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Corporate Tax Competition and Coordination in the European Union: What Do We Know? Where Do We Stand?

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July 2006

Abstract: This paper reviews the rationales and facts about corporate tax coordination in Europe. Although statutory tax rates have dramatically declined, revenues collected from corporate taxation are fairly stable and there is so far no evidence of a race-to-the-bottom. The ambiguous results from economic tax theory and the institutional setting have constrained strong EU policy action in the area of tax competition. Yet, there are welfare gains to be expected from tax coordination. Following its 2001 Communication, the European Commission is currently working with Member States on the definition of a common consolidated corporate tax base for European Companies.

Keywords: European Union, corporate taxation, tax competition, tax coordination.

JEL Classification Numbers: H25, H73, H87.

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* *The findings, interpretations, and conclusions expressed in this paper are entirely those of the author and do not necessarily represent the views of the European Commission. They should therefore not be attributed to the European Commission. The author thanks Michel Aujean, Declan Costello, Marco Fantini and Jean-Pierre De Laet for helpful comments. Remaining errors or omission are those of the author only. Contact: Gaetan.nicodeme@ec.europa.eu This paper is also published in "International Taxation Handbook", C. Read and G.N. Gregoriou editors, Elsevier, London, 2007.*

I. Introduction: the European Union as a Global Power.

With more than 460 million inhabitants and a Gross Domestic Product of above EUR 11,000 billion (USD 13,300 billion), the European Union is a major economic player in the world. Starting with 6 founding members in 1958, the European Union has undergone five enlargements to reach 25 Member States in 2004. In 50 years, the process of economic and political integration has been rather impressive. Beginning with the build-up of a Custom Union from its birth – that is a free trade area and a common external tariff – European Member States have signed in 1987 the Single European Act. This piece of legislation provided that the European Community (as it was called at the time) shall take measures to establish an internal market before the end of 1992, by removing remaining tariff and non-tariff barriers between its members. This Single Market was based on what is known as the four basic freedoms, i.e. freedom of movement for goods, services, labor and capital. Another important step was reached in 1999 with the creation of the Economic and Monetary Union and the introduction in most Member States of the euro as a common currency.

In parallel to economic integration, both the institutions and the decision-making process have evolved into some form of increased political integration. EU policy-making rests on three main institutions: The European Commission, representing the Community-wide interest, retains the monopoly to make legislative proposals and plays its role as Guardian of the Treaties by launching court procedures against Member States that failed to transpose (or inappropriately transposed) EU legislation into their national laws or that breach the rules of the Treaty; the Council, made out of the 25 governments, votes (with different weights for different countries) to adopt, amend, or reject the proposed European legislation; and, finally, the European Parliament that increasingly gained power over time and is now fully part of the decision-making process in what is known as the procedure of co-decision with the Council. Next to these three institutions, the European Court of Justice (ECJ) has been a growing force of European integration, notably by its action in applying and interpreting European legislation, as well as fighting discriminations, and the European Economic and Social Committee and the Committee of Regions, respectively representing social partners and regions of Europe, have played a role in the dialog with stakeholders through their consultative opinions on EU legislations. Important economic policies have been transferred at the European level, among which monetary policy - which is in the hands of an independent European Central Bank -, competition policy – whose most important peace of legislation and control are geared by the European Commission - , or the trade policy, for which the European Commission receives a mandate to negotiate on behalf of the European Union and its Member States.

II. The institutional design for taxation and its rationale.

Interestingly enough, the powers of the European Union in direct taxation have always been limited. Member States have jealously retained most taxing powers within their hands and conceded only limited prerogatives to the European level. The opponents to increased powers of the European Union in direct taxation have put forward some economic and political arguments why redistribution and stabilization (and the assignment of tax powers to achieve this) shall in their view remain a national responsibility. In particular, they raise the following arguments:

(1) Some opponents consider that because they are not directly elected (with the exception of the European Parliament), EU institutions may lack the democratic legitimacy – or rather the existence of a *demos* and the presence of an indirect legitimacy instead – that would be needed to have tax raising powers and Member States have made theirs the motto “no taxation without representation”. This argument seems highly debatable since the European Commission derives its legitimacy from

the fact that its members are appointed by democratically-elected governments and approved by the directly elected members of the European Parliament. In addition, the Council or the European parliament themselves could receive and manage these taxing powers as in any federation.

(2) the preference for redistribution policies differs widely across Member States, and citizens may well be much less concerned about the income/poverty levels of persons living in other EU Member States compared with their home country;

(3) a considerable margin remains to achieve stabilization policies through national budgetary policies, and there would be considerable problems in designing an effective stabilization fund at EU level (the difficulty in identifying in real time the source, scale and duration of economic shocks which could lead to lags in the disbursement of funds), hence the case for a EU tax is reduced. In the same vein, the economic rationale for assigning to the EU public policies that need large public expenditures has been weak and hence the financing of EU policies can easily be arranged on an ad hoc basis;

(4) the scale of cross-border externalities requiring centralized ‘corrective’ tax interventions may be relatively small, although further economic integration may increase the number and amplitude of cases.[1]

This, however, is not to argue that there is no economic rationale for any EU involvement in tax policy matters. Instead, there may be some cases, when some degree of EU involvement is warranted. There seems therefore to be an economic rationale for the EU to have some degree of involvement in tax issues in the following cases:

[1] There may also be the feeling within Member States that, having lost monetary policy instruments, fiscal policy – although constrained by the 3% deficit rule of the Stability and Growth Pact - is one of the few tools left at their disposal along with supply-side policies.

(1) Increased economic integration and mobility of factors of production may lead to a situation in which, on the one hand, Member States develop 'harmful' strategies to attract or retain mobile tax bases and, on the other hand, taxation would increasingly be shifted to the immobile factor, Labor. A coordinated action at the EU-level could therefore be needed. This was the rationale behind the informal ECOFIN Council in Verone 1996, which led to the fiscal package (See Aujean, 2005).

(2) there are tax obstacles to the implementation of the Single Market and a common action is required to tackle those because action at national level could lead to an inefficient allocation of resources;

(3) there are tax externalities that can be better tackled at the EU level;

(4) Even though the architecture of the EU limits its role in stabilization and redistribution, cooperation at the EU level may actually help Member States to preserve the resources needed to achieve these policies at the domestic level.

(5) Or, because of a common monetary policy, there may be a need for multilateral surveillance on the impact of taxes on economic output and stability.

The somewhat limited economic case for EU involvement in taxation issues is reflected in the Treaty and in particular the subsidiarity principle. The Treaty delimitates the scope of action of the EU in tax matters and restricts it mainly to issues of multilateral surveillance, the proper functioning of the Single Market, competition issues in tax state aid, tax discrimination, and ad hoc tax measures to attain specific objectives of the Union (e.g. environmental or social objectives). Article 5 of the EC Treaty introduces subsidiarity and tends to limit the range of action of the European Commission in regards to fiscal issues by stating that: "*In areas which do not fall within its exclusive competence, the Community shall take action, in accordance with the principle of subsidiarity, only if and insofar as the* *objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale and effects of the proposed action, be better achieved by the Community*". As taxation is not an exclusive competence of the Community, what we could call the scale of action ("by reason of the scale and effects of the proposed action") and the principle of proportionality ("only if and insofar as") do apply. This reduces the European Commission proposals to what is a minimum necessity to remove distortions. Furthermore, in accordance with article 249 EC, harmonization by means of directives makes the decisions only binding as to the result to be achieved (as opposed to regulations which are binding in their entirety). These restrictions and the political difficulties linked to the fact that the unanimity rule for tax matters still prevails, reflect the clear desire from (at least some) Member States to retain full control of their tax policies. The main areas of EU intervention can be summarized as follows:

- *The EU role in taxes is mainly limited to indirect taxation and tax state-aid.* Articles 90 to 93 EC specifically deals with tax provisions. However, the scope of these articles is limited as they only allow the European Commission to work on "*provisions for the harmonisation of legislation concerning turnover taxes, excise duties and other forms of indirect taxation to the extent that such harmonization is necessary to ensure the establishment and the functioning of the internal market within the time-limit laid down in article 14*". Article 87 EC on State aid provides another rationale for intervening when a tax distorts competition by favoring certain undertakings or the production of certain goods and affects trade between Member States. Despite its strict formulation, this article has been widely used by the European Commission to remove harmful tax measures.
- *Non-discrimination is increasingly used as a basis for intervention.* Article 12 EC enshrines this principle. The use of this article to tackle differences in taxation between

residents and non-residents is nevertheless difficult. Indeed, the principle of non-discrimination only applies as long as the person invoking it lies within the scope of the Treaty. A resident citizen cannot ask for anything else than the application of the law of her/his own State. Therefore, a resident cannot use this article to contest the non-taxation of non-resident since the only provisions she/he can use would be the regime applicable to residents. However, both the ECJ and the European Commission have used a wide interpretation of this article to act against some tax measures considered as detrimental to the Single Market.

