The Code of Conduct and the EU Corporate Tax Regime: Voluntary Coordination without Harmonization

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Despite a long quest for corporate tax harmonization, the EU countries were only able to introduce a common corporate tax regime through the Code of Conduct in 1997. Aside from the significance of this development, it raises a puzzle as to the institutional choice for the corporate tax cooperation. The Code of Conduct is far from the idea of harmonization that requires the establishment of supranational authority. It is strictly on a voluntary basis and leaves intact national discretion. I argue that this institutional choice reflects the member countries' ability to absorb the costs of tax competition and domestic political consensus on the desirability of the neoliberal tax reforms. The rise of an EU corporate tax regime in the 1990s is rooted in the growing concern the dampening effect of tax competition in the EU. Yet, the effect of tax competition has not been so drastic due to the offsetting factors. Further, the policy consensus on the desirability of neoliberal tax reforms made it easy to cope with the pressure of tax competition through domestic solutions than the supranational one. These two factors explain the EU countries' reluctance to relinquishing national discretion for the sake of supranational authority.

Keywords: Tax Competition, Tax Harmonization, the Code of Conduct, Neoliberal Tax Reforms, Voluntary Coordination, Supranational Authority

1. INTRODUCTION

In stark contrast to other areas of economic integration, the EU has shown little progress in corporate tax harmonization. While the Commission has been advocating the necessity for harmonizing corporate tax systems since the 1960s, only in the 1990s were a couple of measures ratified by the Economic and Financial Council of Ministers (the Council hereafter). The Code of Conduct, adopted by the Council in 1997, represents by far the most comprehensive arrangement for corporate tax cooperation in the EU.

These developments in the 1990s signify the rise of an embryonic tax regime in the EU. Yet, it is far from what the advocates of corporate tax harmonization have envisioned. A harmonized corporate tax system is one in which a single system of tax rates and tax bases is applied to corporate incomes accrued within the EU. As such, it brings about the establishment of a supranational authority responsible for administering an EU-wide corporate tax system. The Code of Conduct, which represents the corporate tax regime in the EU, is strictly on a voluntary basis and leaves intact national discretion in corporate taxation.

The rise of corporate tax regime in the EU, thus, raises a puzzle as to why the EU countries are so reluctant to give up national discretion in this field. While the movement toward the EU corporate tax regime is a significant development, the institutional choice runs against the idea of intensifying supranational competency to replace national discretion in the field of corporate taxation. I argue that the institutional choice for the EU corporate tax regime reflects the member countries' ability to absorb the costs of tax competition and domestic political consensus on the desirability of the neoliberal tax reforms.

The quest for an EU corporate tax regime is rooted in the growing concern about the pressure of tax competition. In the aftermath of capital movement liberalization, the EU countries were under pressure to lower corporate tax rates, which may squeeze fiscal ability of the member countries. Corporate tax harmonization has been proposed as the solution to this problem. Yet, tax competition in the EU did not deprive member countries of the ability to maintain tax revenue from corporate income. While the EU countries have been under pressure to lower corporate tax rates competitively, other offsetting factors such as agglomeration effects and tax exporting have provided the opportunity to absorb those costs from tax competition. Hence, the low demand for a supranational authority in corporate taxation.

On the domestic political side, the growing consensus among the major political parties on the desirability of neoliberal tax reforms facilitated the choice of voluntary coordination as opposed to harmonization. Increasing capital mobility and the growing pressure of tax competition have induced European countries to enact neoliberal tax reforms. Despite the significant distributive implication of these reforms, major political parties in Europe have come to a consensus on the need to move in this direction. This policy consensus in turn made it easy for countries to cope with the pressure of tax competition by domestic means rather than the supranational solution.

For these two reasons, I contend, EU member states have chosen to rely on voluntary coordination instead of granting authority to a supranational institution through tax harmonization. The remainder proceeds as follows. In section two, I first summarize the history of corporate tax cooperation in the EU and then elaborate the puzzle. Section three deals with the impact of tax competition in the EU and those factors that help member countries cope with it. Section four delves into the domestic political underpinnings of the institutional choice regarding tax cooperation in the EU. Section five concludes.

2. THE CORPORATE TAX REGIME IN THE EU

2.1 History of Corporate Tax Cooperation in the EU

Discussion on corporate tax harmonization in EC/EU goes back to the early 1960s. In fact, tax harmonization has been thought of as an inevitable element for completing a single market from the beginning of the EC. Article 90 of the Treaty of Rome prohibits any direct or indirect internal taxation that gives an advantage to domestic products. Along this line, Articles 95-99 call for the harmonization of indirect taxes that may distort trade among member states (Hrehorovska 2006). While the Treaty explicitly stipulates the need for harmonizing indirect taxes, it keeps silent on the issue of direct taxation such as corporate and capital income taxes. The only exception is Article 220 which points out that double taxation is one of the issues on which member states may initiate negotiation on the basis of unanimity with a view to securing benefits for their nationals (Radaelli 1997b: 86).

Despite scant provision in the Treaty for the harmonization of corporate tax systems, the Commission has been actively advocating it since the 1960s. The reports of the Neumark Committee and the Segrè Committee in the early to mid 1960s are the results of the Commission's early effort to bring attention to the issue of corporate tax harmonization. Both reports suggested that the harmonization of corporate tax systems was a precondition for further development toward a single market. Based upon these reports, the Commission

proposed in 1967 an Action Programme calling for the general introduction of the VAT and for a single corporate tax system in 1967. Two years later, in 1969, the Commission presented two draft directives, one for the abolition of double taxation of dividends between parent and subsidiary companies and the other for the treatment of mergers and acquisitions, in an attempt to implement at least some parts of the 1967 programme (Radaelli 1997b).

While all of these proposals came to naught, the Commission's effort to bring forth tax harmonization did not stop in the 1970s. The policy environment during the early 1970s was favorable to this effort. The fresh start came out of the Hague Summit in 1969. Motivated partly by the early achievement of the customs union and partly by the currency crises in 1968 and 1969, EC leaders came to an agreement on the project of economic and monetary union at this Summit (Ungerer 1997: Ch. 9). As the subsequent Werner Report (1970) suggested that tax harmonization should accompany monetary union, EC members declared Council Resolutions in 1971 and 1972, announcing that fiscal and capital market proposals elaborated by the Commission would have priority in further Council decisions (Radaelli 1997b: 87). Under this favorable environment, the Commission elaborated a new draft directive on corporate tax harmonization in 1975. This draft directive included the provision of a common tax rate structure, with a range between 45% and 55%. This draft directive remained the official strategic view of the Commission until the late 1980s, when it was eventually withdrawn in 1990 (Ibid.). Despite the initially favorable environment, however, no progress was made throughout the 1970s and the 1980s. The only progress on tax-related issue during this period was the directive on mutual assistance among tax administrations in 1977, which was far from the harmonization of tax systems.

