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The Challenges of Corporate Income Taxes in a Globalised World

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1. Introduction

This paper reviews corporate income taxation in the context of the economic globalisation experienced in the last thirty years. Given present flows of capital and income between nations and the importance of multinational firms, due consideration can no longer be given to corporate taxation without contemplating international issues. The main purpose of this paper is to examine the current corporate tax trends derived from the changes occurred in the last three decades with a view to defining potential policy prescriptions aimed at making corporate taxation less distortionary and costly.

To make this issue more manageable, our analysis,will focus on European Union (EU) countries, chiefly on EU (15)(1) corporate taxation, paying special attention to Spain whenever appropriate. Other European or non-European OECD countries may be considered as terms of reference.

The paper will take an economist's approach and I will attempt to provide a comprehensive summary of what we know about the economic issues of corporate income taxes

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(CITs) and their alternatives. The agents involved in tax systems, however, are far more diverse than economists, and have their own objectives, which will also be considered here. In particular, policy-makers and tax officials give priority to revenue, administration and enforcement issues, while the business community may pay more attention to the effects of statutory and average effective tax rates or compliance costs, and less to the distortions associated with marginal tax rates, a main interest of economists. Within the EU, common tax policy and the rulings of the European Court of Justice (ECJ) provide constraints applicable to national CITs. International tax competition and income shifting among nations, or the difficulties of shareholder taxation, are also aspects of considerable significance. Complexity, therefore, is the rule in tax systems, steering discussions toward less distortionary and costly solutions, within the established constraints, as opposed to more perfect, albeit impracticable, alternatives.

Traditional CITs, levied on the return to equity, apparently create a differential burden on shareholders, in as much as CITs are not shifted away from corporations. The initial study by Harberger (1962) on the incidence of corporate income taxation, established that the tax burden affects capital throughout the economy, not just corporate equity. Corporate taxes cause capital to flow to unincorporated productive sectors, and capital and labour adjustments result in the tax burden affecting all capital, incorporated or not.

Relaxing Harberger's assumptions, and introducing more issues into his model, has resulted in a large number of subsequent studies which have changed our perspective of who bears the CIT burden. For our purpose in this paper, we could well accept the balanced conclusion in the recent review of this topic by Auerbach (2005), who states that instead of all capital, the CIT burden may be borne by labour (if CIT hits new savings and investment, which reduces capital and leads to lower wages) and shareholders (especially in the short run, as shareholders may be unable to shift the tax on "old" capital, or economic rents, as well as tax-induced managerial underperformance, which diminishes the advantages of corporate ownership).

Classical corporate taxation problems still affect present day tax systems, although they are enhanced by international issues. CITs distort investment and financing decisions, and may discourage the distribution of dividends or, in some cases, encourage incorporation. In an international setting, the CIT induces tax competition among governments and income shifting

between nations in the search for lower tax liabilities by multinational firms. Compliance and enforcement costs, or avoidance and anti-avoidance schemes, consume real resources and lead to reduced welfare.

Nonetheless, CITs are well and alive in most tax systems. The traditional reasons for justifying corporate taxation have been enhanced by the internationalisation of the economy. The withholding function of CITs, acting as a backstop to personal taxation, makes sense in the case of resident and non-resident shareholders, particularly if the latter are non-resident in name only. National and multinational corporations benefit from public expenditure where their operations are located, and a CIT is not a bad surrogate for user charges which may otherwise be impracticable to implement. Finally, CITs not only affect normal profits but also location-specific or firm-specific economic rents, so governments can easily tax all of them, thus avoiding differentiation problems and only taxing location-specific rents.(2) The two types of rents are often difficult to distinguish unless the latter are derived from natural resources. These reasons are also valid for the alternatives to CIT considered in this paper.

In spite of the reasons for maintaining corporate taxation in a tax system (as a CIT or any of its alternatives), there is still pressure on such taxes to reduce distortions and other costs. A discussion of the challenges facing corporate income taxes in EU economies should start by an overview of the evolution of CITs in the last few years of economic globalisation. This is best accomplished by analysing present CIT trends, focusing on the European tax systems, and this comprises Part 2 of this paper.

Part 2 reviews new trends in corporate income taxation, starting by considering traditional CITs and their alternatives, with some practical experiences discussed. Regarding existing CIT rate and revenue trends, we will focus on international tax competition (with the effects of different tax rates on corporate investment, location and income-shifting decisions) and the rate-revenue paradox. This is followed by a consideration of base broadening and the new targets for tax credits. Shareholder taxation is the fourth subject considered in Part 2. Changes in the taxation of shareholders may influence both corporation and shareholder behaviour. Last in this section, we also consider the concessions granted in many countries to small and medium-sized enterprises (SMEs).

Part 3 summarizes the constraints imposed by the EU and ECJ on the tax systems of member countries and the impact of other OECD initiatives. Although these constraints are neither decisive nor numerous, they must be considered before we can continue. At the same time, this Part will describe cases where international coordination has been established in spite of the apprehensive reaction of governments to the EU or OECD when fiscal sovereignty is touched, however lightly. The proposed EU consolidated tax base is also considered.

In Part 4, we shall be discussing current CIT challenges in a national and international setting, together with the different alternatives available in the academic literature or offered in practice in actual tax systems. Regarding these alternatives, we focus on the main question of how they perform in solving current corporate taxation problems or whether it is best to shy away from radical reform and continue with piecemeal changes and international coordination for traditional corporate income taxes.

The paper will end, in Part 5, with a summary of conclusions including policy prescriptions regarding possible future reforms of corporate taxes.

2. Trends in corporate income taxation

Very few alternatives to CITs were available thirty years ago. CITs back then had fairly high tax rates, narrow bases and a rather limited scope. Revenues were lower than at present, especially in Europe. The incentives provided by CITs were in need of rationalisation, and countries largely opted for imputation systems in the shareholder taxation area. All this has changed considerably. There are clear new trends in corporate income taxation.

2.1. Traditional CIT as the norm versus its alternatives

Conventional CITs levied on the return to equity is the standard tax on corporations' profits worldwide, and we do not often see alternatives.

