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# Reforming an asymmetric union: On the virtues of dual tier capital taxation <sup>☆</sup>



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#### ABSTRACT

The tax competition for mobile capital, in particular the reluctance of small countries to agree on measures of tax coordination, has ongoing political and economic fallouts within Europe. We analyse the effects of introducing a two tier structure of capital taxation, where the asymmetric member states of a union choose a common, federal tax rate in the first stage, and then non-cooperatively set local tax rates in the second stage. We show that this mechanism effectively reduces competition for mobile capital between the members of the union. Moreover, it distributes the gains across the heterogeneous states in a way that yields a strict Pareto improvement over a one tier system of purely local tax choices. We also discuss the effects of diverging capital endowments within the union and capital flows to third countries.

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#### 1. Introduction

During the last decades, foreign direct investment (FDI) has increased rapidly in all parts of the world. Among the different regions, Europe is by far the most important source and destination of FDI, accounting for roughly half of all worldwide inflows and outflows (Barba Navaretti and Venables, 2004). Moreover, the growth of FDI has also been stronger in Europe than elsewhere, as a result of deepening economic integration in the European Union (EU). With capital mobility being particularly high in Europe, tax competition can also be expected to be more aggressive. And indeed, recent empirical work confirms the existence of strategic interaction in corporate tax setting

among OECD countries in general, but in particular among the member states of the EU (Devereux et al., 2008; Cassette and Paty, 2008; Redoano, 2014).<sup>2</sup>

The implications of tax competition are very different across countries, however. In particular, a substantial theoretical and empirical literature starting with Bucovetsky (1991) and Wilson (1991) has shown that small countries will undercut their larger neighbours in the tax competition equilibrium, as the small countries display a higher elasticity of their capital tax base. Moreover, this differential tax response works to the advantage of small countries, which benefit from an inflow of capital to their jurisdiction.

Table 1 illustrates these findings for the EU-15 member states, differentiating between small and large countries. Since the mid-1990s, corporate tax rates in the small EU member countries have been substantially lower, on average, than in the large EU member states.<sup>3</sup> At the same time, small EU countries are characterised by a larger share of corporate profits, as a share of GDP, indicating an inflow of capital into these countries. In sum, small EU countries have achieved higher shares of corporate tax revenues to GDP than their larger

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<sup>&</sup>lt;sup>2</sup> In the well-known study of Devereux et al. (2008), 15 of the 21 countries in the sample are members of the EU. Hence, this contribution is to a large extent a study on strategic tax interaction in Europe.

<sup>&</sup>lt;sup>3</sup> An important factor not covered in Table 1 is tax competition from the new EU member states in Central and Eastern Europe. On average, statutory corporate tax rates in these countries were around 20% in 2010, and thus even lower than in the small EU-15 states.

 Table 1

 Corporate tax rates and tax revenues in EU and non-EU countries.

	Statutory Tax rate <sup>a</sup>		Corporate Profit share <sup>b</sup>		Corporate Tax revenue <sup>c</sup>	
	1995	2010	1995	2010	1995	2010
Large EU-15 countries (popu	ılation > 2	0 million)				
France	37	34	16.9	16.7	2.1	2.1
Germany	55	30	20.0	24.7	1.0	1.5
Italy	53	28	27.9	21.1	3.5	2.8
Spain	35	30	22.0	21.1	1.7	1.8
United Kingdom	33	28	23.6	22.1	2.8	3.1
Ø large EU-15 countries <sup>d</sup>	42.6	30.0	22.1	21.1	2.2	2.3
Small EU-15 countries (popu	ılation < 2	0 million)				
Austria	34	25	19.1	23.0	1.4	1.9
Belgium	40	34	20.8	23.8	2.3	2.7
Denmark	34	25	20.5	20.9	2.3	2.7
Finland	25	26	25.0	21.9	2.3	2.6
Greece	35	24	18.4	21.5	1.8	2.4
Ireland	38	13	34.8 <sup>e</sup>	33.1	2.7	2.5
Luxembourg	33	29	28.2	31.0	6.6	5.7
Netherlands	35	26	24.4	26.1	3.1	2.2
Portugal	40	27	20.3	21.1	2.3	2.8
Sweden	28	26	25.4	23.2	2.8	3.5
Ø small EU-15 countries <sup>d</sup>	34.2	25.5	23.7	24.6	2.8	2.9
Large non-EU countries (pop	oulation >	20 million	1)			
Australia	36	30	22.3	25.5	4.2	4.8
Canada	43	29	24.0	25.1	2.9	3.3
Japan	50	40	20.7	26.5	4.2	3.2
United States	40	39	16.6	18.4	2.9	2.7
Ø large non-EU countries <sup>d</sup>	42.2	34.5	20.9	23.9	3.6	3.5

Sources: OECD (2012), Table 11 (http://dx.doi.org/10.1787/888932720948). OECD Tax Database (http://www.oecd.org/tax/tax-policy/tax-database.htm). UN National Accounts Official Country Data, Tables 1.1 and 4.8 (http://data.un.org/Explorer.aspx?d=SNA).