A renewed interest in tax harmonization came in the late 1980s along with the development of the single market program. The movement toward a single market, especially the liberalization of capital movement, caused concerns about the dissolution of fiscal bases. While the free movement of capital was generally welcomed by member states as an important step toward a single European capital market, it also aroused fears of tax competition and fiscal degradation (Giovannini and Hines 1991). France in particular, from the start of negotiations, made clear that it considered tax harmonization to be a precondition for capital liberalization (Dehejla and Genschel 1999; Reinesch 1999). As a result, the 1988 directive on capital movement liberalization stipulated that the Commission would make proposals on how to prevent tax competition and that the Council would decide on these proposals by mid-1989 (Helleiner 1994: 158). The direct result of this stipulation was the Commission's proposals for a common 15% withholding tax and the exchange of information on savings income. These measures, however, were not ratified until 2003 due to resistance from member states such as the UK and Luxembourg.

On the corporate taxation side, significant but limited progress was made in the 1990s. The Council for the first time adopted three measures dealing with the issue of double taxation on the activities of multinational corporations in 1990: a directive on a common system of taxation applicable to mergers, divisions, transfers of assets, and exchanges of shares between companies of different member states (the merger directive, 90/434/EEC); a directive against the double taxation of profits distributed between parent companies and subsidiaries in different member states (the parent-subsidiary directive 90/435/EEC); and a convention aiming at the elimination of double taxation in connection with the adjustment of the profits of associated enterprises (the arbitration convention on transfer pricing 90/436/

EEC). By the ratification of these measures, the Commission's 1969 proposals finally came true twenty years later. This progress, however, was accompanied by the withdrawal of the 1975 proposal on corporate tax harmonization. Back in 1989, the newly appointed Commissioner, Madame Scrivener, declared that the Commission's intervention in corporate taxation would be minimized to prevent market distortion rather than having it advocate a common tax system (Radaelli 1997b).

While the Commission's new focus was now on double taxation, the quest for further harmonization of tax systems did not disappear. In 1990, the Commission appointed a committee of independent experts headed by Onno Ruding to analyze capital taxation requirements in the EU. The resulting Ruding Report, delivered in 1992, concluded that tax differences between member states could affect the location of investment and cause distortion in competition. On the basis of this conclusion, the Report proposed a common corporate tax system as a long-term target while advocating as a short-run objective the introduction of a minimum standard in corporate tax bases and a band for tax rates between 30% and 40% (Commission 1992; Devereux 1992). Both the Commission and the Council, however, only adopted a minimum of the report related to the further development of the 1990 directives. While the Council members recognized the importance of the Ruding Report, they were reluctant to give up their autonomy to maintain independent tax rates and bases (Spence 1994).

Discourse on corporate tax harmonization in the late 1990s was centered on the notion of "harmful tax competition." Instead of advocating the harmonization of tax systems, the Commission started to focus on the specific tax regimes that might exacerbate the dampening effect of tax competition. In early 1997, the Commissioner Mario Monti proposed a "Code of Conduct" aiming at the elimination of preferential tax regimes for inward investments. The notable case in this respect was Ireland which provided special tax breaks and a preferential tax rate of 10% for incoming investors. These preferential tax regimes, according to the Commission, would distort the flow of capital and put downward pressure on corporate tax rates elsewhere. Mario Monti emphasized that the lack of tax coordination would create more significant distortions under the EMU and hamper member states' efforts to fight unemployment by shifting tax burdens from mobile capital to immobile labor (*The*

¹ The Parent-Subsidiary Directive stipulates that dividend payments from a subsidiary company that is at least twenty five percent owned by a parent company are free from any dividend withholding tax. The Merger Directive ensures that any capital gains resulting from a merger should be deferred until they are fully realized. Finally, the Arbitration Convention is about dispute settlement among member states stemming from different regulations on transfer pricing, which occurs when multinational corporations allocate profits among affiliated companies as a way to reduce the total tax burden.

² This change can be partially explained by the legal and procedural limitations to the Commission's initiatives. As mentioned before, the Treaty does not provide any legal provision for corporate tax harmonization except the seemingly harmful effect of double taxation. Combined with the unanimity requirement, this limitation led the Commission to focus on the minimal proposal that member states could agree upon.

³ Like the 1975 proposal, the choice of minimum corporate tax rate was based on the prevailing tax rates among the member states at that time. Back then, Ireland was the only exception that had corporate tax rate below this level (10%).

⁴ The focus on the harmful tax competition is in line with the OECD initiative since the mid-1990s. For the discussion on the OECD initiative, see Eden and Kurdle (2005).

Economist 1997a). By the time Mario Monti came up with this idea, the Council members shared a view that more coordination of tax policies was required in the run up to the EMU although they were very reluctant to harmonize tax systems. The Council Resolution on the "Code of Conduct" in December 1997 was the result of this consensus (Reinesch 1999).

The "Code of Conduct" aims to encourage member states to refrain from engaging in 'harmful' forms of tax competition and is designed to curb "those business tax measures which affect, or may affect, in a significant way the location of business activity within the Community" (Commission 1998). As such, the Code does not cover corporate tax rates or general aspects of corporate tax bases, nor is it legally binding. Under the Code, member countries commit not to adopt new tax measures that would be harmful to competition by establishing a distinctively lower corporate taxation threshold at the national level (the 'standstill' provision) and to dismantle such measures of this kind as already exist (the 'rollback' provision).

Since the Code is not legally binding, the effectiveness of these provisions depends on member states' willingness to change domestic laws to match them. Further, the almost exclusive focus on preferential tax regimes with distinctively low tax rates paves the way for competition over general corporate tax rates. Ireland, for example, declared the introduction of a flat 12.5% corporate tax rate in order to prevent the 10% special regime for the foreign investors in Dublin from being classified as harmful (Bond et al. 2000). Despite these limitations, the Code of Conduct stands as by far the most comprehensive framework for corporate taxation in the EU (Radaelli 1999).

