = 1$), the Nash tax rate is easily calculated from the equation (10):

$$t^N = \frac{2\left(1-\alpha\right)}{2-\alpha} \tag{11}$$

The equilibrium allocation of capital is given by plugging the Nash tax rates into the equation (6):

$$k_i^N = \frac{2k\Gamma^{\frac{1}{1-\alpha}}\left(\dfrac{x^N}{y^N}\right)^{\frac{1}{1-\alpha}}}{1+\Gamma^{\frac{1}{1-\alpha}}\left(\dfrac{x^N}{y^N}\right)^{\frac{1}{1-\alpha}}} \tag{12}$$

$$k_j^N = 2k - k_i^N \tag{13}$$

Finally, the Nash tax revenues are defined as:

$$T_i^N = \alpha\, t_i^N A_i \left(k_i^N\right)^\alpha \tag{14}$$

$$T_j^N = \alpha\, t_j^N A_j \left(2k - k_i^N\right)^\alpha \tag{15}$$

Proposition 1

An increase in the relative size of country i implies an increase in the Nash tax rate of government i and a decrease in the Nash tax rate of government j.

Proof. We take the logarithmic derivative of the equation (10):

$$\frac{1}{1-\alpha}\frac{d\Gamma}{\Gamma} + \frac{2-\alpha}{1-\alpha}\frac{dx^N}{x^N} + \frac{2-\alpha}{1-\alpha}\frac{dx^N}{\alpha - x^N} - \frac{2-\alpha}{1-\alpha}\frac{dx^N}{1-\left(2-\alpha\right)x^N} = 0$$

$\dfrac{dx}{d\Gamma}$ is of the same sign as:

$$-\frac{1}{x^N} - \frac{1}{\alpha - x^N} + \frac{1}{1-\left(2-\alpha\right)x^N} = -\frac{\left(x^N\right)^2 - \alpha\left(3-\alpha\right)x^N + \alpha}{x^N\left(\alpha - x^N\right)\left[1-\left(2-\alpha\right)x^N\right]}$$

Let us study the sign of the polynomial:

$$P(x) = x^2 - \alpha(3-\alpha)x + \alpha$$

Since we have $P'(0) = -\alpha(3-\alpha) < 0$, $P'(\alpha) = \alpha(\alpha-1) < 0$ and $P(\alpha) = \alpha(\alpha-1)^2 > 0$, we conclude that $P(x) > 0$ for all $x \in [0, \alpha]$.

Hence: $\frac{dx}{d\Gamma} < 0$.

From equation (9) it also follows that $\frac{dy^N}{dx^N} > 0$.

This proposition shows that, in a two-country model, the tax rate differential is exacerbated by asymmetries in country sizes. The large country attracts more international capital than the small country.

2. Game under repeated interactions

In this section we examine how repeated interactions between governments affect their behaviour regarding taxation of internationally mobile capital. To extend this simple tax competition model to a dynamic environment, we assume that governments maximise the discounted sum of their tax revenues. The objective of government *i* can therefore be written as:

$$V_i = \sum_{t=0}^{+\infty} \delta_i^t T_{i,t} \tag{16}$$

where $T_{i,t}$ stands for government *i*'s capital income tax revenue in period *t* and δ_i is government *i*'s discount factor. In each period *t* governments play a stage game similar to the one-shot tax game described in the previous section. Clearly, an infinite repetition of the Nash strategies is a solution to the repeated tax game, which gives governments the following payoffs:

$$V_i = \sum_{t=0}^{+\infty} \delta_i^t T_i^N \tag{17}$$

$$V_j = \sum_{t=0}^{+\infty} \delta_i^t T_j^N \tag{18}$$

However, governments can achieve higher levels of capital income tax revenues by setting capital income tax rates in a cooperative manner. For instance, they could meet and decide on coordinated tax rates, not necessarily equal across countries but still higher than the Nash tax rates. Let us denote with $t_i^c\ (> t_i^N)$ and $t_j^c\ (> t_j^N)$ the pair of coordinated tax rates. More specifically, we shall here consider the possibility for governments to coordinate on a common capital income tax rate $(t_i^c = t_j^c = t^c < 1)$.