- <sup>a</sup> Including state and local taxes.
- <sup>b</sup> Gross operating surplus in % of GDP.
- c In % of GDP.
- d Unweighted average.
- e 2002.

neighbours despite – or because of – their lower tax rates. A prominent example for this pattern is Ireland which sets a very low tax rate, attracts a large amount of foreign capital, and as a consequence, features a very substantial corporate tax base.<sup>4</sup>

Table 1 also includes some large non-EU countries. On average, these countries have maintained higher tax rates and secured larger shares of corporate tax revenues than the large EU countries. The numbers suggest that non-EU countries were less exposed to the forces of tax competition than EU members.

As indicated by these developments, the most important obstacle to effectively constrain corporate tax competition within a union appears to be the existence of winners (and losers) under the existing system. Low-tax countries, which benefit from an inflow of capital, are unwilling to give up this advantage. In an institutional setting where measures of tax coordination require unanimity among all member states (as is the case in the EU), such conflicts of interest have the potential to block reforms of the status quo, unless redistributive side payments can be made to the low-tax countries in exchange for their consent to a reform. Making such transfers is difficult, however, because governments often face political resistance against monetary disbursements in exchange for political concessions from the other side. Moreover, negotiations

that involve side payments are typically subject to strategic behaviour on the part of the involved parties, resulting in substantial delays for policy reform (Harstad, 2007).<sup>5</sup>

These political economy issues are likely to explain why no attempt for tax rate harmonisation has been made in the European Union for the last twenty years, since the failed attempt of the Ruding Committee (1992) to establish a harmonised minimum corporate tax rate of 30% among EU member states. Instead, the EU has focused on other areas of corporate taxation, such as the elimination of preferential tax regimes, 6 or the proposal to establish a common consolidated corporate tax base for multinational companies (European Commission, 2011). Under both of these coordination measures, member states remain completely free to set (non-discriminatory) corporate tax rates in a non-cooperative way. Several analyses have concluded that these measures will not reduce the incentives to engage in tax competition, and they may even offer further arguments for tax rate harmonisation (Keen, 2001; Bettendorf et al., 2010).

Against this policy background, we explore an economic model where 'small' members of the federation are the winners of tax competition, and have no incentive to agree on a common federal tax on capital. To remedy this situation, the paper proposes a dual structure of capital taxation where the asymmetric member states of a union agree on some uniform, federal tax rate in the first stage, and then non-cooperatively set local tax rates in the second stage. We show that such a simple mechanism succeeds in reducing tax competition among the members of the union. At the same time, it distributes the gains from partial coordination across members in a way that yields a strict Pareto improvement over a one tier system of purely local capital tax competition, without requiring an explicit payment mechanism to compensate potential 'losers'. This last property makes our analysis especially relevant for a union of countries that starts out with weak taxing powers at the federal level, as is true, for example, for the EU.

The beneficial effects of a dual capital tax arise because this structure combines the advantages of a uniform federal tax with the advantages that decentral taxation rights provide to small members in the federation. The federal tax raises aggregate revenues within the union when the intra-union competition for mobile capital is the binding constraint for tax policy. In the dual tax equilibrium, this positive revenue effect is achieved by distributing the proceeds of the federal tax in proportion to each country's capital endowment. At the same time, permitting each country to levy additional local taxes in a non-cooperative way preserves the tax advantage that small countries enjoyed prior to the reform. While this tax advantage is shown to be less pronounced than in a purely decentralised system, the continued right to tax locally ensures tax coordination to become agreeable for all asymmetric member states within the union.

In the tax optimum that results under such a dual capital tax, the sum of federal and local tax rates will be constrained by the worldwide competition for mobile capital. Given the asymmetric local taxes, this constraint will be binding only for the large, high-tax countries. As a result the tax gap narrows in equilibrium, relative to a one tier capital structure, leading to greater production efficiency in the union. At the same time, the federal tax will never be chosen so high that there is no room for additional local taxes: if the federal tax rate becomes 'too high', the local tax differential shrinks to a level at which small countries would refuse to participate in the mechanism. Hence the equilibrium tax structure will always feature positive federal and local tax rates.

<sup>&</sup>lt;sup>4</sup> Another factor relevant for diverging corporate profit and tax revenue shares is profit shifting by multinational firms into small, low-tax European countries. This factor is likely to be the main explanation for the very high tax revenue share of Luxembourg. More generally, however, a meta-analysis by de Mooij and Ederveen (2008) explicitly compares the elasticities of corporate investment versus profit shifting decisions in response to international tax differentials and finds them to be of comparable magnitude.

<sup>&</sup>lt;sup>5</sup> An example of such delays is the EU savings tax directive, which has introduced a system of information exchange to reduce the evasion of interest income tax. The directive was proposed in 1998 but it only came into effect in 2005. Even then, several small countries that had objected to the coordination measure (Austria, Belgium and Luxembourg) were allowed to gradually phase in the reform over several years, and to keep part of the taxes collected from foreigners in the transition.

See Nicodème (2009) for an account of the policy developments in this area.

<sup>&</sup>lt;sup>7</sup> In technical terms, the distribution of federal tax revenues follows the residence principle, whereas local taxes are levied under the origin principle.

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