2.2 Explaining Limited Supranational Authority

The effort to introduce a harmonized tax system in the EU has been nothing but frustration. The emerging consensus on the dampening effect of tax competition and the Commission's indefatigable effort on the issue did not suffice to bring about tax harmonization. This observation has led some scholars to depict tax harmonization in the EU as a game of Deadlock, that is, that there is an absence of mutual interest (Dehejia and Genschel 1999). To the degree that lower tax rates entice foreign capital, those countries with lower tax rates, usually the smaller countries, do not have any incentive to equalize their tax rates with other countries. The unanimity requirement for the taxation matter exacerbates this situation so that any objection from the smaller countries would lead to the total frustration of tax harmonization initiative.

While this proposition echoes the history of EU tax harmonization, it overlooks the fact that what has happened is not the total lack of cooperation, but the member states' adherence to voluntary coordination as opposed to tax harmonization. The Code of Conduct is symbolic in this regard. The embryonic corporate tax regime in the EU is the one that member countries agree on the comprehensive framework for cooperation, but only insofar as it remains on a voluntary basis.

The issue is not the failure of cooperation, but the choice of the institution to bolster cooperation. At the heart of this choice lies the member states' reluctance to delegate substantial authority to the EU. To the degree that tax harmonization involves the equalization of tax systems and the central administration of a common system, it inevitably

⁵ An early draft of the Code of Conduct considered the possibility that the Code could develop into a general business tax system (Commission 1997), which was omitted in the final Council Resolution.

entails the delegation of administrative authority to the EU.

Counterfactually, EU member countries could have chosen to delegate significant administrative authority to the EU. It is suggestive in this regard to take a look at the Commission's 2001 report on company taxation in a single market (Commission 2001). This report examines tax obstacles to cross-border economic activity and proposes four comprehensive solutions to them. All of the comprehensive solutions are based on a single group of companies which calculate their consolidated taxable profits for the whole of their EU operations. One solution, the Home State Taxation, is to compute the consolidated EU-wide profit of each group of companies according to the tax code of the 'home state', i.e. the country in which the parent company is located. Another solution is to develop a common consolidated tax base for the computation of taxable profit. This common tax base could be either optional (a Common Consolidated Tax Base) or compulsory (a Compulsory Harmonized Tax Base). The last solution is to introduce a single EU-wide corporate tax which could be administered by a new EU tax authority (for the comments on this report, see Devereux 2004).

Under all of these solutions, consolidated taxable profits are to be allocated among member states according to an apportionment formula. This may entail partial delegation of administrative authority in maintaining the formula while member countries preserve their independence in setting corporate tax rates. In the last case, national administration of corporate taxes would become unnecessary as one centralized administration would take responsibility for collecting and distributing the revenue. It is not too arbitrary to say that these solutions roughly correspond to the range of possible institutional forms for tax cooperation.

Once again, the last solution was not welcomed despite a consensus on the need for further cooperation. Instead, at the Council meeting in September 2004, EU member states decided to create a working group under the chairmanship of the Commission for the further study of an optional common consolidated tax base (Nicodème 2006). In sum, the issue at stake is that EU member states have chosen to cooperate on a voluntary basis instead of establishing a supranational authority in taxation matter.

Several explanations have been proposed to explain the failure of tax harmonization in the EU. The first one is the "Deadlock argument," which emphasizes the asymmetric preferences between large and small countries (Dehejia and Genschel 1999). The economic rationale behind this reasoning is that the large countries tend to have higher tax rates since they are less concerned about tax-induced capital outflows due to their ability to affect the after-tax rate of return to capital (Wilson 1991; Bucovetsky 1991). The small countries, on the other hand, prefer lower tax rates in order to boost capital inflow. Tax harmonization would leave the small countries with less tax revenue than under tax competition so that they would have no interest in tax harmonization.

However, it is contentious that asymmetric preferences between the large and the small countries have been the major obstacle to tax harmonization in the EU. While it is true that the smaller countries such as Ireland have been opposed to tax harmonization, it does not suffice to explain the failure of it for the larger countries could have induced the smaller ones to their preferred outcome had they firmly committed to it. The history of the EU is full of those cases in which those countries reluctant to further integration have often been forced to accept outcomes that they did not prefer, either because of threats or side payments. Witness the negotiations leading up to the Single European Act, in which Germany and France exploited the threat to exclude the United Kingdom from the single market project in order to

coax the British government into agreement (Garrett 1992; Moravcsik 1991).

Given that large countries have more say in EU matters, it is unthinkable that these countries would not use similar strategies to induce tax harmonization should they have resolved to overcome opposition from small states. In fact, while large countries such as France and Germany have pushed for greater harmonization of tax rates in the EU, they did so only in conjunction with the 1997 Code of Conduct.

The larger countries' reluctance to the full-fledged tax harmonization became apparent during the process of EMU negotiations. In the late 1980s, both France and Germany agreed upon tax harmonization as an important precondition for the capital market liberalization, but Germany soon reneged on its promise while France stepped back in order to facilitate EMU negotiations (Parsons 2003: 212). Ever since then, their approach to the EU tax regime is couched not in terms of tax harmonization, but in terms of minimizing the effect of harmful tax competition on the basis of preserving national discretion. That is, the large countries themselves did not want to go further than voluntary coordination (Reinesch 1999; Plichon 1999).

Another explanation concerns the lack of 'mimetism' in taxation as opposed to the EMU process (Radaelli 2000). While the German model provided an "anchor" for policy convergence in the EMU process (see McNamara 1998), the argument goes, nothing similar has happened in taxation, that is, there has been no "anchor" as far as domestic tax systems are concerned. In fact, it is unthinkable to consider any national tax system as optimal for tax harmonization (Tanzi and Bovenberg 1990). Under this circumstance, according to Radaelli (2000), the ground for the mimetism to work is too restricted to develop a European tax system. Thus, although there has been a cognitive convergence among policymakers around certain policy paradigms, it was not sufficient to reach a point comparable to the EMU.

While this explanation aptly addresses the issue of uneven development in EU regulatory policies, the relationship between mimetism and the development of supranational authority remains obscure. The EMU is a case in point. It is obvious that policy convergence on the German model was a precondition for the transition toward EMU. However, this convergence did not make it necessary to form a monetary union, that is, monetary union was only one of the options that European countries could choose (Sandholtz 1993). Thus, mimetism, or the lack of it, is not sufficient to explain the (under)development of supranational authority.

Second, while there has been no national anchor for tax policy, the Commission has nevertheless proposed a variety of measures to be used as a 'focal point' for policy convergence, including full supranationalization of tax systems. That is, the lack of a national anchor could have been supplemented by the Commission's proposals. Thus, what matters is not the lack of an anchor per se, but the choice that member countries have made out of these options.