In a framework of repeated interactions between governments, tax coordination can be underpinned by trigger-type strategies. Each government cooperates and levies the coordinated tax rate as long as the other government cooperates and reverts to the Nash tax rates otherwise. In the repeated tax game, the tax strategy of government *j* can be expressed as follows:

$$t_{j,t+1} = \begin{cases} t^c \ if \ t_{i,t} = t^c \\ t_j^N \ otherwise \end{cases}$$

If governments implement their tax policies in a coordinated manner, the government *s* (=*i*,*j*) can achieve the following payoffs:

$$V_s^C = \sum_{t=0}^{+\infty} \delta_s^t T_s^C = \sum_{t=0}^{+\infty} \delta_s^t T_s^C \alpha t_s^c A_s \left(k_s^C\right)^{\alpha} \tag{19}$$

where the international allocation of capital is:

$$k_i^C = \frac{2k\Gamma^{\frac{1}{1-\alpha}}}{1+\Gamma^{\frac{1}{1-\alpha}}} \tag{20}$$

$$k_j^C = \frac{2k}{1+\Gamma^{\frac{1}{1-\alpha}}} \tag{21}$$

Tax coordination prevails if governments have no incentive to deviate from the coordinated tax rate. The deviating government reaps short-run benefits but incurs long-run losses compared to tax coordination.

Without loss of generality, we shall consider the incentives to deviate of government *j* in the remainder of this paper. If it chooses to deviate, government *j* sets its tax rate according to its reaction function. This government's tax rate is its best reply against government *i* playing t^c. Hence, t_j^D is the solution to the following system of equations:

$$\frac{t_j^D - (1-\alpha)}{1-t^c} = (1-\alpha)\Gamma\left(\frac{k_i^D}{2k - k_i^D}\right)^{\alpha-2} \tag{22}$$

$$\frac{k_i^D}{2k-k_i^D}=\left[\frac{\left(1-t_j^D\right)}{\Gamma\left(1-t^C\right)}\right]^{\frac{1}{\alpha-1}} \tag{23}$$

where k_i^D is the equilibrium level of capital in country *i* under these strategies. Combining (22) and (23) gives the following expression, which implicitly defines t_j^D as a function of t^c :

$$\frac{\left(1-t_j^D\right)^{2-\alpha}}{\left[t_j^D-(1-\alpha)\right]^{1-\alpha}}=\frac{\Gamma\left(1-t^c\right)}{(1-\alpha)^{1-\alpha}} \tag{24}$$

By definition of the reaction function, note that $t_j^D=t_j^N$ if $t^c=t_i^N$. One can easily check from (24) that there exists a unique $t_j^D\in\left]1-\alpha,t^c\right[$ for all $t^c\in\left]t_i^N,1\right[$ and that the deviating tax rate varies positively with the coordinated tax rate ($\frac{dt_j^D}{dt^C}>0$). It should also be noted that, not surprisingly, international capital flies from the country that implements the coordinated strategy to the deviating country, increasing its short-run tax revenue ($k_j^D>k_j^C$). Government *j* can enjoy only once the benefits of its treachery, as government *i* will thereafter revert to the Nash tax strategy. However, government *j*'s value of the continuation game is the Nash payoff, V_j^N . The payoff the deviating government can achieve is given by:

$$V_j^D=T_j^D+\delta_jV_j^N=\alpha t_j^DA_j\left(2k-k_i^D\right)^{\alpha}+\delta_jV_j^N \tag{25}$$

Our next proposition stresses that tax coordination can emerge endogenously from repeated interactions.

Proposition 2

When there are no cross-countries differences, coordination on a common capital income tax rate is sustainable if governments are sufficiently patient.

The proof is simple and intuitive, as the result is quite similar to the folk theorem in game theory. Tax coordination is sustainable if the loss incurred by the deviating country in terms of future losses stemming from the setback from the coordinated to the Nash tax strategies exceeds the short-run gain generated by undercutting the coordinated tax rate. Hence, coordination of tax policies is sustainable if:

$$V_j^D=T_j^D+\delta_jV_j^N<V_j^C \tag{26}$$

where we check that deviation does not benefit government *j*. Multiplying (26) by $(1-\delta_j)$ we obtain:

$$\left(1-\delta_j\right)T_j^D + \delta_j T_j^N < T_j^C \tag{27}$$

When δ_j tends to 1, this expression becomes:

$$t_j^N < t^C \tag{28}$$

since in the symmetric case, we have $k_i^N = k$ and $k_i^C = k$.