These alternatives can be divided into two groups according to the sort of corporate base subject to tax. Taking a conventional CIT as our reference, the principal characteristic of each group is either:

a) to maintain normal profits free of tax and therefore levy the tax only on economic rents over the normal return on investment,
or
b) to tax all returns on capital, irrespective of whether the source of financing is debt or equity.

Types of alternatives to CIT

The main types of taxes to be included in group a) are:

- a CIT with an Allowance for Corporate Equity (ACE). This tax follows a seminal idea by Boadway and Bruce (1984), which was detailed by the British IFS just a few years later (1991). ACE relieves the cost of equity, deducting from profits the result of applying a risk free nominal rate of interest to the amount of equity, as explained by Bond and Devereux (1995). This approximates normal profits and therefore the CIT (ACE) is levied on rents (provided there is full loss compensation, so that the ACE is not reduced in present value terms if it goes unused in any year).

- flow-of-funds corporation taxes (cash-flow taxes), as devised more than three decades ago by the Meade Committee (1978)[(3)], where all expenses, including capital expenses, are tax deductible when incurred. These taxes can take different forms according to three well known bases (R, R+F or S – the last two being equivalent). The R base comprises real inflows (all sales, even of fixed assets) minus real outflows (all purchases, including fixed assets and wages). The R+F base also includes financial inflows net of financial outflows. The S base consists of share outflows (including dividends paid and reductions in own shares) less share inflows (dividends received and the amount of new share capital issued).

Alternatively, flow-of-funds corporation taxes may be implemented using a VAT–type tax with a base formed by subtracting all input and fixed asset purchases and labour costs from sales.

These two kinds of taxes (cash flow or VAT-type) can be applied on a source-base or a destination-base and are levied on rents arising from real capital assets or real capital and financial assets, as investment costs are deductible when incurred. The tax is also levied on the

total return on "old" investments if, in a transitional period after its introduction, these investments do not obtain flow-of- funds treatment.

The most important taxes included in group b) are:

- Comprehensive Business Income Tax (CBIT), as proposed by the US Treasury (1992). This tax disallows interest cost deductibility from traditional CIT, putting debt and equity financing of investments on an equal footing. It has been described as similar to a "pure" dual income tax – see Cnossen (1996) and (2000) or Auerbach *et al.* (2009), among others.

- Bird and Mintz (2001) went one step further with the Business Value Tax (BVT), a tax on the value-added of a firm (net income sort) with a base comprising revenues less purchases of inputs and depreciation allowances (labour costs being non-deductible). One can envisage the base of a BVT as a conventional CIT base to which interest expenses and labour costs are added back.

Other different combinations of all these alternatives to CIT, or two tier systems with a corporate and a personal level, have been proposed. These alternatives are discussed in Part 4.

Practical experience with alternatives to CIT

What practical experience of the above taxes can be found in tax systems today? As of 2008-09, and chiefly considering EU(15) countries, Belgium, on a national level, and Italy, on a regional scale, have applied alternatives to a traditional CIT in their systems. The Belgian tax follows the ACE system and Italy uses a BVT[(4)].

Furthermore, the UK operates a North Sea Fiscal Regime CIT with a 100% capital allowance on most capital expenditure, and other components, so that this Regime acts like a cash-flow tax. Without leaving the oil industry, Norway, a non-EU member, has a Petroleum Tax System with such generous depreciation allowances that, when added to interest payment deductibility, normal returns on investment in this sector are practically tax exempt.

Besides these examples from the resource sector (which resemble other experiences in the Canadian provinces or Australia), within Europe only Estonia –EU (27)– has been applying a Distribution Tax in lieu of a CIT since the year 2000. This tax on distributed profits (including

employees' fringe benefits, transfer pricing adjustments, donations and other non-business expenses) is somewhat similar to the S base of flow-of-funds corporation taxation. The EU authorities, however, have seen this tax more as a withholding tax on dividends in breach of the EC Parent–Subsidiary Directive regarding distributions of profits to parent companies from EU member States. As a result, the tax no longer has applied to such distributions from 1st January, 2009 onwards. Another change this year is that the Distribution Tax will be levied on liquidations to shareholders exceeding initially paid in capital.

In general, the Estonian experience appears to have produced good results for the country's economy –see Funke (2005) and Angelov (2006). But at present it is quite an isolated case. Outside Europe, Mexico has been operating a corporation cash-flow tax –*Impuesto Empresarial a Tasa Unica*(5)– with a base close to the R+F base proposed by the Meade Committee, since 2008.

Since January, 2006, the Belgium CIT has been applying a "notional interest deduction" similar to an ACE. An important requirement makes it only applicable to corporations in which the financial year is from January 1st to December 31st. The deduction is based on the corporation's equity (share capital plus retained earnings) at the end of the previous year.

The value of the allowance is calculated by multiplying the corporation's equity by a rate equal to the average monthly reference indices, based on the interest rate of 10-year government bonds. The rate for assessment year 2009 is determined as the average monthly reference index for such bonds two years earlier, in 2007. The rate cannot exceed 6.5% and the maximum deviation between the rates of two subsequent years must be 1% or less. Unused parts of the allowance can be carried forward for up to seven years only, with no interest for deferrals.

The revenue cost of the Belgian ACE has been estimated by an OECD (2007) policy study as 10.4% of the pre-reform CIT yield (not considering dynamic effects) and the new deduction is shown to be more profitable for small and medium-sized enterprises (SMEs). There are ample possibilities for accelerated fixed asset depreciation, especially for SMEs, and loss carry-forward (carry-back is not allowed) compensates only the nominal value of losses, without interest being applied for any time delay. Rather than for efficiency-enhancing reasons, the Belgian ACE may have been a response to the European Commission (EC)'s decision of 12 February, 2003, establishing that the Coordination Centre Regime is an incompatible State aid.

At present, ACE is not granted (among other entities) to coordination centres, which have to relinquish their own special tax treatment in order to apply the deduction but are able to use it when the period to qualify for the favourable regime ends.