As discussed before, the evolution of the EU tax regime is characterized by member countries' willingness to develop a cooperative regime in tax policy, but only on the basis of voluntary coordination. The task then is to identify the factors affecting this choice. In what follows, I argue that the choice of voluntary coordination reflects member countries' ability to cope with the pressure from tax competition in the EU and the policy consensus among domestic political actors as to the direction of corporate tax reform.

3. COPING WITH TAX COMPETITION IN THE EU

3.1 Tax Competition and Tax Harmonization

The historical development of the EU corporate tax regime has two notable characteristics. First, while the issue has been on the table since the early 1960s, no progress was made until the 1990s. Second, the corporate tax regime introduced in 1997 was far from the original idea of tax harmonization; its major emphasis was on member countries' ability to maintain independent and separate tax systems. These characteristics signify, on the one hand, that the EU corporate tax regime has developed in line with the increasing concern about the dampening effect of tax competition.

The choice of voluntary coordination as opposed to tax harmonization, on the other hand, reflects the member countries' ability to absorb those costs associated with maintaining independent tax systems. As theories of international regulatory failure suggest, the delegation of regulatory power to supranational institutions is less likely to the degree that member countries can internalize those costs associated with cooperation (Gatsios and Seabright 1989). From this vantage point, it should follow that while keeping independent tax systems provides an important ground for tax competition among the EU countries, the negative effect of tax competition is not so drastic that the voluntary coordination of independent tax policies becomes untenable.

Theories of tax competition have argued that the attempts of governments to attract mobile capital by offering a favorable tax environment may trigger a process of international tax competition in which taxation and public spending are driven below the optimal level. Zodrow and Mieszkowski (1986) and Wilson (1986) develop what is known today as the basic model of tax competition. This model is based on rather a strict assumption that the world is composed of a large number of homogenous jurisdictions with fixed national capital stock (Krogstrup 2002; Zodrow 2003). Capital mobility under this circumstance renders each jurisdiction perceiving a much higher elasticity of capital supply to the domestic economy since it is unable to affect the after-tax rate of return to capital. The resulting tax competition thus leads to the race to the bottom in tax rates and leaves the competing jurisdictions with too little revenue to be able to provide public goods at a socially optimal level. This reasoning has become the standard for small open economies and led to the expectation that the capital tax will vanish altogether in the long run (Gordon 1986; Mintz 1994; Razin and Sadka, 1991).

While the basic tax competition model stresses the inefficiency associated with the underprovision of public goods, other scholars emphasize the redistributive consequence of tax competition. Among others, Sinn (1990, 1997) argues that tax competition does not cause an underprovision of public goods, but a shift of the tax burden from mobile to immobile factors of production. Since public goods provision is an important factor inducing capital inflows, governments are reluctant to cut off spending on it. In fact, governments may increase expenditure on public goods benefiting mobile capital at the expense of immobile labor and consumers (Keen and Marchand 1997). Given that tax competition renders it unfeasible to impose taxes on mobile capital, governments levy more taxes on immobile factors, especially unskilled labor, in order to fund public goods provision. The trouble, however, is that the revenue contribution of unskilled labor is too marginal to effectively satisfy the expenditure requirement. The final escape for governments under this constraint is

to cut back on welfare provisions such as transfer payments. The result would be the total dismantling of the welfare state (Sinn 1990, 1997).

Despite the nuanced differences in the points of emphasis, these theories nevertheless share the same underlying expectations: increasing capital mobility puts downward pressure on both tax rates and the tax burden of capital and the resulting revenue constraint jeopardizes the domestic economy either through the suboptimal level of public goods provision or through increasing inequity. The competitive downward pressure on tax rates comes from the fact that a lower statutory tax rate makes government revenue less vulnerable to the profit-shifting activities of multinational corporations such as "transfer-pricing" and "thin capitalization."

Since these activities are designed to exploit tax rate differentials, countries would be put under pressure to lower tax rates below other countries' in order not to lose their revenue source. The problem is that the competitive rate-cut might lead to the opposite results as corporate tax rates come closer to zero. The argument for tax harmonization follows these costs of tax competition. Given that tax competition will not disappear to the degree that countries maintain independent tax policies, the only bulwark to the race to the bottom is to introduce strict supranational rules that harmonize tax systems.

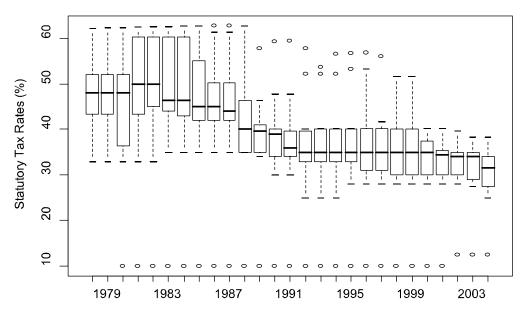
However, the actual realization of this doomsday scenario depends on the countries' inability to neutralize the dampening effect of tax competition. If countries are able to broaden tax bases under the downward pressure on tax rates, the revenue effect of declining tax rates can be alleviated. To the degree that this allows countries to maintain varying tax systems, tax harmonization may not be a necessary solution. Put differently, the need for the supranationalization of tax policies is a function of the countries' ability to alleviate the drastic costs of tax competition.

3.2 Tax Competition in the EU

Empirical evidence provides only partial support to the dampening effects of tax competition in the EU. As expected by the theories of tax competition, there is a tendency toward lower corporate tax rates, especially after capital movement liberalization. This downward tendency in tax rates, however, has not brought about a decreasing tax burden on capital, nor has it caused revenue constraints. The evidence on the downward pressure on tax rates can be found in Figure 1, which depicts the statutory corporate tax rates of the thirteen EU member countries over the period from 1979 to 2005.

As is clear from this figure, statutory corporate tax rates sharply declined in the 1990s. In comparison to the 1980s, the average rate dropped by about 10% (from 46% in the 1980s to 36% in the 1990s). This trend goes further in the new millennium in which the average rate has come down to about 32%. Together with the average rates, the tax rate differential has declined over this period. In the 1980s, countries in the sample had on average 13% difference in their tax rates. This differential has brought down to 11% in the 1990s and 7% in the new millennium. These findings confirm that the EU countries have been put under the pressure to lower statutory corporate tax rates after the liberalization of capital movement.