- *Tax obstacles to the Single Market remain the first ground for intervention in direct taxation.* Article 94 EC has been the real legal basis on which the European Commission acted when issuing proposals for directives in fiscal matters. It states that "*the Council shall, acting unanimously on a proposal from the European Commission and after consulting the European Parliament and the Economic and Social Committee, issue directives for the approximation of such laws, regulations or administrative provisions of the Member States as directly affect the establishment or functioning of the common market*". Indeed, differences of treatment in terms of accounting and fiscal rules constitute both a distortion that directly affect the functioning of the markets for goods and financial services, and prevents full integration in these areas. This article also asks for unanimity in the Council on fiscal issues. This provision makes it difficult to reach a compromise and slows down the process of removing tax distortions. It is however for instance the basis for proposals to coordinate corporate taxation.
- *Multilateral surveillance role of the European Commission.* Article 99 EC provides for a role of multilateral surveillance for the European Commission. Typically, the Broad Economic Policy Guidelines and the Employment Guidelines are examples of this task.

However, these documents have so far been relatively shy when it comes to discuss taxation issues.

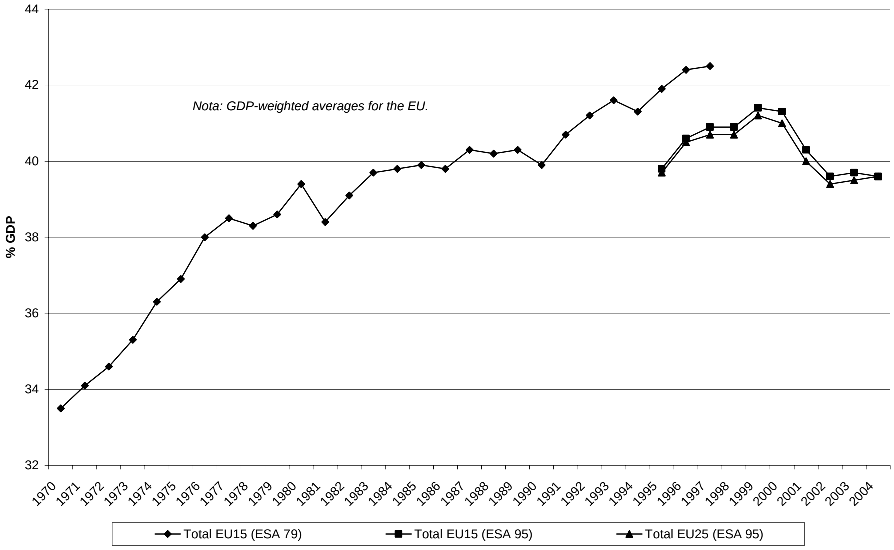
- *Targeted actions.* Finally, articles 136 and 137 EC provide the European Commission with a role to support and complement actions of Member States in various domains such as social protection and environment. Taxation may be used in this context as a tool to achieve those aims.

In consequence, the European tax legislation has been – mainly - limited to the harmonization of the base of value-added tax (one of the main resources for the European budget), the exemption or taxation at low level of new capital raised by companies (Directive 69/335/EEC), issues of mutual assistance between tax administrations (Directive 77/799/EEC), several ad-hoc pieces of legislation in the areas of taxation of savings and tax obstacles to the Single Market (see below) and multilateral surveillance.

III. The evolution of tax receipts in the European Union.

Aggregated at the EU level, total taxes collected represent today just fewer than 40% of GDP (compared to just fewer than 30% for the US and for Japan). The total tax burden has gradually increased between 1970 and the end of the last century, probably reflecting both the need to collect revenues to finance increasingly-desired public policies and the post-oil shock adverse economic situation.

Figure (1): Total taxes (incl. social security contributions) as % of GDP in the EU.



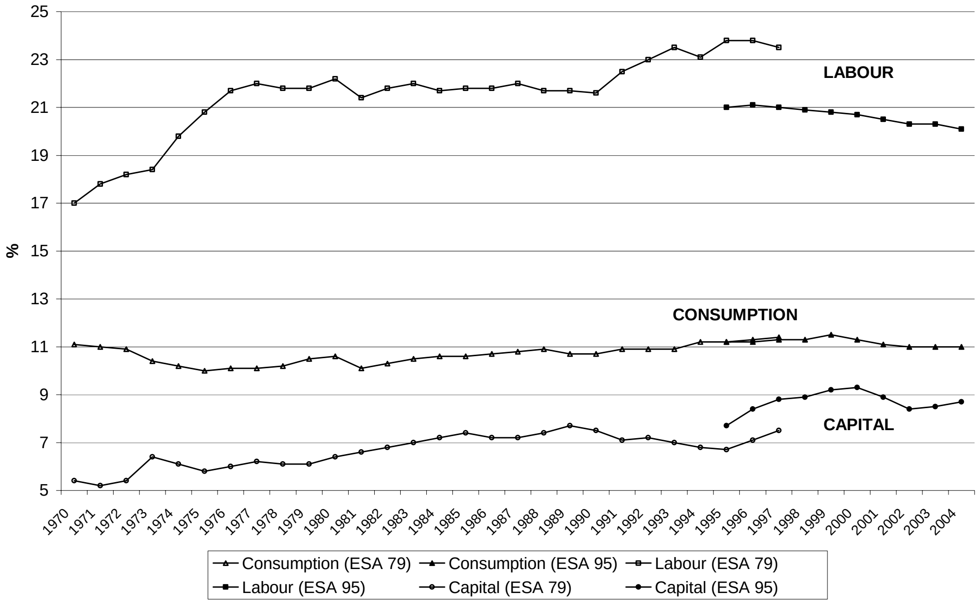
Source: European Commission (2006a).
Note the statistical break due to a change in classification at Eurostat.

Since the end of the 1990's, we observed an unprecedented several-year decrease of the total tax burden, which seems to have leveled off in the last three years. This hides of course a large diversity in levels and trends across Member States as well as the influence of the economic cycle. There is also no indication of convergence in total tax burdens within the European Union. Changes in the tax-to-GDP ratios of individual countries indeed reveal that most changes have occurred in countries with a below-average total tax burden and that these changes have taken place in both directions.

When we decompose the tax to GDP ratios into the three main economic functions, we observe that the recent slight decline in total tax to GDP ratios is largely due to a decline in the collection of taxes on labor Income relative to GDP**.** The trends indicate both a slight decrease in labor taxes collected to GDP and an increase in capital taxes collected to GDP in the EU-15[2].

2 Note that different levels of tax-to-GDP ratios are due to the different proportions of each economic function in GDP and hence do not necessarily reflect a higher taxation of labour. When reported to their own tax base (instead of GDP), the same trends emerge, although less pronounced (the ratio for labour for example does

Figure (2): taxes (incl. social security contributions) as % of GDP per economic function in the EU-15.



Source: European Commission (2006a). Statistical break due to a change in classification at Eurostat.

IV. Corporate tax competition in the European Union: theory and empirical evidence.

a. Tax competition and the underprovision of public goods.

"The result of tax competition may well be a tendency towards less than efficient levels of output of local services. In attempting to keep taxes low to attract business investment, local official may hold spending below those levels for which marginal benefits equal marginal costs (…)"(Oates, 1972).