Other prior experiences with ACE, within EU(15), have been the Italian "Dual Income Tax" (1997 – 2003), well reported in Bordignon *et al.* (2001), or the Austrian "Notional Interest" (2000 – 2004). Croatia, not an EU member, implemented an ACE tax (1994 – 2000), studied by Keen and King (2002) and by Klemm (2006). All these past experiences may have been repealed for the same reason: the use of relatively high nominal rates to prevent much revenue loss from application of the ACE. Outside Europe, Brazil has been applying ACE, under the name of "protective interest", since 1996, but only when returns are distributed to shareholders - see Klemm (2006).

ACE has a counterpart in the personal income tax. At an individual shareholder level, the Allowance for Shareholders Equity (ASE), reported by Sørensen (2005a), introduces an allowance for normal returns on equity, in which case the income tax is equivalent to an expenditure tax. This system may favour investment neutrality (provided there is full loss compensation), as it exempts normal returns on investments, and it may also reduce income shifting by corporate owner-managers (active shareholders) given the double taxation of economic rents –Crawford and Freedman (2009) suggest a combined use of ASE and ACE.

Since 1 January 2006, Norway has been applying the ASE system to the shares in national and foreign firms owned by resident taxpayers. The allowance is calculated by applying the interest rate for 3-month government bonds, after taxes, to the capital invested in the shares. The system's enforcement therefore requires an administrative registry of the acquisition cost of shares, which is not easy to achieve. In my opinion, this is the greatest difficulty involved with the ASE system. A variant of this system provides shareholders with an allowance per share equal to the value of ACE divided by the number of shares. Alternatively, shareholders can obtain a tax credit equal to the allowance per share multiplied by the corporate tax rate – credit for corporate equity (CCE).

With regards to the Italian "Regional Tax on Productive Activities (IRAP)", introduced in 1998, its tax base has been determined since 2008 by reference to the corporation's accounting results (irrespective of the adjustments required for CIT). Banks and financial institutions are

basically taxed, under specific rules, on the difference between interest receipts and payments. For other enterprises, the tax base is the difference between revenue (plus increase in inventory or work in progress) and production costs (intermediate goods and services, depreciation of tangible and intangible assets, provision for risk and other costs). Neither labour costs nor interest payments are deductible, unlike certain personnel costs: social security contributions, costs of R&D personnel, some of the costs of qualifying new employees and 5000 € per employee with an indefinite labour contract. Taxpayers with activities in more than one region apportion their tax base among them on the basis of personnel remuneration in each region.

The IRAP is very similar to the BVT proposed by Bird and Mintz (2001). Its base basically comprises wages, normal profits, rents and interest payments. It is an origin-based tax on the value-added by the corporation, of the net income type as depreciation allowances are deductible. Total profits and interest payments are equally taxed, with no discrimination between equity and debt. This tax resembles the Single Business Tax applicable in Michigan since 1976 or the Business Enterprise Tax of New Hampshire, enforceable since 1993, although it has a larger base. It is also similar to the Hungarian "Local Business Tax".

2.2 Rates and Revenues: International Tax Competition and the Rate-Revenue Paradox

Since just over twenty years ago, there have been two clear trends in corporate taxation in most OECD countries: a considerable cut in statutory tax rates coupled, oddly enough, with increased revenues. This has been repeatedly discussed in the literature –see OECD (2007) or Devereux (2006) for all the references – and we can skip a detailed review (however, Annex 1 includes nominal rates and revenue figures for the last 25 years, with Figure 1 showing the evolution of statutory rates in the 1981-2008 period. The annex contains average OECD, EU(15), OECD Europe[6] and US figures).

Statutory tax rates started to fall towards the end of the 1980s and in the early 1990s, and this trend continued in 2000-2008. Effective corporate tax rates (marginal or average) also fell in general in most countries, although less than nominal rates due to tax base increases and the reduction of tax credits to compensate for the revenue losses derived from lower rates – see, among others, Devereux and Sørensen (2006).

The reduction in statutory CIT rates was significant and constant from the late 1980s up to 2008 both in Europe and the OECD. The US, on the other hand, maintained the nominal rate of its corporation tax system at 39.3% from 2000 to 2008, although it had been cut sharply in both 1987 and 1988 (the 1986 rate was eleven percentage points higher than in 1990). The falling trend was maintained in 2008 and 2009 in the UE(15), with the average nominal rate falling from 28.44% (2007) to 27.20% (2008) and to 25,21% (2009)[(7)]. This trend can also be found in average OECD Europe and total OECD rates.

Meanwhile the revenue from corporate income taxes has tended to rise both as a percentage of the GDP and total taxation during much of the same period. The most important revenue growth is found, for Europe and the OECD, in the mid-1990s (with significant increases also registered in the second half of the 80s). From 1990 to 2000, revenue increased by more than 1% of GDP in the OECD and Europe (although only by two tenths of a point in the US).

No major changes are found in this century: from 2000 to 2005, revenue followed the same trend, with a slight increase in the OECD average and a clear increase in the US. The EU(15), however, registered a fall in average revenue. In any event, we will have to wait and see what happens with corporate tax revenues after 2008 in view of the current economic crisis. It does not seem possible to predict the relative movements and possible trend changes in CIT revenue in each country, national GDPs or other tax revenues in different parts of the world. We can be sure, however, that there will be substantial variations.

International tax competition

Is the persistent reduction of CIT rates in the recent globalisation period basically due to tax competition between nations to attract capital and income flows? One traditional theoretical argument found in the literature in the last twenty years –Gordon (1986), among others– is that, when international free movement of capital and income is established, there is a "race to the bottom" regarding tax rates in small, open countries, finally resulting in zero marginal effective rates. With capital mobility, if a small open economy applies a CIT, it will face capital outflows causing an increase in the before-tax rate of return of capital which compensates the tax, with effects on immobile production factors, labour and land, and production inefficiencies.

What we expect, then, is that income from mobile factors such as capital will not be taxed, as it will be preferable to obtain revenue from the immobile factors which in any event bear the tax burden. Furthermore, attempts by countries to attract multinationals with good management methods, know-how and other intangible assets (which generate firm-specific rents) will also lead to a "race to the bottom" process (Gordon and Hines, 2002).