⁶ Transfer-pricing is a practice of allocating taxable profits to low-tax countries by manipulating intrafirm transactions. On the other hand, thin capitalization is a case in which multinational corporations allocate company debt and the associated deductions for interest payments to subsidiaries in high-tax countries (Sørensen 2000: 434).



(Source: Devereux et al. 2002)

Figure 1. Trend in Statutory Corporate Tax Rates in the EU

However, a sharp drop in statutory rates may not have an actual effect on tax revenue and the total tax burden on capital. Since total tax revenue is defined by both the tax rate and the tax base, any decline in the tax rate can be offset by a broadened tax base. In that case, the overall revenue effect of the rate-cut would be neutral and the tax burden on capital would remain the same. Also, given that the personal income tax is the most important source of revenue for most of the EU countries, it is necessary to take into account the trend in the personal capital income tax.

The more systematic way to gauge the tax burden on capital is to examine the "average effective tax rates" on capital income. The average effective tax rates are in essence the ratio of tax revenue to total income (or expenditure for consumption) attributed to specific macroeconomic tax bases-capital, labor and consumption (Mendoza et al. 1994). Table 1 displays the average effective tax rates on capital income along with those of both labor and consumption. For the sake of comparison, the records of seven other OECD countries are reported together.

As shown in Table 1, there is no evidence that the sharp drop in statutory tax rates in the 1990s has translated into a similar drop in the total tax burden on capital income. If any, only a negligible drop is observable (less than 1%). Other OECD countries also have shown a similar pattern although the fluctuation margin was much higher than in the EU countries (1.7% drop in the 1990s).

Taken together, the empirical record indicates that EU countries have experienced several consequences of tax competition, but its impact is not as drastic as would otherwise be expected from theories of tax competition. This reflects, above all, the fact that while governments have lowered the statutory tax rates under the pressure of tax competition, they have at the same time been able to broaden tax bases by reducing depreciation allowances

Table 1. Average Effective Tax Rates on Capital and Labor

Country	Capital			Labor and Consumption		
	1980-85	1986-90	1991-97	1980-85	1986-90	1991-97
EU 15						
Austria	21.4	21.9	23.4	56.6	56.9	58.3
Belgium	37.8	35.0	35.7	54.3	56.6	57.0
Denmark	n.a.	54.0	48.3	n.a.	61.8	62.1
Finland	30.3	37.6	39.9	52.9	58.3	62.1
France	28.7	26.3	26.8	54.3	56.8	57.2
Germany	29.6	26.5	25.1	47.9	49.3	50.7
Greece	n.a.	15.0	16.1	n.a.	46.9	49.9
Ireland	26.6	23.1	22.6	41.8	45.2	44.8
Italy	24.3	27.8	33.1	45.2	50.4	55.4
Luxembourg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	27.7	27.9	29.2	56.9	58.6	59.6
Portugal	n.a.	11.2	16.7	n.a.	40.0	44.2
Spain	13.5	19.9	21.5	37.3	43.1	46.0
Sweden	46.6	62.4	52.7	61.3	65.4	63.2
UK	67.8	61.2	48.2	39.5	37.7	36.5
Average	32.2	32.1	31.4	49.8	51.9	53.4
Change		-0.1	-0.7		+1.1	+1.5
Other OECD						
Australia	41.9	43.7	41.4	30.4	32.0	29.6
Canada	38.3	43.3	51.3	33.9	37.7	40.3
Japan	38.1	46.2	41.8	28.2	31.8	32.6
New Zealand	n.a.	42.2	37.2	n.a.	41.3	40.6
Norway	39.5	38.5	29.5	58.1	58.4	58.0
Switzerland	27.8	36.4	35.0	37.0	38.2	40.6
USA	39.5	39.1	40.9	29.4	29.6	30.6
Average	37.5	41.3	39.6	36.2	38.4	38.9
Change		+3.8	-1.7		+2.2	+0.5

Source: Carey and Tchilinguirian 2000.

and by eliminating special investment incentives (Devereux et al. 2002; Krogstrup 2003; Swank and Steinmo 2002). As a result, the average effective tax rate on capital income could remain stable despite downward pressure on statutory rates.

The discrepancy between statutory and effective tax rates can be explained by two factors. First of all, the return to direct investment often includes an element of location-specific profit. The 'new economic geography' literature has argued that investment has tended to be agglomerated in the advanced countries due to their ability to offer favorable external economies such as an established base of infrastructure and accumulated experience (Baldwin et al. 2003; Krugman 1991). In the presence of this "agglomeration effect," perfectly mobile capital becomes a "quasi-fixed factor" so that governments can increase the tax burden on capital to the degree that it does not nullify the after-tax return on investment (Baldwin and Krugman 2004).

The second factor relates to the possibility of 'tax exporting.' As economic integration

deepens, it is highly likely that the foreign ownership of domestic companies increases. Under this circumstance, the corporate tax becomes an effective tool for shifting the domestic tax burden onto foreigners since the corporation tax will fall to a large extent on the pure profits accruing to foreign investors. This opportunity for tax exportation, in turn, provides an incentive for governments to raise the effective corporate tax rate as a reaction to deepening economic integration (Mintz 1994; Huizinga and Nielsen 1997; Sørensen 2000).

The overall effect of tax competition is thus complicated by these offsetting factors. On the one hand, it is necessary to keep statutory tax rates lower than other countries in order not to lose the domestic tax base. On the other hand, the agglomeration effect and the possibility of tax exportation provide an opportunity to prevent effective tax rates from declining. The presence of these offsetting factors has helped the EU countries maintain independent tax systems and, thus, has diminished the demand for tax harmonization. To the degree that governments have an ability to internalize the costs of tax competition, a single harmonized tax system may not be greatly needed.

4. POLICY CONSENSUS ON NEOLIBERAL TAX REFORMS

The choice of voluntary coordination in corporate taxation is due in part to the fact that the demand for harmonization is mitigated by several factors such as the agglomeration effect and tax exportation. These factors provided the EU countries with room to keep independent tax systems under the pressure of the downward convergence on corporate tax rates. This factor alone, however, is not sufficient to explain the EU countries' choice.