Tax competition – broadly defined as a non-cooperative tax setting by independent governments competing for a mobile tax base – has attracted growing attention in the context of economic integration and increasing mobility of factors of production and of some taxpayers. The debate is not a new one and the tax competition literature already mentioned in the 1950's (Tiebout, 1956) the possibility for voters to "vote with their feet" as to choose their preferred combination of tax contribution and provision of local public services across competing local jurisdictions. In the mid-1980's both Zodrow and Mieszkowski (1986) and

not diminish as fast). In addition, the implicit rates on labour and on capital appear much closer. These rates are called the backward-looking macro effective tax rates (or sometimes called implicit tax rates).

Wilson (1986) have derived in a formal way the dynamics and the consequences of tax competition in what are known today as the basic models of tax competition. In their models, tax competition for mobile tax bases will lead to a "race-to-the bottom" in tax rates and leave the competing jurisdictions with too little revenues to be able to provide public services at a socially-optimal level. This basic result has also led to the fundamental question whether capital taxation – and for what matters corporate taxation – can survive in the long-run (Gordon, 1992; Mintz, 1994; Weichenrieder, 2005).

b. What do theories on tax competition tell us?

The consequences of tax competition depend however on its complex features[3]. Over the last twenty years, economic research has attempted to remove the strict assumptions of the basic models of tax competition[4] and has come with a more contrasted picture. The consequences of tax competition are indeed rather complex, do not necessarily lead to a "race-to-the bottom", need to take into account the public expenditure side of the problem, and depend on various characteristics. Indeed, the outcome of the models will depend on – *inter alia* - the availability of corrective mechanisms across jurisdictions such as subsidies that can substitute for the need to compete for capital (Wildasin, 1989) as well as the capacity to influence the after-tax rate of return on capital with tax policy (Wildasin, 1988). The degree of (a)symmetry in the size of countries (Bucovetsky, 1991) or the asymmetries in endowment of factors (Wilson, 1991; Kanbur and Keen, 1991) between jurisdictions will also influence the outcome of tax competition. The geographical location and the concentration of

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[3] For a complete discussion, see Wilson (1999), Wilson and Wildasin (2004), Zodrow (2003), and/or Krogstrup (2003).

[4] Among which large and homogenous jurisdictions, perfectly competitive markets, jurisdictions that take as fixed the after-tax rate of return on capital and the tax rates in the other jurisdictions, fixed populations and land, identical tastes and incomes for all residents in each jurisdiction, fixed aggregate level of capital stock which is mobile, a single good produced by the capital and land factors, publicly provided private goods with no spillover effects, two local tax instruments, maximisation of welfare of identical residents (see Zodrow, 2003).

production, such as the existence of a core-periphery model may lead to different optimal levels of taxation between regions (Kind, Midelfart-Knarvik and Schjelderup, 2000; Baldwin and Krugman, 2004). In addition, the existence of trade between the members of a union (Wilson, 1987) or with the rest of the world (Janeba and Wilson, 1999) may lead to specialization and hence different equilibrium levels of taxation. The availability of multiple tax instruments besides capital taxation (Bucovetsky and Wilson, 1991), the existence of economies of scale in the provision of the public service (Wilson, 1995), international spillovers in public goods (Bjorvatn and Schjelderup, 2002), the possibility for the public sector to provide public input goods that will reduce the private cost of production (Keen and Marchand, 1997), or that will reduce income uncertainty via redistribution (Wilson, 1995) are also elements that will influence the effects of tax competition. Obviously, the degree of mobility of the factor(s) of production (Lee, 1997; Brueckner, 2000; Wildasin, 2003), the complementarities between mobile and immobile factors (Lee, 1997), a possible home bias in investment (Ogura, 2006), the degree of citizens' demand for social insurance (Persson and Tabellini, 1992), the presence of cross-border loss offset (Gérard and Weiner, 2003), and the possibility to export the tax burden on foreigners (Mintz, 1994, Huizinga and Nielsen, 1998, 2002; Wildasin, 2003) are further features that will determine the equilibrium effect of tax competition.

Finally, there is an unsolved debate in the economic literature about the drawbacks and the merits of tax competition with the so-called Leviathan models that find a useful role for tax competition in curbing the tendency of governments to overextend the size of the public sector (Brennan and Buchanan, 1980; Edwards and Keen, 1996).

c. How does the European Union fit to the theory?

Very few papers have sought to assess which of the features of tax competition models described above fit best to the European Union. Zodrow (2003, p.660) underlines the basic difficulty of assessing the combined effect of some of these features since the economic literature “typically focus on only one or two of the economic effects of tax competition”. Such an assessment is therefore highly speculative at this stage and more research on this issue is badly needed[5]. Assuming that Member States compete over corporate taxes, some broad predictions can be made.

One the one hand, some features of the EU may theoretically mitigate the adverse effects of corporate tax competition on the provision of public goods and the race-to-the-bottom predicted by the basic models. The existence of a core-periphery model with some agglomeration forces is an element that may explain why large core countries may sustain a higher tax rate than small countries at the periphery. One can also assume that there are economies of scale in the provision of public goods and that hence the problems of underprovision decrease with the size of the population. The large differences in tastes across Europe coupled with a relative home bias in investment, and an increasing (albeit still small) mobility of labor are possible European characteristics that would also decrease the need for policy coordination.

On the other hand, the absence of large redistribution policies at the EU level[6] preventing corrective subsidies, a relatively widespread European taste for social protection, the general absence of a consolidated tax base for pan-European companies, and the increased mobility

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[5] Note that the assessment gets even more complicated if one wants to take into account the results of the tax literature on vertical tax competition (when for example the EU level would compete with Member States on the same tax base) and/or on partial tax coordination (as countries may also compete on other non-coordinated tax bases such as for example mobile labour).

[6] The annual EU 2006 budget amounts to EUR 112 billions (1.01% of the Gross National Income (GNI) of the enlarged EU). About 40% of the budget goes to the Common Agricultural Policy and about another 40% goes to the poorer regions of the Union, to fishing communities and to regions facing particular problems of high unemployment and industrial decline (European Commission, 2006b).

of capital are possible reasons why tax coordination would be desirable. The existence of trade has ambiguous effects. On the one hand, trade between Member States may lead to specialization patterns and reinforce the inefficiency costs of tax competition but, on the other hand, the existence of trade with the rest of the world allows for an elastic supply of capital and mitigates these costs.

Two other features of the European Union are also interesting in this debate. First, there is a mix of large and small Member States. Theory predicts that, in equilibrium, large Member States choose higher taxes on the mobile factor than small ones. This is mainly because, as they are large, while taxation increases the required pre-tax rate of return on capital, capital outflows will have a negative impact on the world after-tax rate of return on capital and mitigate the first effect. Large countries therefore face a lower elasticity of capital than small countries. This prediction is empirically confirmed by Huizinga and Nicodème (2006), whose regressions show a significant and robust positive relationship between the tax burden faced by companies and the size of their residence country measured by the logarithm of GDP[7]. In addition, the possibility to export the tax burden on foreign owners may also influence the pattern of corporate taxation in the European Union. Sørensen (2000) evaluates the potential gains from international tax policy coordination using simulation model characterized by partial foreign ownership and an absence of residence-based capital income taxes. His sensitivity analysis shows that reducing foreign ownership from 25% to zero lowers the uncoordinated and coordinated average capital income tax rates from 33.8% to 23% and from 46.5% to 41% respectively. He does not consider, however, the opposite case. Huizinga and Nicodème (2006) use firm-level financial data for 21 European countries for the period 1996-2000. They find that foreign ownership stood in 2000 at about 21.5% in Europe. They investigate the effects of foreign ownership on the tax burden of companies, using

[7] Although Euroframe (2005) does not find strong evidence of this.

simultaneously a firm-level and a macro-level foreign ownership variable, alongside a wide range of controls. They find a strong and robust positive relationship between the macro-level foreign ownership variable and the tax burden. Their benchmark results suggest that an increase in the foreign ownership share by one percent would lead to an increase in the average corporate income tax rate by between a half and one percent[8]. This suggests that company tax policies in Europe are in part motivated by the desire to export corporate tax burdens. In the decades to come, foreign ownership can be expected to increase in the European Union and thus might mitigate any ‘race to the bottom’ in corporate tax burdens.