This kind of prediction has not been accurate in practice, and it is not known whether it would be strengthened by greater international capital mobility. Winner (2005), however, with panel data from 23 OECD countries and especially since the mid-1980s, finds that greater capital mobility has had a significant negative impact on the capital tax burden and a positive effect on labour taxation (including social security). In contrast, Garrett and Mitchell (2001) do not find a negative relationship between capital mobility and tax rates, so the empirical evidence is somewhat ambiguous. Indeed, a multinational may decide to establish itself in a country, in spite of taxes, to serve its consumers better or because of product transport costs. Other important factors in the location decision of foreign direct investment (FDI) are relatively low wages or a qualified workforce. Quality of infrastructures or the management skills of the country's business community, with good goods and service providers, are also important for FDI location. These factors represent location-specific rents, which governments will want to tax, and can be interpreted as "agglomeration effects".

Baldwin and Krugman (2004) explained that with a medium level of international economic integration, and consequently significant trade costs, rich countries with good infrastructures, supplier and customer networks, business expertise, educated labour and a good technological level will have taxes which will not particularly take tax competition arguments into account, as "agglomeration external effects" protect their investments and support new capital inflows. This is because "peripheral" countries, with less "agglomeration", find it difficult to attract much foreign direct investment merely by lowering their CIT rates. Such lower rates, however, do create pressure on the taxes of rich countries as, with economic integration progress, lower trade costs limit the advantages of "agglomeration effects".

With this economic geography approach, the existing, but incomplete, integration of national economies does not lead to convergence of low tax rates, although it does limit these rates. Furthermore, the suggestion that capital levies vanish with increased mobility is counteracted by clear political arguments. The voters in a jurisdiction would not easily accept the

disappearance of a CIT (unless, perhaps, it is replaced by one of the alternatives) when nationally or foreign-owned firms are earning profits. From a policy-making perspective, it could also be best to keep a CIT in a small, open economy if it affects immobile production factors, as the revenue directly and indirectly obtained from such factors would be difficulty to levy in a politically acceptable way by direct means.

In sum, international capital mobility is unlikely to lead to the elimination of corporate taxation, although tax competition has limited and reduced both nominal and effective tax rates.

Tax competition can be established through different CIT rates (statutory, marginal or average) according to the different factors involved in an FDI decision(8) which governments could wish to affect. Having decided to enter a foreign market, one basic business decision refers to the domestic or foreign location of production (in the case of pure or financial services, a foreign location is often used to serve multiple markets). In relation to goods, they can be either exported or their production located in the actual marketplace. Transport or communication costs and all factors generating the aforementioned location-specific rents are of primary importance in such decisions. With regards to taxation (besides the effects of personal taxation on expatriate staff members), the primary aspect to be considered for discrete location decision is the profit to be obtained after tax, which depends on the average effective tax rate (AETR) of corporate taxation in the country where production is located.

A parallel decision refers to the scale of the investment (if it does not depend on expected share of the target market, which in turn is affected by present or future competitors). This decision is related to, but separate from, the location question. If there are no restrictions, a firm should invest to the extent that the marginal product of the capital is equal to its cost. This decision considers a CIT's effect on the cost of capital, its marginal effective tax rate (METR). A firm might also produce at other sites, in order to supply the market. If there is already spare production capacity, the new production could be spread among these locations as a marginal decision.

A further aspect, which is given high priority by firms, has to do with the ease, or difficulty, involved in locating profits in countries other than the one in which they are obtained, in order to reduce the overall tax burden. Geographical transfer of income is not difficult for a multinational group, as profits are much more mobile than investment on an international scale.

They can be transferred through financial transactions, locating debt and its respective financial expenditure in countries with high taxes, financed with loans from group companies operating in places with low taxes (or, with more sophisticated structures, obtaining a double dip interest deduction through countries with low taxes). Governments protect themselves from such practices with thin capitalisation rules, which can be avoided without much difficulty, interest allocation rules or by limiting the interest expenses incurred to earn foreign-source incomes. The other major alternative is transfer pricing: the use of other than market prices in international transactions to shift profits to lower tax locations.

Transfer pricing policies can be implemented by selling and buying goods and services among group firms, with cost distribution or charges for central services or the use of the multinational group's intangible assets. The tax authorities attempt to control this process with legislation on not-at-arm's length operations which establishes relatively strict limits to the prices applied in these operations, which can occasionally lead to double taxation in both jurisdictions.

The basic factor in all these business practices is the statutory rate, together with the administration's attempts and ability to combat such practices, as they are merely income transfers between countries and business decisions do not normally consider elements of the tax base, tax deductions or any other CIT peculiarity. On the other hand, decisions regarding the location of after-tax profits (whether to keep them as reserves, to be re-invested or lent to other locations, or to pay dividends) are affected by shareholder taxation, which we shall be considering later.

In sum, the different aspects of an FDI decision are influenced by three different classes of CIT rates: the AETR for investment location, the METR for its scale or the statutory rate for income shifting between jurisdictions. What empirical evidence do we have on the impact of those rates? Devereux and Griffith (1998) showed that the decisions of American multinationals to establish their production in Europe or the US were not significantly affected by tax considerations, but that they do have an impact on where they are located inside Europe. However, the same authors (2002) sustain that, although tax policies are important for business location and investment decisions, the scope of their effect is unknown. Devereux, Lockwood and Reodano (2006) analyse the case of governments simultaneously competing with METRs and statutory rates, finding that influences between countries are greater for statutory rates, to attract profits, and much weaker with METRs, to attract capital.

On the other hand, it seems clear that both METRs and AETRs have fallen less than statutory rates, because of base enlargements established to maintain revenue, as explained by Devereux, Griffith and Klemm (2002) using forward-looking measures. Grubert (2001), however, with a sample of 60 countries, determines that statutory rates have fallen less than AETRs, although the outcome is affected by the effects on AETRs (backward-looking measures) from different factors: profitability, loss compensation, cyclic factors or income shifting.

The large amount of empirical work conducted in the last fifteen years in this field has been studied in a meta-analysis by De Mooij and Ederveen (2003), further extended in (2008). In the 2008 results, business behaviour relative to income shifting (caused by statutory rate differences) and discrete location choice (where the relevant variables are AETRs) suggests a greater response to tax than other business decisions. For example, the semi-elasticity of the corporate tax base to tax rates in these two cases represents an effect of -1.2, whereas for investment in the margin (METR), the semi-elasticity values range from -0.3 to -0.6, with lower values for debt/equity discrimination. Distortions relative to the form of the business activity, corporate or individual, can be considerable according to some of the studies, although they have less impact on revenue as it is obtained both from the CIT and from personal income tax.