Although limited, the pressure of tax competition mandated that most of the EU countries enact neoliberal tax reforms throughout the 1980s and 1990s, which are characterized by the policy of tax-cut-cum-base-broadening. As many have pointed out, these reforms helped neutralize the otherwise drastic revenue effect of tax competition (Ganghof 2006; Genschel 2002; Swank 1998; Swank and Steinmo 2002). Aside from revenue neutrality, however, these reforms represented a fundamental shift in tax policy from the principles of equality and redistribution to those of neutrality and efficiency (Radaelli 1997a; Steinmo 1993; Williams 1991). Despite its fundamental nature, this policy paradigm has spread out to most of the countries with a minimum of political difficulty and with remarkable speed (Peters 1991; Steinmo 2003; Swank 2006). The ability of the EU countries to enact these reforms constitutes the other part of the story behind the choice of voluntary coordination in corporate taxation.

It is important, in this regard, to recall that the quest for a harmonized tax system comes from increasing concern that the downward pressure on statutory tax rates will undermine the revenue from internationally-mobile capital. As Giovannini and Hines (1991: 172) put it, the EU countries under full capital liberalization may end up "competing for revenue not only with each other, but also with their own taxpayers" so that "Europe may transform itself into a single (large) tax haven."

The solution to the problem of fiscal degradation is in essence two-fold: international and domestic. Tax harmonization has been proposed as an international solution in which a single tax system managed by supranational institutions puts an end to the very process of tax competition. Alternatively, countries may actively engage in tax competition, but neutralize the revenue effect by reforming domestic tax systems. Given the inherently redistributive nature of tax policy, however, the crucial factor in this choice is the degree of

domestic consensus on the redirection of tax policies. Throughout the 1980s and 1990s, it became clear that political parties in Europe had come to an agreement on the necessity and the desirability of neoliberal tax reforms. This growing domestic consensus, in turn, alleviated the need for tax harmonization at the EU level.

The wave of neoliberal tax reforms started in the early 1980s when conservative governments swept to power in the United Kingdom, the United States and Germany with the promise to overhaul tax systems. Political leaders such as Ronald Reagan, Margaret Thatcher, and Helmut Kohl campaigned vigorously on the need to reduce the public sector burden on the economy and stressed the economic benefits of tax cuts (Peters 1991). Tax reforms in the United Kingdom and the United States were most dramatic in the 1980s. In comparison to the 1970s, top personal income tax rates were reduced by 53% in the United States and by 52% in the United Kingdom. Along with personal income taxes, corporate tax rates were sharply lowered from 50% to 35% in the United Kingdom and from 50% to 39% in the United States. Other European countries followed suit, though in a less dramatic manner. By 1990, the German corporate tax rate was reduced from 56% to 50% while France reduced it from 50% to 39% (Ibid.).

The sharp decline in tax rates was coupled with the elimination or the reduction of investment incentives and tax exemptions. In fact, the combination of statutory rate cuts and base-broadening elimination of tax expenditures became part and parcel of neoliberal economic orthodoxy thereafter (Swank 2006). These policies were motivated by the belief that the postwar tax system distorted the efficient allocation of resources, which was characterized by a combination of high rates for personal and corporate income taxes and various investment incentives. The postwar tax system was based on the Keynesian ideal that the goals of equity and growth could be simultaneously pursued by interventionist tax policy. Economic recession and mounting public debt in the 1970s, however, cast serious doubt on this idea and shed light on the efficiency loss resulting from government intervention (Steinmo 2003). Conservative governments in the early 1980s advocated that the investment tax incentives enacted in the 1960s and 1970s encouraged business executives to invest for tax advantages rather than to obtain the highest economic return. It is better in this view to have a level playing field for all business enterprises and let the market allocate resources. The United Kingdom and the United States led the way in the mid-1980s by reducing investment allowances and exemptions and using the revenue to reduce corporate tax rates (Pechman 1988).

Despite its conservative origin, this idea spread beyond the ideological division of left and right. The Socialist government in France, for example, also came to believe by 1984 that neoliberal tax reform was necessary in order to enhance the efficiency of the economy (Milleron and Maillard 1988). By the late 1980s, the practice of curtailing top rates for personal and corporate income taxes and reducing the number of tax brackets became the general trend in tax reforms (Sandford 1993).

This trend went further in the 1990s. With the capital movement liberalization, it became more untenable to hold on to the traditional tax system. Tax rates had to be further curtailed to retain taxable income that might be shifted to low tax countries. And, rate cuts were again accompanied by the reduction of investment incentives and exemptions. Along with corporate tax rates, personal capital income tax rates were cut practically everywhere. One important trend was to put capital income outside the ambit of progressive income taxation. The famous example was dual income taxes in Sweden and Finland, which subjected all types of personal capital income to a uniform tax rate equal to the corporate tax rate while

labor income continued to be taxed at progressive rates (Sørenson 1998; Cnossen 1999). Together with the retreat from interventionist tax policy, these reforms signified the shift toward the neoliberal policy paradigm.

Neoliberal tax reforms have proceeded with much less political difficulty than would otherwise be expected. In fact, major political parties in Europe, irrespective of their ideological orientations, came to an agreement on the desirability of neoliberal tax reform by the mid-1990s. Aside from the Right governments that initiated the wave of tax reforms in the mid-1980s, the Left also shared the idea that the postwar tax system did not work. Former Social Democratic Chancellor of Germany, Helmut Schmidt, for example, acknowledged the need for tax reforms by saying that "the welfare state ... has been driven to extremes by Sweden, by France, by Germany, by all European countries ... [T]here will be a need to reduce the burden of social services, reduce taxation and find new ways to produce goods in order to be competitive in the global economy" (Yergin and Stainslaw 1998: 329. Quoted in Steinmo 2003: 221).

This consensus was facilitated by the belief that the postwar tax system did not work under capital mobility. High marginal tax rates under the postwar tax system were the means not only for income redistribution, but also for governments to manipulate the tax code in particular ways to favor some types of economic activity (Martin 1991; Steinmo 1993; Swank 1992). Along with capital mobility, it became clear that internationally mobile capital would prefer a lower tax rate with few incentives to a traditional system. In response to this changing environment, most politicians came to increasingly believe that traditional high marginal tax rates could no longer be sustained (Steinmo 2003).

This growing disenchantment with the postwar tax system not only facilitated the neoliberal redirection of tax policy, but also alleviated the quest for tax harmonization at the EU level. To the degree that the domestic political environment allows governments to enact tax reforms mandated by the changing international environment, the need for supranational solutions to limit tax competition would diminish. It is in this context that the EU member countries came to an agreement on the Code of Conduct in 1997. The Code was on a voluntary basis and did not cover the issue of common tax rates and bases: in essence, it left the core of tax competition intact. This reflects the member countries' intention to mitigate the fiscal effects of tax competition, but only to the degree that those effects exceed the capacity of ongoing tax reforms.