Finally, the question of 'leviathan' behavior of European governments remains unsolved. Although the effect of leviathans is potentially larger in a European Union, there has been very little research in Europe on whether such behavior was at play. One main difficulty in assessing the type of tax competition that could potentially be at play is that tax competition leads to a reduction in the size of the government in both the Zodrow-Mieszkowski model and the leviathan models, making them difficult to distinguish from an empirical perspective (Wilson and Wildasin, 2004).

d. Do European Member States compete over tax rates?

A more basic question is whether EU Member States compete over corporate taxes at all. Over the last 25 years, Europe has experienced declining statutory tax rates both for mobile bases and less mobile ones. As documented in table (1), statutory corporate tax rates have sharply declined in most of the 25 EU Member States and so have tax rates on interest income and financial wealth (Schjelderup 2002, Huizinga and Nicodème 2004). The issue of a 'race-to-the-bottom', putting pressure on the financing of the welfare state and leading to a

[8] In addition, validating previous theoretical findings (in particular, Wildasin, 2003), their results indicate that this positive relationship between tax burden and foreign ownership is strongest for more mature economies and for sectors with less mobile companies.

shift of the tax burden from capital to labor, has been taken very seriously at both the EU and the OECD level. In the European Union, the issue was discussed at the informal ECOFIN council in Verona in April 1996 and led in 1999 to the publication of a code of conduct for business taxation following the works of a group of national experts led by Ms. Primarolo. The report (Primarolo, 1999) – based on a non-binding peer-review exercise - identified 66 tax measures with harmful features and which Member States agreed to revise or replace. However, while specific regimes were targeted, the report did not consider low statutory rates as "harmful"[9].

Table (1): statutory corporate tax rates (including local taxes and surcharges)

Statutory Corporate tax rates (including local taxes and surcharges)	**1980**	**1990**	**1995**	**2000**	**2005**
Austria	55	39	34	34	25
Belgium	48	41	40.17	40.17	33.99
Cyprus	n.a.	42.5	25	29	10
Czech Republic	n.a.	n.a.	41	31	26
Denmark	n.a.	40	34	32	30
Estonia	n.a.	n.a.	26	26	24
Finland	59	41	25	29	26
France	50	37	36.67	36.67	34.93
Germany	52.8	57.7	56.8	51.63	38.29
Greece	43.4	46	40	40	35
Hungary	n.a.	50	19.64	19.64	17.68
Ireland	45	43	40	24	12.5
Italy	36.3	41.8	52.2	41.25	37.25
Latvia	n.a.	n.a.	25	25	15
Lithuania	n.a.	35	29	24	15
Luxembourg	n.a.	39.4	40.9	37.45	30.38
Malta	n.a.	32.5	35	35	35
Netherlands	48	35	35	35	31.5
Poland	n.a.	40	40	30	19
Portugal	n.a.	36.5	39.6	35.2	27.5

[9] Instead, the criteria for identifying potentially harmful measures include a significantly lower level of effective taxation than the general level in the country concerned, tax advantages reserved to non-residents only, tax incentives for activities isolated from the domestic economy, non-traditional rules of taxation for multinational companies, and/or a lack of transparency.

Statutory Corporate tax rates (including local taxes and surcharges)	1980	1990	1995	2000	2005
Slovak rep.	n.a.	n.a.	40	29	19
Slovenia	n.a.	n.a.	25	25	25
Spain	33	35	35	35	35
Sweden	n.a.	40	28	28	28
United Kingdom	52	34	33	30	30
EU-15 average	n.a.	40.4	38.0	35.3	30.4
new Member States -10 average	n.a.	n.a.	30.6	24.8	18.2

Source: IBFD and own calculations. Estonia: 0% on retained earnings.

One important question is of course whether the decline in corporate tax rates has been the result of tax competition and whether we observe a "race-to-the-bottom". Since the seminal works of Case, Rosen and Hines (1993) and in the context of evolving estimating and modeling techniques (Brueckner, 2003), several authors have tried to estimate whether jurisdictions of various nature were engaged into an interdependent tax setting. In particular, Devereux, Lockwood and Redoano (2004) and Redoano (2004) find some evidence of strategic interaction in corporate tax setting for the OECD between 1992 and 2002 and for the EU-25 from 1980 to 1995 respectively. Looking at the issue of capital mobility, Krogstrup (2004) finds a positive relationship between an index of capital mobility and the tax burden in 13 European countries. The effect of capital mobility seem to be confirmed by Besley, Griffith and Klemm (2001) who use tax reaction functions for five different taxes in the OECD between 1965 and 1997, finding interdependence in tax setting and this, the more mobile the tax base. In particular, they found more interdependence amongst EU countries than for non-EU countries.

There is however no strong evidence in the literature over the reasons behind this interaction, that is whether this trend is the result of tax competition to attract mobile tax bases, is the outcome of yardstick tax competition in which countries try to mimic each other’s tax policy to seek the votes of informed voters (Besley and Case, 1995) or simply the result of a convergence across countries in economic structures and/or dominant economic thinking (Slemrod, 2004). In addition, with the exception of Besley, Griffith and Klemm (2001), all studies use statutory or forward-looking effective tax rates[10] (themselves very dependent from statutory rates). These results were recently challenged by Stewart and Webb (2006) who looked at the evolution of corporate tax burdens - measured as corporate tax collected on GDP and on total taxes – in the OECD countries between 1950 and 1999. Based on both a descriptive and a cointegration analysis, the authors find no evidence of a race-to-the-bottom and little evidence of a harmonization of the tax burden. We are therefore left with the finding already made by Slemrod (2004) of a negative association between measures of openness and statutory rates but not with revenues collected. This is apparent from the evolution of corporate tax collected on GDP, which is relatively stable at around 3%. It may reflect the fact that tax competition decreases the rate of taxation per unit of investment but also allows countries to attract a large corporate tax base (Lassen and Sørensen, 2002). It certainly also reflects a general trend towards lower statutory rates – a trend actually also noticeable in personal income taxes – but counterbalanced by a widening of corporate tax bases[11]. There is indeed no obvious relationship between the cuts in corporate statutory tax rates between 1995 and 2004 and the evolution of revenues collected from this tax. Figure (4) indeed suggests that – broadly speaking – the newly accessed Member States that have cut their rates have lost corporate tax revenues in percentage of GDP, while the opposite holds for most EU-15 countries.

[10] This methodology uses the King-Fullerton methodology of taxation of a hypothetical investment using a mix of sources of finance. The method was further developed by Devereux and Griffith (1998a) and is different from backward-looking effective tax rates that use real-life data to compute ratios of tax paid on the tax base. For the respective merits and demerits of both methods, see Nicodème (2001).

[11] Other studies point to the effects of tax exporting (Huizinga and Nicodème, 2006) and larger incorporation (Gordon and Mackie-Mason, 1997; Goolsbee, 1998). It could also be possible that the tax yield is insensitive to the tax rates, possibly because profit shifting strategies are so efficient and widespread that profit is already reported in low-tax jurisdictions.

Figure (3): Taxes on incomes of corporations as percentage of GDP (1995-2004).