Condition (28) holds owing to the definition of the coordinated tax rates. Hence, if governments' discount factors are sufficiently close to 1, tax coordination can be an outcome of the tax game with repeated interactions. It follows that in the case of symmetric countries, the endogenous outcome of the repeated tax game suggests that there is no intrinsic need for greater centralisation. Nevertheless, it should be emphasised that centralised tax coordination or harmonisation may still be needed in the presence of strong regional asymmetries.

The next proposition deals with the sustainability of decentralised or endogenous tax coordination in the presence of strong regional asymmetries.

Proposition 3

If cross-countries differences in size are sufficiently large, decentralised coordination on a common capital income tax rate is not sustainable.

In order to show that decentralised tax coordination cannot be the outcome of the repeated tax game, we shall proceed as follows. First, we consider the feasibility condition in the limit case where governments' discount factors tend to 1. Second, we prove that this condition cannot hold whenever asymmetries are sufficiently large. Condition (27) can be written as follows:

$$\left(\frac{t_j^N}{t^C}\right)^{\frac{1}{\alpha}} < \frac{1}{1+\Gamma^{\frac{1}{1-\alpha}}}\frac{1}{1-\dfrac{k_i^N}{2k}} \tag{29}$$

Using the expression (12) we obtain:

$$\left(\frac{t_j^N}{t^C}\right)^{\frac{1}{\alpha}} < \frac{1+\Gamma^{\frac{1}{1-\alpha}}\left(\dfrac{1-t_i^N}{1-t_j^N}\right)^{\frac{1}{1-\alpha}}}{1+\Gamma^{\frac{1}{1-\alpha}}} \tag{30}$$

When the indicator for regional asymmetries, Γ, tends to infinity, one can easily check from the equations (9) and (10) that t_i^N and t_j^N tends to 1 and $1-\alpha$ respectively. When Γ tends to infinity, the condition (30) becomes: $\left(\frac{1-\alpha}{t^C}\right)^{\frac{1}{\alpha}} < 0$. Since the LHS of this expression is strictly positive, we have shown by contradiction that decentralised tax coordination is not sustainable if regional asymmetries are sufficiently large.

3. Numerical exercise

This section briefly exposes the key results of a series of numerical exercises carried out on the basis of the models developed in sections 1 and 2. Far from constituting a realistic calibration of the real economy, these exercises simply aim to illustrate the role of cross-country asymmetries and the discount factor on the sustainability of tax coordination under repeated interactions.

An initial step in the analysis consists in assessing the impact of the coordinated tax rate t^c on the sustainability of tax coordination, as captured by the sign of the difference $V^D - V^C$, in the case of asymmetric countries. For the purposes of this exercise, the size of the small country is normalised to unity without loss of generality, since only the relative size of countries is relevant in this model. The governments' discount factors and the capital share are set equal to 0.8 and 0.3 respectively. The world supply of capital is equal to 2.

Chart 3 illustrates the incentives to deviate in three different scenarios for the coordinated tax rate. When the coordinated tax rate on internationally mobile capital is 1 per cent higher than the Nash rate of the deviating government, tax coordination is no longer sustainable once cross-country asymmetries exceed 40 per cent, corresponding to a value of 1.4 for the asymmetry indicator. When raising the coordinated tax rate to 5 and 10 per cent above the Nash tax rate, the sustainability threshold on the asymmetry indicator increases to 2 and about 2.7 respectively.

A next step in the analysis consists in the assessment of the impact of the discount factor on the sustainability of tax policy coordination. The result here is that a higher discount factor is associated to higher sustainability of coordination. Hence, a country with a higher discount factor will deviate from the coordinated tax rate only for a significantly higher degree of asymmetry (see Chart 4).

Finally, the impact of governments' discount factors on the sustainability of tax coordination is assessed from the perspective of a small country. The deviation incentive and the discount factor are plotted against different degrees of asymmetry. Chart 5 clearly shows that a higher government discount factor is necessary to sustain tax coordination when countries become more asymmetric. This is explained

Chart 3

Impact of the Coordinated Tax Rate on Coordination Sustainability
(α=0.3; delta=0.8, Aj=1)