All this suggests that tax competition is more important in relation to statutory tax rates or AETRs, and that multinationals often make use of income shifting – Grubert, H. (1998) or Weichenrieder (2009) for German data–, as they are basically interested on after-tax profits. The same conclusion is reached when considering tax competition dynamics. Overesch and Rinke (2008), using panel data from 32 European countries from 1980 to 2007, and dynamic estimations, show that countries compete strongly in relation to statutory rates and AETRs although there is little interaction relative to METRs (however, they imply that the results depend on how inter-country interaction is modelled).

Considering tax competition in general, it is clear that the idea that corporate taxation would vanish in small-open countries erred the mark. Low tax-rate jurisdictions, however, in a much more globalised world economy, have established limits and reduced CIT rates. There appears to have been stronger competition regarding statutory rates and AETRs than METRs, in line with what we know about the international behaviour of firms. Multinationals pay special

interest to location decisions (influenced by AETRs) and income shifting possibilities in order to locate profits in jurisdictions with low statutory tax rates.

The rate-revenue paradox

While tax rates have been falling, corporate tax revenue, in terms of the GDP and total taxation, has been increasing for the last twenty years in most OECD countries, although it has either remained the same or diminished on average in the EU(15) in the 21st century – see OECD (2007) and Appendix 1. This would appear contradictory, and therefore explanations have been sought to solve the puzzle.

One first explanation of this inconsistency between the evolution of CIT rates and CIT revenues is related to the broadening of the base which accompanied the rate cuts, especially in the second half of the 1980s. In empirical studies, special attention was paid to the reduction, in most of the OECD, of the present value of the depreciation allowances produced by lower depreciation rates for tax purposes (reduction of the present value of these allowances has become smoother since the early 1990s, given the lower discount rates which went hand in hand with lower inflation). Changes in other aspects of different legal definitions of the tax base, which are much more difficult to compare between countries, such as the disappearance of exemptions or investment deductions (partially compensated by tax benefits for R&D or environmental issues) and how expenses or provisions, loss compensation or capital gains are treated, have received less attention.

The breakdown by Clausing (2007) and Sørensen (2007) of the revenue/GDP ratio in different factors has led empirical studies to consider other possible explanations for the rate-revenue paradox, such as the profitability of corporations or the size of the corporate sector in the economy. Non significant results were obtained with regards to the first of these factors. In relation to the second, Sørensen mentions that agriculture, with a lower level of incorporation, is less important in present-day economies, and Auerbach (2006) highlights the growth found in the financial or service sectors. De Mooij and Nicodème (2008) study the income shifting phenomenon from the personal sector via the progressive incorporation of business activity in the EU, which helps to understand revenue growth arguments – also see Gordon and Slemrod (2000).

Another type of income (or investment) shifting aims at countries with low rates, such as Ireland inside Europe. Using sectional data from OECD countries, Bertelsman and Beetsma (2003) show that reported value added is negatively related to statutory tax rates. And then we have income shifting towards tax havens. Becker and Fuest (2007), however, show that internationalisation had a positive impact on 16 German länder (in a high tax country), which is not consistent with the idea that multinationals reduce their global tax burden by shifting profits to low tax countries. The efforts of the tax authorities to counteract income shifting, or tax avoidance in general, appear to have had good results over time, which could partially explain the conclusion reached by Becker and Fuest.

The empirical studies conducted on this subject can be divided into two large groups: those which refer to specific countries and those which consider a broad sample of OECD members. Besides the paper about the German länder, the most interesting country studies refer to the UK and the US. We have selected the most recent papers. Devereux, Griffith, and Klemm (2004), for the UK, a country which registered important statutory rate cuts and high tax revenues from 1980 to 2004, show that the broadening of the tax base only partially explains the rate-revenue paradox. Other explanations can be found in the growth of the corporate sector and the large profits of the financial sector. Auerbach (2007) shows that most of the recent revenue increases in the US are due to constraints regarding loss compensation, which in turn increase the effective taxation of corporations.

Clausing (2007) reviews a sample of 29 OECD countries (all of them except Mexico) for the 1979-2002 period. He finds a parabolic relationship between tax rates and corporate tax revenues as a share of GDP, with a 33% revenue-maximizing corporate tax rate for the sample, although this rate depends in specific countries on their size and openness. In general, Clausing expects small, open economies to have a lower revenue-maximizing tax rate than larger, richer or more closed economies. This is compatible with the statistics –OECD (2007)– which show greater revenue increases in poorer countries with lower nominal rates than in rich countries (with higher nominal rates). It is also compatible with the aforementioned “agglomeration effects” used by Baldwin and Krugman (2004), in as much as tax competition differs according to the country; peripheral countries gain revenue by applying lower rates but advanced core nations with higher tax rates are not much affected.

Devereux (2006), using a slightly different approach, obtains similar results for a panel of 20 OECD countries in the 1965-2004 period, with a revenue-maximizing rate of around 30%. However, none of the tax effects are significant in the presence of time dummies and other control variables. So Devereux is not convinced that there is a "systematic relationship between tax rates and revenues across OECD countries". The contributions of Clausing and Devereux, then, leave us without a clear explanation for the rate-revenue paradox. There may be different suggestions to explain the puzzle, such as the broadening of the CIT base to counteract rate cuts, the effects of income shifting or simply the better performance of tax agencies, but we have not yet been able to explain the direct link between lower rates and higher revenues.

2.3 Base broadening. New targets for tax credits

The broadening of the CIT base (and even enlarging the scope of the tax to include new taxpayers or new schemes to tax passive income, for instance or to hinder circular or conduit international situations) has been an important part of the recent changes made to tax systems. In this regard, differences between accounting results and tax base computation are fading through the elimination of exemptions and concessions, and accounting standards have become generally accepted for fiscal purposes. Tax depreciation rules are possibly now more in line with actual depreciation of assets; at least, they are less generous. Tax preferences for SMEs, as discussed in section 2.5, however, counterbalance this view.