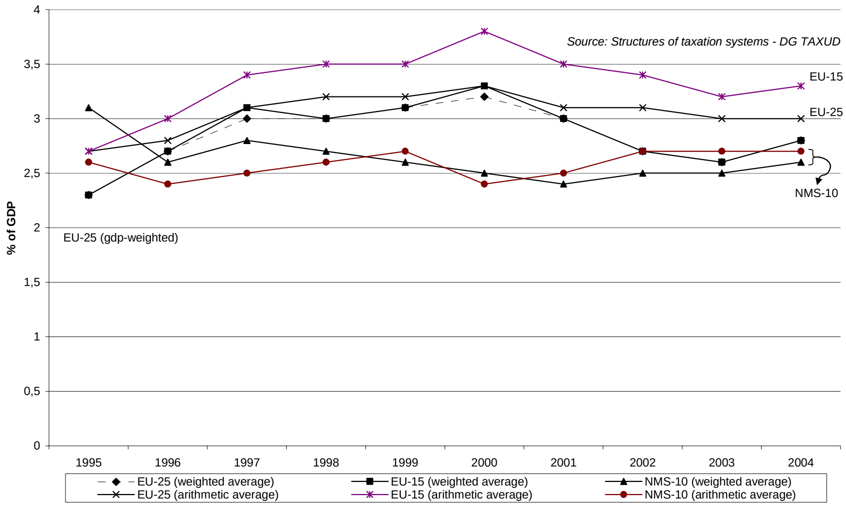
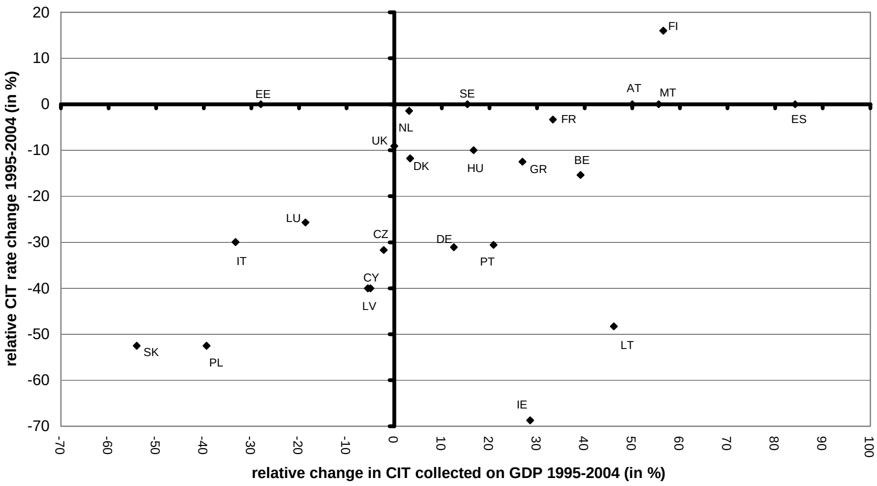


Figure (4): Evolution of corporate tax rates and revenues in percentage of GDP (1995-2004).



Source: European Commission and own calculations *SI: no change in CIT rate but a 233% increase in revenues*

To conclude, both the theoretical and the empirical literature are rather inconclusive on the effects and the extent of corporate tax competition in the European Union. This ambiguity has of course translated into the political debate and is reflected in the tax proposals made by the European Commission.

V. The corporate taxation debate in the European Union: the early proposals.

The debate over EU corporate tax harmonization is not new. One should keep in mind that a similar debate was previously held on taxation of capital (interest and dividend payments) with parallel arguments and that the first formal proposals to harmonize or coordinate corporate tax systems in Europe date as far as from the early 1960's when the Committee chaired by prof. Fritz Neumark proposed in July 1962 - after two years of work - to gradually harmonize tax systems in Europe, starting with turnover taxes and extending it later on direct taxes with a split-rate system. It turned out that this proposal was not followed by policy action. In 1970, another committee chaired by Prof. Van den Tempel analyzed the various tax systems in place in the Member States and recommended the adoption of the classical system for all[12]. This proposal actually followed the Werner report on economic and monetary union in Europe, which stressed that tax harmonization should accompany the creation of a monetary union. This report was followed by two Council resolutions in 1971 and 1972 backing the necessity to proceed with fiscal harmonization. Driven by this momentum, the European Commission proposed in 1975 to harmonize the corporate tax rates between 45% and 55% (Radaelli and Kraemer, 2005)[13]. Interestingly, this proposal was put into questions by the European Parliament in 1979 since the Parliament's agenda was to harmonize tax bases prior to tax rates (the Nyborg Report). Such plans to harmonize the tax bases were integrated in a 1988 proposal by the European Commission but, because of the strong opposition of some Member States, it was never formally sent to the Council. According to Radaelli (1997), the harmonization of corporate taxation in Europe slowed down from 1989

[12] That is with taxation at both the corporate and shareholder levels without tax relief.

[13] Following the 1971 Resolution from the Council asking the European Commission to propose measures regarding the harmonization of certain types of taxes which may have an influence on capital movements within the Community, the European Commission launched in 1975 a proposal for a directive that concerned both the harmonization of corporate taxation and withholding taxes on dividends. In particular, the Commission proposed a single corporate tax rate on all distributed and non-distributed profits. This tax rate would be set up between 45 and 55%. The European Commission called for a 25% withholding tax on dividends.

when Commissioner Christiane Scrivener took the taxation portfolio, as she preferred to focus on fighting double-taxation – notably in cross-border operations of companies and in taxation of savings - and stressed the need for subsidiarity. The 1975 proposal was withdrawn in 1990. The next step took place in 1992 when the committee chaired by Onno Ruding had the mandate to look whether differences in corporate taxes distorted investment decisions. The committee proposed some minimum standards in corporate tax bases and a band for tax rates between 30% and 40%. Nevertheless, the proposal was not followed by political action either.

During all these years, the European Commission was battling on two fronts (Radaelli and Kraemer, 2005). First, it had to solve the issue of tax evasion, not only to low-tax third countries but also and foremost within the European Union where savings of non-resident European were generally untaxed. Second, it had to work out the problem of tax obstacles to the Single Market. These concerns led to proposals on the taxation of savings and on the taxation of various cross-border operations respectively.

VI. The corporate taxation debate in the European Union: the 2001 Communication.

The prospects for more coordination in corporate taxation were revived in 2001 when the European Commission issued a communication on company taxation in a Single Market (European Commission, 2001a). The report from the European Commission contained a study on the level, the dispersion and the determinants of corporate effective tax rates in the EU-15 and a Communication with concrete policy proposals based on the identification of a series of tax obstacles to the completion of the Single Market, the presence of excessive tax administrative costs, double-taxation problems and other tax-related difficulties for companies doing business on an European-wide basis.

a. Comprehensive and targeted solutions.

The study used forward-looking marginal and average effective corporate tax rates for domestic and cross-border investment in 1999 and 2001 (to analyze the effect of the 2000 German tax reform). It found a large dispersion of these rates in Europe as the average effective tax rate varied for example from 10.5% in Ireland to 34.9% in Germany. The report did not study the impact of this dispersion on investment patterns in Europe, nor did it assess the welfare effects. However, it provided static simulations of policy changes on the dispersion of the effective rates. Its main conclusion was that effective rates were mainly influenced by statutory rates and that harmonizing these latter would significantly reduce dispersion. In contrast, several policy changes in the base would have little effects, or even increase dispersion as in the case of implementing Home State Taxation or the Common Consolidated Corporate Tax Base (see hereunder).

In terms of policy recommendation, the European Commission issued a two-track approach to tackle the tax obstacles to cross-border economic activity in the Internal Market[14]. First, some so-called targeted solutions aimed at refreshing some pieces of EU legislation to deal with specific situations not foreseen by the legislator or to widen their scope of action. This is for example the case of the 1990 Parent-subsidiary directive and the 1990 Merger directive for which the new European Company Statute had to be integrated into the legislative texts[15]. Second, the European Commission put on the table four so-called comprehensive solutions for harmonizing corporate tax bases in Europe:

a) a EU corporate tax rate (with full harmonization of rates and bases);

b) a compulsory harmonized method to compute the tax base;

[14] For an insightful presentation and discussion of the report, see Devereux (2004).

[15] In addition, inter alias, the holding threshold from which the Parent-subsidiary directive applies was lowered from 25% to 10% and the new merger directive now covers the conversion of permanent establishments into subsidiaries.

c) the same harmonized method to compute tax bases but made optional (Common Corporate Consolidated Tax Base, hereafter CCCTB); and

d) the system of Home State Taxation (that is subsidiaries follow the same rules as their parent company wherever they are located).