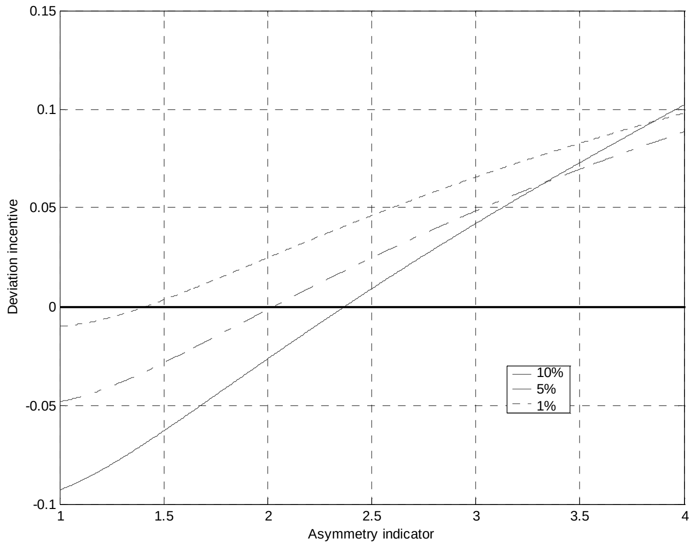


Chart 4

Impact of the Discount Factor on Coordination Sustainability
(α=0.3; t^c=0.9; Aj=1)

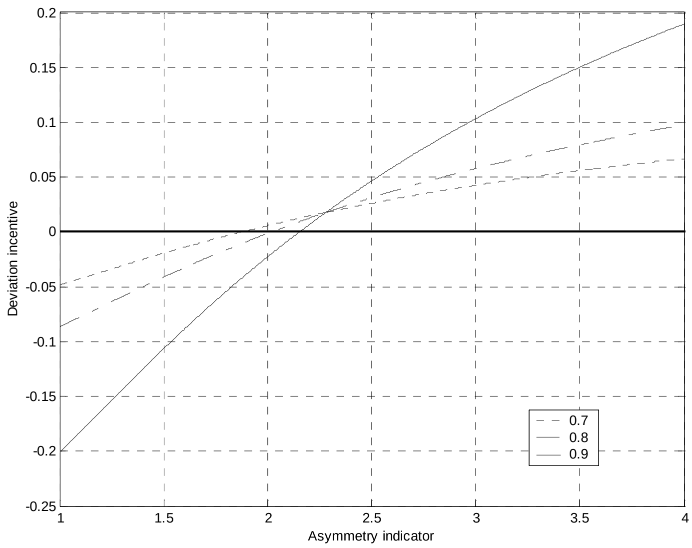
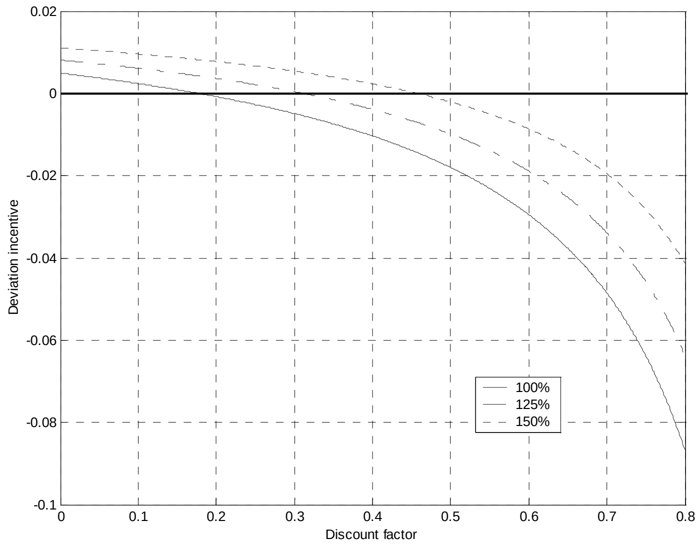


Chart 5

Impact of Asymmetry on Coordination Sustainability
(α=0.3; Aj=1; t^c=0.9)



by the fact that more patient governments put a lower weight on the short-run gains stemming from deviation.

4. Conclusion

Tax harmonisation in Europe is a recurrent debate. While static theoretical models of tax competition traditionally point to the dangers of harmful tax competition, empirical evidence supporting the extreme view of a “race-to-the-bottom” of tax rates remains weak. This suggests that implicit coordination mechanisms may in fact be at work. In this paper, we argued that repeated interactions between policy-makers may be key to reconciling theory with evidence. Repeated interactions and the threat to revert to the unpleasant Nash equilibrium forever may lead to coordination of tax strategies in the absence of a supra-national tax authority such as a federal government.

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