There are other aspects of interest in relation to the CIT base. Several rules help to broaden the tax base; these include: the gradual strengthening of the fiscal regulation of "not at arm's length" transactions; the application of "advance price agreements"; or rules referring to "undercapitalization", With regards to loss compensation, retroactive compensation is not common but carry-forward has been extended to a larger number of years (without a nominal after-tax rate of interest). With lower inflation in the latest few years, inflation adjustments are not normally applied except for the sale of fixed assets.

Note that there are obviously differences between countries in this process of changing the CIT base and not all changes are broadening efforts. Considering the EU, tax depreciation rates and methods still differ, although less markedly. For inventory valuation, the LIFO method is being gradually accepted for tax purposes but is not yet commonly admitted. Accounting-wise, inventories are valued at average or FIFO. The capital gains arising from assets, taxed at transfer

and normally integrated in the base, show different tax preferences used in different countries, largely to encourage reinvestment, through deferral or exemption of the gain or the application of tax credits against tax payable so that the effective rate is reduced. Capital loss compensation may be subject to offsetting constraints, which vary between countries.

Finally, accounting standards and practices also differ considerably in the EU. Even after the application of International Financial Reporting Standards (IFRS) in 2005, in accordance with EU Regulations, to publicly traded corporations with consolidated accounts, there are differences among European countries due to the options provided to firms by International Standards. For example, capitalization of financial expenses is an option for corporations in different countries (and mandatory in Spain). Options between cost or reasonable value are open to firms for fixed and intangible assets; R+D expenses may be capitalised in Spain but not in other countries. Different consolidation methods are open to groups. Outside the corporations covered by the EU Regulation, national standards apply which may follow IFRS or not (Spain, for example, has recently adapted accounting legislation to IFRS). Where local standards have not been adapted to IFRS, the above accounting variations apply to more cases, such as lease agreements or the recording of income for long-term contracts or foreign currency transactions.

Although this is not a case of CIT base broadening, but is also aimed at maintaining revenue with lower rates, the elimination of fixed assets investment tax credits has been another feature of corporate taxation during the last few decades. Investment tax credits may attenuate the cost of using capital if there are high financial costs. However, the short-term efficacy of investment incentives is also costly. Besides generating efficiency costs on the labour market, tax incentives may have undesirable effects on the composition of investment, compounded by other aspects of the CIT such as rates, loss compensation, depreciation of assets, capital gains treatment or, in general, sources of financing. This lack of neutrality concerning type of investment for different sorts of corporations explains policymakers' decisions regarding investment tax credits. The maintenance of revenue was another reason, but it has been counterbalanced by the tax concessions provided for new activities since the 1990s in OECD countries.

The new areas mainly comprise tax credits for:

- R&D, technological innovation activities and the promotion of informational technologies,
- investment aimed at environmental protection or the use of renewable sources of energy,
- occupational training costs, including the cost of providing employees with internet connections or equipment.

It is clear that both policymakers and the business community are largely in agreement concerning this new tax incentive system, at least in the European setting. At present, tax credits are chiefly limited to encouraging business activities in these areas in order to increase competitiveness, although we know little of their cost-benefit balance.

2.4 Shareholder taxation

A traditional issue related to corporate taxation is the avoidance of multiple or cascading taxation of corporate profits, through chains of corporations, until the income ultimately reaches the shareholder. Even if this multiple taxation disappears, at the individual shareholder level corporate income attracts a double taxation due to the operation of the CIT coupled with personal income tax. The latter's importance depends on the theoretical view of the combined effects of the taxation of shareholders and the corporation itself.

In the traditional view of the effects of shareholder taxation, newly issued capital is the corporation's marginal source of finance. It considers that dividend taxes matter because of the higher cost of dividends relative to the tax cost of financing investment with retained earnings and because double taxation of capital gains also increases the cost of capital, thus reducing investment. Therefore, it is appropriate to limit the double taxation of equity instruments in comparison to debt, which generates deductible returns in the CIT. This traditional view is probably the most commonly accepted among tax experts.

Of course, the next question is: if dividends have a greater fiscal cost, why are profits distributed and new shares issued? In this respect, some shareholder groups are not seriously affected by the higher tax cost of dividends (clientele effect), showing a preference for holding shares. Dividend payments are also a way to prevent a firm's managers from making excessive investments against shareholders' wishes and to show how profitable a firm is. The greater tax

cost of shareholder taxation is thus compensated by these advantages, even though the net returns are smaller.

The "new view", see Zodrow (1991), among others, is based on investment being financed with retained earnings if corporations defer the payment of dividends to avoid shareholder taxation. This approach considers that dividend taxes do not affect the marginal incentives for investment financed with retained earnings. This marginal investment will generate an after (corporation) tax return which, when paid out to shareholders together with the previous retained earnings, will face a dividend tax for the total payout. The dividend tax not incurred initially, due to the retention of profits, is eventually paid. The final net rate of return for the shareholder will be the same, provided the dividend tax rate is constant(9). As the net rate of return does not vary, the effective marginal tax rate is zero, and the dividend tax is irrelevant in relation to the marginal incentives for investments financed with retained earnings (evidently, because the argument assumes that all returns are eventually distributed and taxed at the same rate). Any reduction in shareholder taxation will imply a net gain for the owners of existing capital, as the dividend tax simply reduces the value of "old" capital.

Empirical studies on the validity of these two views, "traditional" or "new", have unfortunately not had clear results regarding firm behaviour –see Auerbach (2002) or Auerbach and Hasset (2007). On a purely international scale(10), moreover, the situation is much more complicated, given different country CITs or the possible application of withholding taxes to income obtained by non-residents. Distortions related to cross-border investments or income and profit flows in corporate groups are also important. Indeed, in such an international context, with multinationals owned by numerous individuals living in different countries, who invest through complex corporate structures in different open economies, a third approach has arisen to compete with the "traditional" or "new" views.