At the ECOFIN Meeting in September 2004, a large majority of Member States agreed that it would be useful to progress towards a common base, with an emphasis on the administrative burden resulting from the existence of 25 systems. It was decided that a working party, chaired by the European Commission, would be created to look at the issue of harmonization of the tax bases (i.e. solution c)[16]. The working party has started to work and, depending on the actual support of Member States, hopes to come with a legislative proposal by the end of 2008. It should also be noted that despite the known reluctance of some Member States, no Member State actually declined the invitation to participate to the working party. The prospects for harmonizing the tax bases will depend on the success of this work and off course the political willingness of Member States to apply the results of this work. At this stage, no one can predict the outcome of the process and all options remain currently open: a comprehensive agreement, a solution adopted through enhanced cooperation, or no agreement at all.[17]

The comprehensive solutions seek to tackle particular tax obstacles to cross-border activities, to reduce compliance cost of dealing with 25 different tax systems, and to improve the competitiveness of European companies while preserving the public finance of the

[16] The European Commission favours a consolidated and optional method (European Commission, 2006c). Note also that Home State Taxation (solution d) is proposed for SMEs as this solution is politically easy to implement and just requires mutual recognition (European Commission, 2005a). However, several Member States are reluctant as this solution carries potential economic and technical problems.

[17] In particular, it seems that some Member States fear that harmonisation of the tax base would be done in such a way that the agreement would lead to small tax bases, forcing these countries to raise their rates as to keep revenues constant. It shall be insisted that for efficiency reasons the best option is a broad tax base. In addition, the level of taxation has not, and will not be part of the discussions. The European Commission has no plan to

Member States. Two particular tax obstacles have been widely reviewed in the 2001 report of the European Commission, leading to policy intervention: cross-border loss relief and transfer pricing.

b. Cross-border loss relief in the European Union.

As documented in table (2), there are wide variations in the treatment of intra-group losses across Europe. Several Member States (BE, CZ, EE, EL, HU, LT, SK) do not offer any possibility to relief losses occurred in one member of a group against the profit of another domestic member of the same group. Other countries offer this possibility, either by specifically allowing group loss relief or by organizing tax consolidation. However, the applicable holding thresholds vary from 50% to 100% and some countries offer possibilities to offset foreign losses while others totally preclude it. These differences may presumably influence corporate location and create a home bias in investment as domestic losses may be easier to offset than foreign ones.

Table (2): fiscal consolidation in European Member States – 2005.

Countries	Rules for fiscal consolidation
Austria	Fiscal consolidation if holding 50%.
Belgium	No fiscal consolidation.
Cyprus	No fiscal consolidation but group losses relief if holding 75%.
Czech rep.	No fiscal consolidation.
Denmark	Fiscal consolidation if holding 100%, extendable to foreign subsidiaries.
Estonia	No fiscal consolidation.
Finland	Fiscal consolidation if holding 90%
France	Fiscal consolidation if holding 50%, extendable to foreign subsidiaries.
Germany	Domestic fiscal consolidation if holding 50%.
Greece	No fiscal consolidation.
Hungary	No fiscal consolidation.
Ireland	No fiscal consolidation but group losses relief possible if holding 75%.
Italy	Domestic and worldwide fiscal consolidation if holding 50%.
Latvia	No fiscal consolidation but domestic and EU-wide (or treaty partners) group losses relief possible if holding

harmonise the rates or to impose a minimum statutory corporate tax rate. These elements have been recognised in European Commission (2006c), which can be consulted for recent developments in working out a CCCTB.

Countries	Rules for fiscal consolidation
	90%.
Lithuania	No fiscal consolidation.
Luxembourg	Fiscal consolidation if holding 95%.
Malta	No fiscal consolidation but group loss relief possible if holding 51%.
The Netherlands	Fiscal consolidation if holding 95%, extendable to foreign companies under conditions.
Poland	Fiscal consolidation if holding 95%.
Portugal	Fiscal consolidation if holding 90%.
Slovak rep.	No fiscal consolidation.
Slovenia	Fiscal consolidation if holding 90%.
Spain	Fiscal consolidation if holding 75%.
Sweden	Fiscal consolidation if holding 90%
United Kingdom	No fiscal consolidation but group loss relief possible if holding 75%.

Source: IBFD (2005). Note that all fiscal consolidation schemes are optional.

A consolidated corporate tax base, such as the CCCTB, would take care of this problem. However, designing such a base takes, as we have seen above, time and energy. It is not surprising that in the meantime, the business community has legally challenged the difference of treatment between domestic and foreign loss relief. In December 2005, a decision of the European Court of Justice, ruling on a case brought by the retail company Marks & Spencer against the UK tax authorities (case C-446/03), stated that the fact that Marks & Spencer was not allowed to offset the losses of its Belgian, German and French subsidiaries against its profit in the UK was not compatible with Articles 43 EC and 48 EC (which enshrine the concept of the EU being a single market), insofar as the subsidiaries have exhausted all possibilities available in their respective state of residence to deduct losses and no possibilities remain for those losses to be taken into account in the future, either by the subsidiary or by a third party. Although the ruling does not go as far as allowing companies to freely practice cross-border loss offsetting, the decision is a step to avoid discrimination.

The absence of cross-border consolidation is a major problem in the European Union and, as shown by Gérard and Weiner (2003), the implementation of cross-border losses relief could mitigate tax competition. The proposal for a directive on this issue proposed in 1991 (COM(1990)595) received a favorable opinion from the European Parliament but was never discussed by the European Council. This initial proposal was withdrawn by the European Commission in December 2001 because it was judged that some technicalities needed revision and that a comprehensive proposal would be desirable.

c. Transfer pricing and profit shifting in the European Union.

Transfer pricing is the second issue tackled by the European Commission (2001a). The report stresses the increasing differences between the transfer prices calculated for tax purpose and the underlying commercial rationale. It also pointed to the high compliance costs imposed by the Member States in the form of documentation requirements, the differences and uncertainty of the treatment of those operations by national tax authorities, the lack of use of the arbitration convention (90/436/EEC) and the subsequent double taxation. The report estimates that "*medium sized multinational enterprises spend approximately EUR 1 to EUR 2 million a year on complying with transfer pricing rules*" and that "*large multinational enterprises incur compliance costs related to transfer pricing of approximately EUR 4 up to EUR 5.5 million a year. These figures do not include the costs and risks of double taxation due to transfer pricing disputes*" (European Commission, 2001a. p.343). To overcome these difficulties, the European Commission has proposed to establish a Code of Conduct to standardize the documentation that companies must provide to tax authorities on their pricing of cross-border intra-group transactions (European Commission, 2004a). This is a first result of the works of the EU Joint Transfer Pricing Forum that gathers business and tax administration representatives. The Code was adopted by the Member States in December 2004 and also provides for time limits to deal with complains and the suspension of tax collection during the dispute resolution. The code effectively implements in a coherent way across Member States the EU arbitration Convention, which was originally proposed in 1976 and signed in July 1990 (European Commission, 1990).

Devereux (2004) rightly points out the dichotomy between the European Commission 2001 report, which is concerned about double taxation and compliance costs for companies, and the economic literature, which rather considers the issue in terms of profit shifting across jurisdictions and the subsequent tax revenue losses[18]. Profit shifting can take several forms. First, companies can decide to locate their production – and therefore their profit – in low-tax jurisdictions. Gérard (2005) shows that the location decision of multinationals, as well as the choice between a foreign subsidiary and a foreign permanent establishment will severely impact the total tax burden. It is well known from the economic literature that taxes, although maybe a second-order determinant, affect business location decisions (Devereux and Griffith, 1998b; Grubert, 2003; Devereux and Lockwood, 2006) as well as the location of Foreign Direct Investment.