5. CONCLUSION

A corporate tax regime in the EU developed along with the increasing pressure of tax competition. While the issue of corporate tax harmonization has been on the table since the 1960s, member countries came to an agreement on the cooperative arrangement only in the 1990s. The downward pressure on corporate tax rates in the aftermath of capital movement liberalization has led to this consensus. However, the effect of tax competition has not been as drastic as the doomsday scenario of the tax competition literature expects. This was mainly because such factors as agglomeration effect and tax exporting made it possible for countries to neutralize the otherwise devastating effect of tax competition. While the existence of these offsetting factors does not eliminate the pressure of tax competition, it nevertheless helped member countries absorb those costs of tax competition. To the degree that member countries were able to absorb these costs, the demand for a supranational

authority in corporate taxation diminished. The choice of voluntary coordination of national tax policies through the Code of Conduct reflects this ability to internalize those costs associated with nationally distinct tax systems.

The choice of voluntary coordination was also bolstered by the domestic political environment. Throughout the 1980s and 1990s, a policy consensus on the desirability of neoliberal tax reforms grew among the EU countries. Not only the Right parties that opened the door to neoliberal tax reforms in the early 1980s, but also the Left came to this consensus. The growing discontent with the adaptability of the traditional tax system under capital mobility facilitated the emergence of this policy consensus. As a result, the domestic political environment has become more favorable for necessary tax reforms that the pressure of tax competition mandates. Under this circumstance, the EU countries were able to cope with the pressure of tax competition through domestic solutions rather than the supranational one. In combination with the ability to absorb the costs of tax competition, the policy consensus on the desirability of neoliberal tax reforms has led the EU countries to being reluctant to the idea of granting authority to supranational institutions in the field of corporate taxation.

REFERENCES

- Baldwin, R. and P. Krugman, 2004, "Agglomeration, Integration and Tax Harmonisation," *European Economic Review* 48(1): 1-23.
- Baldwin, R., R. Forslid, P. Martin, G. Ottaviano, and F. Robert-Nicoud, 2003, *Economic Geography and Public Policy*, Princeton, N.J.: Princeton University Press.
- Bond, S., L. Chennells, M. Devereux, M. Gammie and E. Troup, 2000, *Corporate Tax Harmonization in Europe: A Guide to Debate*, London: The Institute for Fiscal Studies.
- Bucovetsky, S., 1991, "Asymmetric Tax Competition," *Journal of Urban Economics* 30(2): 167-181.
- Carey, D. and H. Tchilinguirian, 2000, "Average Effective Tax Rates on Capital, Labour and Consumption," *OECD Economics Department Working Papers*, No. 258, Paris: OECD.
- Cnossen, S., 1999, "Taxing Capital Income in the Nordic Countries: A Model for the European Union?" *Finanzarchiv* 56(1): 18-50.
- Commission of the European Communities, 1992, Report of the Committee of Independent Experts on Company Taxation (The Ruding Report), Luxembourg: Office for Official Publications of the European Communities.
- Commission of the European Communities, 1997, Towards Tax Co-ordination in the European Union: A Package to Tackle Harmful Tax Competition, COM 495.
- Commission of the European Communities, 1998, "Conclusions of the ECOFIN Council Meeting on 1 December 1997 Concerning Taxation Policy," *Official Journal of the European Communities*, C2, 06/01/98: 1-6.
- Commission of the European Communities, 2001, *Company Taxation in the Internal Market*, COM 582.
- Dehejia, V. and P. Genschel, 1999, "Tax Competition in the European Union," *Politics and Society* 27(3): 403-430.
- Devereux, M., 1992, "The Ruding Committee Report: An Economic Assessment," *Fiscal Studies* 13(2): 96-107.

Devereux, M., 2004, "Debating Proposed Reforms of the Taxation of Corporate Income in the European Union," *International Tax and Public Finance* 11(1): 71-89.

- Devereux, M., R. Griffith, and A. Klemm, 2002, "Corporate Income Tax Reforms and International Tax Competition," *Economic Policy* 17(35): 451-488.
- Eden, L., and R. Kurdle, 2005, "Tax Havens: Renegade States in the International Tax Regime?" *Law and Policy* 27(1): 100-127.
- Fratianni, M. and J. von Hagen, 1992, *The European Monetary System and European Monetary Union*, Boulder, San Francisco and Oxford: Westview Press.
- Ganghof, S., 2005, "Globalization, Tax Reform Ideals and Social Policy Financing," *Global Social Policy* 5(1): 77-95.
- Ganghof, S., 2006, "The Politics of Tax Structure," MPIfG Working Paper, No. 06/1.
- Garrett, G., 1992, "International Cooperation and Institutional Choice: The European Community's Internal Market," *International Organization* 46(2): 533-560.
- Gatsios, K. and P. Seabright, 1989, "Regulation in the European Community," *Oxford Review of Economic Policy* 5(2): 37-60.
- Genschel, P., 2002, "Globalization, Tax Competition, and the Welfare State," *Politics and Society* 30(2): 245-275.
- Giovannini, A. and J. Hines, Jr., 1991, "Capital Flight and Tax Competition: Are There Viable Solutions to Both Problems?" In A. Giovannini and C. Mayer, eds., *European Financial Integration*, Cambridge, UK: Cambridge University Press.
- Gordon, R., 1986, "Taxation of Investment and Savings in the World Economy," *American Economic Review* 76(5): 1086-1102.
- Helleiner, E., 1994, States and the Reemergence of Global Finance: From Bretton Woods to the 1990s, Ithaca, NY: Cornell University Press.
- Hines, J., Jr., 1999, "Lessons form Behavioral Responses to International Taxation," *National Tax Journal* 52(2): 305-322.
- Hrehorovska, L., 2006, "Tax Harmonization in the European Union," *International Tax Review* 34(3): 158-166.
- Huizinga, H. and S. Nielsen, 1997, "Capital Income and Profit Taxation with Foreign Ownership of Firms," *Journal of International Economics* 42(1/2): 149-165.
- Keen, M. and M. Marchand, 1997, "Fiscal Competition and the Pattern of Public Spending," *Journal of Public Economics* 66(1): 33-53.
- Krogstrup, S., 2003, "A Synthesis of Recent Developments in the Theory of Capital Tax Competition," *EPRU Working Paper*, No. 04-02.
- Krogstrup, S., 2004, "Are Corporate Tax Burdens Racing to the Bottom in the European Union?" *EPRU Working Paper*, No. 04-04.
- Krugman, P., 1991, "Increasing Returns and Economic Geography," *Journal of Political Economy* 99(2): 483-499.
- Martin, C., 1991, *Shifting the Burden: The Struggle over Growth and Corporate Taxation*, Chicago: University of Chicago Press.
- McNamara, K., 1998, *The Currency of Ideas: Monetary Politics in the European Union*, Ithaca, N.Y.: Cornell University Press.
- Mendoza, E., A. Razin, and L. Tesar, 1994, "Effective Tax Rates in Macroeconomics: Cross-country Estimates of Tax Rates in Factor Incomes and Consumption," *Journal of Monetary Economics* 34(3): 297-323.
- Milleron, J. and D. Maillard, 1988, "France," In J. Pechman, ed., World Tax Reform: A *Progress Report*, Washington, D.C.: The Brookings Institution.