This "third view" considers that, with perfectly mobile capital and open economies, the cost of equity finance will be internationally formed according to a world interest rate modified by appropriate risk premiums. The cost of capital for firms will be affected by CIT at the source and any further withholding, but not by shareholder taxation, which does not affect corporations' financing and investment decisions. Shareholder taxation will affect the return on savings but not the return on investment, the cost of which will be increased by the CIT. Therefore, shareholder taxation is not significant for investment, according to this view. However, as Sørensen (2007)

sustains, a country's small and medium size firms do not find it easy to obtain international financing, so for them this "third view" is largely not applicable. Such firms are biased towards creating reserves (in which case, the "new view" could be more appropriate) or obtaining bank loans (unless they attract risk capital).

Shareholder taxation systems

Shareholder taxation systems are highly varied, ranging from total integration(11) to the "classical system" (understood as the double taxation of shareholder income and the corporation's profits without any compensation) or "modified classical systems" with a degree (normally partial, occasionally none) of double taxation. In order to simplify the discussion in this paper, we will only consider three systems: the traditional imputation system with deferral, the exemption (total or partial) system and the application of different tax rates to the returns obtained by shareholders, as these are the most commonly used systems in practice. Institutional investors –pension funds, collective investment institutions or insurance corporations– are mainly dealt with by the application of very low (1% or 0%) tax rates in their CITs.

In all shareholder taxation systems, an important constraint is derived from the administration's ability to manage them at an acceptable public and private cost; this is even more important with economic internationalisation. Administrative costs evidently increase and there is less control capacity in the case of economic flows through different jurisdictions and national systems.

We will start by paying special attention to the imputation (residence-based taxation) and exemption (territorial) systems in order to better understand the changes in the shareholder taxation field in the last few years. We will then summarise the shareholder taxation systems currently applied in EU(15) countries, where economic integration is deeper within Europe.

If we consider the type of tax neutrality on foreign or national investment provided by the two systems, we know that CIT imputation to the shareholder, who has the imputed amount credited against his tax liability in his place of residence (with the excess being returned in case of insufficient tax liability), leads to residence-based taxation,. This is so as underlying income is taxed at the shareholder's residence(12), thus obtaining capital export neutrality (CEN). This neutrality is achieved because the investment made from a country is treated alike for tax

purposes whatever its destination, national or foreign, without taxation interfering with this decision, so there will be capital flows until the same before-tax returns are obtained in any jurisdiction(13).

We also know, however, that uncompensated credit, if there is insufficient tax liability, is never returned in practice for revenue-related reasons, enabling the shareholder to simply compensate for unused credits in a given number of subsequent years. Moreover, in an international setting, the shareholder's country of residence will only admit a tax credit equal to the foreign tax paid or the amount that should be paid by the shareholder for the income obtained (including the imputation), whichever is smaller.

This is a logical way of limiting the "treasury transfer" that a shareholder's country of residence would have in relation to source countries of income with higher tax rates. However, this limitation eliminates the efficiency advantages of the imputation system if foreign taxes are higher than those of the shareholder's country of residence, as the source tax would then prevail.

The tax imputed to the shareholder not being fully compensated, or being compensated with some delay, is not the only problem with the imputation system. The system's true difficulty lies in its compliance and administration costs.

For the system to be effective, shareholders have to know the underlying CIT of the income (dividends or capital gains) that they receive, in order to impute and credit it on their returns. For shareholders with sufficient, stable holdings, enabling a degree of control, this information is easily available if it refers to dividends paid out against a year's profits. If dividends are paid out from reserves, the situation is more complicated, as it would be necessary to establish a ranking order, such as that they are applied to the most recent profits. Also, the distribution of reserves can correspond to profits with different effective rates, thus complicating how to obtain and control this information even further. There may even be inspections of these years with changes in the tax due, or they may as yet be undetermined as the result of administrative or judicial procedures, so the system's enforcement becomes extremely difficult.

If the imputation system is extended to capital gain taxation, in the case of profits not paid out while shares are held, even if they have been capitalised, or shareholders leaving with assets whose latent capital gains are taxed in the company, it is obvious that the difficulties

increase. In all these cases, it is clear that the situation is more complicated with international relations between shareholders and corporations, especially if there are lower-tie subsidiaries. Control of the magnitude of the foreign CIT imputed (and credited) by the tax authorities (of the shareholder's country) is very weak.

Moreover, the imputation system probably does not generate much extra residence revenue due to tax deferral(14): either dividends are not paid out from the country of origin of the profits, or parent companies establish holdings with low or no taxation between said country of origin and the parent company's country of residence (in the EU(15), this includes Spanish foreign-share holding firms or Dutch, Luxembourgese or Belgian holdings). These holdings transfer financing, comprising profits obtained in different countries of origin, to places where new investments are made without passing through the parent company's country of residence. With the residence exemption system, therefore, the loss of revenue derived from not applying imputation will not be too large if the tax burden in the country of residence is greater than in that of origin (if it were smaller, the revenue loss would be zero). With the exemption method, financial funds in the form of dividends from profits obtained abroad would more easily be repatriated to the parent company's country, in which case the establishment of holding firms would cease to make sense.

By applying the exemption system, the country of residence's tax authorities saves the considerable administrative cost of controlling the imputation system, which is why the residence exemption system is welcomed by the tax authorities in numerous countries -see Tanzi (1995) or Blumenthal and Slemrod(1995). In this case, however, and this is an extra cost of exemption, international fiscal transparency systems are required to prevent resident taxpayers using firms registered in tax havens for portfolio investments.

The exemption at destination of international income establishes a territorial tax system with a source-based CIT. This gives rise to capital import neutrality (CIN) if the investment made in a country is treated equally irrespective of its country of origin. A country's national or foreign capital providers obtain the same after-tax return on their investment on that market, so there is no neutrality in the export (and location) of capital but efficiency in the international allocation of savings, as capital mobility makes the after-tax returns of savers from different countries equal.

If, on the other hand, all countries exempt foreign income from domestic tax, the result is Capital Ownership Neutrality (CON) without cross-country distortions of ownership patterns.(15) This is also an important neutrality criterion as, in order to be highly productive, the firm-specific intangible assets of multinationals have to be managed by their multinational owners. Desai and Hines (2003) show that if a territorial system is followed by all countries, applying the same rules for the deductibility of financing costs and the amortization of the financial goodwill of cross-border acquisitions, multinational corporations will face the same effective rate in each country and will hold the assets that maximise pre-tax (and after-tax) returns, without distorting ownership patterns.