Empirically, de Mooij and Everdeen (2003) carried out a meta-analysis based on a sample of 371 estimates taken from 25 studies in the economic literature. The authors report a median value of -3.3 and an average value of -2.4 for the tax semi-elasticity of FDI[19]. For new plants and plants extensions, the average semi-elasticity jumps to -5.7. There is wide variation in estimates across studies. This is due to different choices both in terms of the tax variable and the variable chosen to depict FDI or capital flows. This uncertainty has led Devereux and Griffith (2002) to conclude that *the existing literature provides little by way of policy-relevant insights.*

The second broad category of profit shifting consists in the manipulation of the pricing of cross-border intra-group transactions. This tax avoidance practice is of course easier in the

[18] It is important to note however that the first preoccupation does not hamper the second, and that the profit shifting issues are taken into consideration in the works of the CCCTB.

[19] That is a 1% point increase in the host-country tax rate decreases FDI by 3.3% and 2.4% respectively. For the US, Hines (1999) reported a 'consensus' elasticity of -0.6. In the case of Europe, Gorter and de Mooij (2001) found that intra-EU investment is more responsive to taxes than investment between the US and Europe. Bénassy-Quéré, Fontagné and Lahrèche-Révil (2005) found non-linearities in the impact of tax differentials as only positive tax differentials matter (i.e. disincentives) and, whilst exemption systems provide for linear reaction to tax differentials, credit systems provoke non-linear reactions. Finally, Desai, Foley and Hines (2004)

absence of reference prices, as this is the case for a large range of intangible assets such as patents. The effects of exploiting this asymmetry of information have been examined by several authors. In particular, Clausing (1993, 2003) and Swenson (2001) both found evidence for the US of tax-motivated income shifting behavior through the manipulation of intra-group transaction prices. Barteslman and Beetsma (2003) found similar evidence, using sectoral value-added data for 22 OECD countries between 1979 and 1997.

The third broad channel of profit shifting is linked to debt-shifting within groups. In most countries, interest payments are tax-deductible. Further, these payments are subject to light, often zero, withholding tax rates and benefit from an exemption or a tax credit system in the country of the company receiving the interest payment. There is strong evidence that taxation affects the financial policy of companies (Mackie-Mason, 1991; Weichenrieder, 1996; Gordon and Lee, 2001; Alworth and Arachi, 2001; Altshuler and Grubert, 2002; Ramb and Weichenrieder, 2005). Using firm-level data for companies and their subsidiaries located in 31 European countries for the period 1999-2004, Huizinga, Laeven and Nicodème (2006) found that corporate debt policy reflects national tax features and international differences in taxes, suggesting that debt-shifting is an important phenomenon in Europe. To counteract this practice, several Member States have implemented thin capitalization rules that prevent companies to overload their foreign affiliates with debt. The characteristics of these rules vary widely across countries and there is up to now very little research on whether these rules have had a significant effect on reported profit.

These international profit shifting practices lead to a negative relationship between reported profit and the tax burden, which is confirmed by multiple studies (Grubert and Mutti, 1991; Hines and Rice, 1994; Grubert and Slemrod, 1998; Bartelsman and Beetsma, 2003 among others). Interestingly, Grubert (1993) reported that the reactivity of reported

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and Buettner and Wamser (2006) show that FDI is also very sensitive to other taxes faced by multinationals, profit to taxes has been unchanged despite the globalization trends in the 1980's. Profit shifting presumably leads to tax revenues losses because of lower reported taxable income. In the same time, the economic literature has mentioned two mitigating effects. Mintz and Smart (2004) have shown that income shifting may decrease the responsiveness of real investment to taxes. In other words, because the tax burden can be decreased via profit shifting, companies don't feel so much pressure to relocate their activities, keeping their seats and jobs in the high-tax country. The same idea was developed by Gordon and MacKie-Mason (1995) for whom income shifting, both cross-border (through transfer pricing) and domestic (through the choice to incorporate or not), softens the race-to-the-bottom predicted by economic theory. The total net effect is however certainly a decrease in tax revenues – as the last two effects only mitigates and do not reverse the tax minimization strategy – but its size in uncertain.

d. *How to implement the comprehensive solutions?*

Several implementation issues have been discussed in the 2001 Communication. Here, we retain three that may have an important impact on the design of a possible common consolidated tax base. The first one refers to the scope of companies to which the common tax base would apply. One question that arose was therefore whether the new European Company Statute (Societas Europaea, SE) could serve as a pilot group for the implementation of a new tax base. The SE is a long-waited legal form available for companies that merge or create a holding or a joint subsidiary. This new legal scheme shall facilitate cross-border EU restructuring. However, the SE does not so far contain provisions regarding taxation, other than national ones. Although the 2001 report indicated that the SE could be a suitable vehicle for a pilot or test case, the most recent discussions have not taken up the issue further.

among which indirect taxes.

A second point concerns the use of the International Financial Reporting Standards (IFRS, formerly International Accounting Standards, or IAS). The IAS Regulation requires listed companies to prepare their consolidated accounts in accordance with these standards from 2005 onwards (see European Commission, 2003a). Because it consists of some form of harmonization of accounting standards, some scholars have wondered whether the IFRS could serve as a useful leveled playing field for harmonizing tax bases. CEPS (2005) provides a detailed study of to which extent IFRS are compatible with tax principles and, despite mentioning some difficulties with some fair value accounting practices for some assets and liabilities, the CEPS report concludes that there is broad compatibility.[20] The European Commission (2001a, 2005b) seems more reserved and views IFRS as a tool to guide discussions and definitions but does not want to be bound by some rules that are primarily designed for reporting purposes and that may constantly be changing.

Finally, a last point regarding the implementation of the comprehensive solutions is the need to allocate profit across jurisdictions. The issue of formula apportionment is probably one of the most difficult and important one. The concern is, once a common tax base as been defined, how to allocate it across the various jurisdictions that will then apply different tax rates to their share of the base, with consequences on the tax liability of the company and hence on the tax revenues of countries. The US, Canada, Germany and Switzerland are examples of federations that have implemented such systems. For example, the formula in the US is based on property, payroll and sales but the States have the freedom to change the tax rates, the weights of each factors and the definition of taxable profit. This leads to many complexities and difficulties (See McLure and Weiner, 2000; Weiner, 2002a, 2006 and Hallerstein and McLure, 2004). The trick is to find a formula whose factors cannot be manipulated by companies or the states but that still reflects the factors that generated the

[20] Several studies show that the effect of adopting IFRS will be a tax base broadening (European Commission,

profit. Several problems are linked to formula apportionment (see Weiner, 2002b). First, it can be demonstrated that the system tends to transform the corporate income tax into a tax on the factors included in the formula. Second, if the factors are firm-specific, formula apportionment distorts firms' decisions. In addition, states have incentive to manipulate the formula. For example, they can decrease the weight of labor to attract labor-intensive activities. This means that tax competition on the location of both real activities and profit remains. Furthermore, as long as an activity is profitable when aggregated for all locations, States can also try to attract activities - even though they would be non-profitable in their territory – just as to increase their share of the global tax base. The formula apportionment mechanism acts therefore as an insurance or risk-sharing (Gérard and Weiner, 2003; Buettner, 2002). Finally, distortions to investment location are still present with formula apportionment whether it is applied to a common consolidated corporate tax base or to home state taxation (Mintz and Weiner, 2003). All this suggests that the system requires a large degree of harmonization of tax base but that even this may not be sufficient to solve all problems. Taking Value-Added Tax for formula apportionment is not problem-free either because a workable system seems to require an origin-based VAT system to include exports (Weiner, 2002), something the European Union has not (yet) implemented.

VII. What are the gains from coordination?

The bottom line of the review of the theoretical and empirical literature on tax competition and tax coordination is that the topic is complex, multifaceted and that it is difficult to analyze the issue in a comprehensive framework. Still, there is a need to quantify the effects of tax coordination. Various attempts – albeit with different focus - have been done in the literature. The European Commission (2001a) used the Tax Analyzer Model to assess the

2001; Haverals, 2005; Jacobs, Spengel, Stetter and Wendt 2005).

effects of a harmonization of tax rates and/or bases on the dispersion of effective tax rates and found that a significant decrease in this dispersion is only achieved in the tax rate harmonization scenario. Several recent attempts have been made with models that try to capture the essence of the complex setting. Mendoza and Tesar (2003a, 2003b, and 2005) use a dynamic[21] two-region (UK and Continental Europe, calibrated as France, Germany and Italy) model with perfect mobility of financial capital and the presence of several types of externalities of national tax policy (i.e. impact on terms of trade, on capital accumulation, and on tax base erosion). The authors simulate capital tax competition that triggers an adjustment of either labor or consumption taxes to adjust the budgets. The respective net welfare gains of tax coordination in these two simulations are respectively equal to 0.26% and 0.04% of lifetime consumption (Mendoza and Tesar, 2005).