- Mintz, J., 1994, "Is There a Future for Capital Income Taxation?" *Canadian Tax Journal* 42(6): 1469-1503.
- Moravcsik, A., 1991, "Negotiating the Single European Act: National Interests and Conventional Statecraft in the European Community," *International Organization* 45(1): 19-56.
- Mosley, L., 2000, "Room to Move: International Financial Markets and National Welfare States," *International Organization* 54(4): 737-773.
- Nicodème, G., 2006, "Corporate Tax Competition and Coordination in the European Union: what do we know? Where do we stand?" *Economic Papers*, No. 250, Brussels: Commission of the European Union.
- Parsons, C., 2003, A Certain Idea of Europe, Ithaca and London: Cornell University Press.
- Pechman, J., ed., 1988, World Tax Reform: A Progress Report, Washington, D.C.: The Brookings Institution.
- Plichon, C., 1999, "European Tax Harmonization," Conjoncture (February): 10-16.
- Radaelli, C., 1997a, "How Does Europeanization Produce Domestic Policy Change? Corporate Tax Policy in Italy and the United Kingdom," *Comparative Political Studies* 30(5): 553-575.
- Radaelli, C., 1997b, *The Politics of Corporate Taxation in the European Union: Knowledge and international policy agendas*, London and New York: Routledge.
- Radaelli, C., 1999, "Harmful Tax Competition in the EU: Policy Narratives and Advocacy Coalitions," *Journal of Common Market Studies* 37(4): 661-682.
- Radaelli, C., 2000, "Policy Transfer in the European Union: Institutional Isomorphism as a Source of Legitimacy," *Governance: An International Journal of Policy and Administration* 13(1): 25-43.
- Razin, A. and E. Sadka, 1991, "International Tax Competition and Gains from Tax Harmonization," *Economics Letters* 37(1): 69-76.
- Reinesch, G., 1999, "The European Discussion on the Taxation of Savings from 1987 to 1997: where do we come from? Where do we stand?" In F. Abraham, J. Stuyck and F. Vanistendael, eds., *Tax Policy and the Impending Economic and Monetary Union*, Leuven, Belgium: Leuven University Press.
- Sandford, C., 1993, Successful Tax Reform: Lessons from an Analysis of Tax Reform in Six Countries, Bath: Fiscal Publications.
- Sandholtz, W., 1993, "Choosing Union: Monetary Politics and Maastricht," *International Organization* 47(1): 1-39.
- Sinn, H., 1990, "Tax Harmonization and Tax Competition in Europe," *European Economic Review* 34(2/3): 489-504.
- Sinn, H., 1997, "The Selection Principle and Market Failure in Systems Competition," *Journal of Public Economics* 66(2): 247-274.
- Sørensen, P., 2000, "The Case for International Tax Co-ordination Reconsidered," *Economic Policy* 15(31): 431-472.
- Spence, R., 1994, "The Ruding Report and Council Conclusions," In International Fiscal Association (IFA), *Harmonization of Corporate Taxes in the EC*, Denver and Boston: Kluwer Law and Taxation Publishers.
- Steinmo, S., 1993, *Taxation and Democracy: Financing the Welfare State in Britain, Sweden and America*, New Haven: Yale University Press.
- Steinmo, S., 2003, "The Evolution of Policy Ideas: Tax Policy in the 20th Century," *British Journal of Politics and International Relations* 5(2): 206-236.

Swank, D., 1992, "Politics and the Structural Dependence of the State in Democratic Capitalist Nations," *American Political Science Review* 86(1): 38-54.

- Swank, D., 1998, "Funding the Welfare State: Globalization and the Taxation of Business in Advanced Market Economies," *Political Studies* 46(4): 671-692.
- Swank, D., 2006, "Tax Policy in an Era of Internationalization: Explaining the Spread of Neoliberalism," *International Organization* 60(4): 847-882.
- Swank, D. and S. Steinmo, 2002, "The New Political Economy of Taxation in Advanced Capitalist Democracies," *American Journal of Political Science* 46(3): 642-655.
- Tanzi, V. and A. Bovenberg, 1990, "Is There a Need for Harmonizing Capital Income Taxes within EC Countries?" In H. Siebert, ed., *Reforming Capital Income Taxation*, Tübingen: Mohr.
- The Economist, 1997a, "Taxidermy," Oct. 23rd.
- The Economist, 1997b, "Taxing Matters," Apr. 3rd.
- Ungerer, H., 1997, A Concise History of European Monetary Integration: From EPU to EMU, Westport, Connecticut and London: Quorum Books.
- Werner Committee, 1970, "Report to the Council and the Commission on the Realization by Stages of Economic and Monetary Union in the Community," *Bulletin of the European Communities* (Supplement) 11, Brussels: Commission of the European Communities.
- Williams, D., 1991, *Trends in International Taxation*, London: International Fiscal Association.
- Wilson, J., 1986, "A Theory of Interregional Tax Competition," *Journal of Urban Economics* 19(3): 296-315.
- Wilson, J., 1991, "Tax Competition with Interregional Differences in Factor Endowments," *Regional Science and Urban Economics* 21(3): 423-452.
- Yergin, D. and J. Stanislaw, 1998, *The Commanding Heights*, New York: Touchstone.
- Zodrow, G., 2003, "Tax Competition and Tax Coordination in the European Union," *International Tax and Public Finance* 10(6): 651-671.
- Zodrow, G. and P. Mieszkowski, 1986, "Pigou, Tiebout, Property Taxation, and the Underprovision of Local Public Goods," *Journal of Urban Economics* 19(3): 356-370.