Sørensen (2000, 2001, 2004a, 2004b) uses a static[22] model of tax competition for the Member States of the EU-15 with – inter alias - countries of different sizes, different earnings across individuals, partial foreign ownership, the presence of lump-sum transfers, imperfect capital mobility and aggregated national welfare functions that incorporate both the level of domestic citizens' welfare and some degree of social preference for redistribution. His simulations show the EU-average welfare gains from tax coordination ranging from 0.18% to 0.94% of GDP. This potential gain from coordinating corporate taxes in Europe increases to 1.42% of GDP for the scenario where the marginal public revenue is spent on public goods and not on transfers. In addition, the above-mentioned welfare gains are those of the median voter but the simulations show that the gains for the poorest quintile are actually much higher.

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[21] In the sense that they represent 'levels of lifetime utility', i.e. a long-run equilibrium – but the model does not include dynamic strategic interactions.

[22] i.e. Describing a stationary long-run equilibrium.

Parry (2003) uses a model to assess the welfare losses of tax competition and introduces, as additional scenarios - possibilities of capital flights outside of the EU, a Leviathan behavior with large states capable of influencing the after-tax rate of return on capital, and non-competitive governments (that is governments are less likely to cut taxes, knowing that others may imitate them). He sets the value of welfare costs of tax competition that he considers as 'significant' at 5% of capital tax revenues (corresponding to about 0.25% to 0.75% of GDP). His benchmark result shows that this value is reached for a tax elasticity of capital between 0.3 and 0.9. He then unlocks the capital supply elasticity at the EU level and allows it to increase to 0.5 and 1 (i.e. capital can progressively fly out of the EU). These scenarios respectively reduce the welfare gains of coordination by about 25% and 50%. The 'Leviathan' scenario unsurprisingly reduces the welfare gains (although capital taxation may be too low or too high depending on the parameters of the model). The same goes with the scenario of non-competitive governments. The magnitude of these results is broadly confirmed by a study commissioned by the European Commission to Copenhagen Economics (2004) in which the various scenarios of full harmonization, and harmonization of the bases with or without a minimum rate and/or an equal-yield constraints deliver welfare gains between 0.02% and 0.21% of GDP.

The gains may appear relatively small at first sight – and have been depicted so by several authors - but there are actually positive (meaning that there are potential welfare gains at coordinating corporate taxes) and are as large as those expected from some other important EU policies. A 0.5% welfare gain as a mean value from Sørensen (2001) compares well with the 0.6-0.7% gain expected from the removal of all obstacles to the free movements of services stemming from the full implementation of the services directive (Copenhagen

Economics, 2005a) and with the 0.5% GDP increase[23] expected from EU enlargement (European Commission, 2001b). It also corresponds to more than a fourth of the GDP increase (1.8%) due to 10 years of the implementation of the Single Market Programme as estimated by the European Commission (2003b) (in line with the 1.1%-1.5% GDP increase estimated for the effect of the SMP until 1994) [24]. This result includes the liberalization of network industries whose own effect is estimated at about 0.6% of GDP (although Copenhagen Economics (2005b) estimates the total EU welfare gain of liberalization of network industries at 1.9% of GDP).

Finally, one shall take into account that these models are by definition a simplification of reality and do not capture a number of complicating factors (See Parry, 2003 for a discussion on some of them). One important point, in the light of the 2001 report from the European Commission, is that the models do not capture the welfare gains linked to the decrease in tax compliance and administrative burden that arise from the harmonization of the tax bases. Several other factors are also left out of the analysis. Profit shifting issues are for example ignored. Huizinga and Laeven (2005) have however estimated that profit shifting activities are substantial in Europe[25] with Germany being the main looser as about a third of the true profit is shifted out of Germany. The aggregate loss in tax collected for European governments represents as much as USD 2.7 billion a year. Several other distortions and their consequences on tax revenues have also been reviewed by de Mooij (2005) for the Dutch Economy, such as location, financial distortions, and income shifting. The absence of cross-border loss offset and the transfer pricing issues have also not (yet) attracted the full attention of modelers.

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[23] Conceptually, the welfare gain in percentage of GDP and the GDP gain are different. However, in the absence of specific estimate for the former, the GDP increase can be used as a proxy.

[24] European Commission (1996). The ex-ante estimates by Cecchini, Catinat and Jacquemin (1988) gave a potential of between 3.2% and 5.7% GDP increase.

[25] Their estimated macro semi-elasticity of reported profits with respect to the statutory tax rate is 1.43. Weichenrieder (2006) found similar conclusions for Germany.

VIII. Conclusions and prospects.

Policy actions in corporate taxation at the EU level are relatively infrequent. This reflects both an institutional design that promotes subsidiarity in tax matters and rather ambiguous results on both the existence and the likely effects of corporate tax competition in Europe. Although statutory rates have fallen over the last decades, revenues collected from corporate income taxation in percentage of GDP have been remarkably stable.

This does not however suggest that there is no need for EU initiative at all. Several tax obstacles to the implementation of a truly integrated European market have been identified and there is empirical evidence of tax avoidance activities through relocation, the manipulation of transfer pricing or profit shifting via thin capitalization, albeit their respective magnitude varies. Among the comprehensive measures designed to tackle tax obstacles to cross-border activities in Europe, the European Commission (2001) proposed an articulated agenda to work out an optional common consolidated corporate tax base for companies doing business in Europe.

The project obviously presents several important technical difficulties that are currently dealt with by a working group of national and European experts. It carries nevertheless a rather substantial potential welfare gain for the European Union, both thanks to the coordination of corporate tax policies and the reduced tax compliance costs that a common tax base would bring. Provided it is well-designed, it would also bring additional benefits via cross-border fiscal consolidation and better transfer pricing resolutions, two aspects that are costly for both businesses and tax authorities. In addition, the proposal leaves untouched the tax rates and therefore leaves untouched tax competition – if not reinforces it by means of transparency of the tax base.

Ideally, designing a common consolidated corporate tax base offers the possibility to rethink about the way we tax companies. Current systems in place in the European Union often lack desirable features. It is important that the European Union reflects on sound economic principles such as neutrality across investors and sources of financing, equity across firms, simplicity, enforceability, stability of revenues (Gorter and de Mooij, 2001; European Commission, 2004b; CEPS, 2005). In doing so, the European Union should also reflect on the way to collect taxes (source-based versus residence-based taxation) and the integration of corporate taxation with personal income taxation. Obviously, there is so far no obvious solution on how to alleviate all distortions and governments are faced with trade-offs in multiple dimensions. Several alternative corporate tax systems have their merits and demerits (cash-flow taxation, Allowance for Corporate Equity, Comprehensive Business Income Tax, Dual Income Tax, etc.) and deserve to be debated (See Cnossen, 2001 and Devereux and Sorensen, 2005 for a discussion). The European Union may also want to reflect on profit shifting issues, the size of the problem and the possible remedies, such as thin capitalization rules (the CCCTB working group may start reviewing the issue early 2007).

Finally, the European Union may also want to examine whether the absence of bilateral tax treaties between some Member States creates double taxation problems and whether the current systems discriminate between domestic and non-resident investors when dividends are paid. This could potentially lead to an EU model tax convention or an EU multilateral treaty. Such legislation could in addition pick up additional issues, not reviewed in this article but that creates tax barriers as well. This is for instance the case of taxation of workers having an activity in several countries. In any case, the European Commission has announced a Communication in 2006 to explain its strategy in this field. These topics, as important as they may be, shall not however shadow the fact that, currently, the most important issue is to make the works on a common consolidated tax base a success.

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