In conclusion, a territorial tax system does not score well in CEN terms, but less poorly in CIN or CON terms. Also, as we already mentioned, it has clear practical advantages which make it attractive for both tax authorities and the business community.

Firms prefer the international application of the exemption system. It is much simpler from an administrative viewpoint and reduces compliance costs. No shareholding information has to be obtained to know the percentage of successive shares in a chain of businesses and the tax effectively paid (in previous years in the case of distribution of reserves) on each level of the chain.

Furthermore, and this is an essential advantage of the exemption system for firms, exemption competes favourably with imputation if, as always occurs in practice, the latter contains a maximum deductible in the form of the country of residence's tax. This can be easily explained. Imagine the case of receiving a dividend from a subsidiary. If effective taxation at origin (subsidiary's country) is lower than that of the parent company's country, the imputation system globally maintains the residence tax burden, which is higher. In contrast, with the exemption method, the firm only pays the source tax, which is lower. If source is greater than residence taxation, the tax burden resulting from the two methods is the same and equal to the source.

This shows that, with source higher or the same as residence taxation, the parent company does not care which method is used (leaving the administrative complexity of imputation aside). If source is lower than residence taxation, the parent company prefers the

exemption method, as the tax burden is smaller. The exemption system, in this way, may increase tax competition and profit shifting, as corporations will search for lower rates.

Furthermore, if we review different international tax legislations, the residence exemption method is more likely to eliminate taxation of foreign capital gains, at least with regards to the reserves of non-resident firms, than the imputation system (note, however, that the imputation system can also include a deduction for capital gains from sold shares in relation to non-distributed profits, even those included in stock capital, with the limit of the residence tax).

Particularly in relation to enforcement and compliance costs, all the above explains why the exemption system tends to be used at the investor's residence in parent-subsidiary cases (participation exemption). Source countries defend their source-based CIT revenue with regulations on transfer pricing or insufficient capitalisation, which represents an additional cost of residence exemption.

On the other hand, national tax laws tend to apply source exemption, with international parent-subsidiary relations, in non-resident income tax. It appears that the countries of origin of the income believe that priority should be given to ensuring corporate tax revenue, and that it is not so important to tax the foreign shareholder with withholding taxes on non-residents which affect dividends or capital gains derived from stock. The OECD Convention Model to prevent double taxation follows these lines, as does the EC Parent-Subsidiary Directive of July 13, 1990 in relation to dividends paid out by a subsidiary. This source exemption and residence taxation scheme is increasingly applied internationally to other capital income such as royalties or interest paid between associated corporations.

The parent-subsidiary case (participation exemption)

Shareholder taxation, in the parent-subsidiary case, has been tending in many OECD countries towards the exemption method. Within the EU(15), all countries apply participation exemption of dividends received by residents from non-resident corporations, except Greece and Ireland, which have imputation-credit variations. Finland only allows the participation exemption regime for dividends received from another EU member State or a country with which Finland has a tax treaty. The imputation-credit method is offered as an alternative by different EU(15) member countries as well as participation exemption.

Exemption may be complete or only applicable to 95% of the dividends received (the 5% taxed is a way to consider the deductible administrative costs of participations in subsidiaries, which are non-deductible in most countries with full exemption). The minimum (direct or indirect) participation required to obtain the exemption is either 10% or 5%, although exemption is provided irrespective of the size of the holding in other countries (in some cases the minimum participation is expressed as a minimum share acquisition price value). This minimum participation has to be maintained continuously for 1 or 2 years in most countries (this period can occur before or after profits are distributed). The participation exemption system is generally not applied if foreign income has been subject to low taxation (normally understood as a tax burden of less than 15%) or a privileged tax regime.

For dividends received from other resident corporations, the application of participation exemption is even more widespread. Only Spain follows an apparently similar system by granting (with minimum participations of 5% in other resident corporations) a credit against the recipient's tax liability of 100% of the CIT attributable to the gross dividend. Unused deductions due to insufficient tax liability can be deducted from tax liabilities in the seven immediately following years. This deduction mechanism apparently acts like an exemption. This is not the case, however, if there are losses in the recipient corporation(16).

With regards to capital gains arising from share transmissions, the participation exemption system is also widespread in the EU(15). In the case of transmission of shares from another resident firm, Spain applies a variation on the credit system explained in the previous paragraph. The credit is calculated (in the capital gains case) with reference to the reserves corresponding to the transmitted shares (including those already capitalized) which have been accumulated by the firm while the shares were held, with a limit comprising the capital gain. This system suffers from the problem described at the end of the previous paragraph –see note 16–, and is only applied in relation to subsidiary reserves generated while the shares were held by the parent company and not to the total capital gain obtained(17) (although this is accepted in many cases with the participation exemption system).

Other particular aspects in the EU(15) are found in Austria, which taxes the gains from resident corporation share transmissions. Greece levies a 5% tax on the gain from the sale of shares (domestic or foreign) not listed on a stock exchange. Taxation of gains from listed shares

is deferred in Greece if they become part of a special reserve to offset future loss from the sale of shares (both listed and unlisted). Finally, Portugal only provides a partial (50%) rollover relief scheme to gains from the sale of shares in any corporation (resident or non-resident), with the condition of reinvestment of the total consideration received and if the sold holding (retained for at least one year) represents at least 10% of the participated corporation's capital or an acquisition value of 20 million euros.

Portfolio investments: corporate shareholder

For portfolio investments by corporations (without reaching the arbitrary shareholding level defined for participation exemption), the exemption method is also used at the place of residence of the income's recipient. This method is not applied as a general rule, however, and there is no clear trend in international tax legislation. The imputation system is not often applied in these cases (although it is available in many tax treaties) as it has high enforcement and compliance costs when shareholdings are not substantial or maintained for a certain time.

If the exemption method is applied, it can be complete or not (and include capital gains or not), without considering the size of the shareholding, the time it is held or whether the income comes from resident corporations or not. In the EU(15), the German CIT exempts 95% of the income, adding 5% of the gross dividend or capital gain to the tax base in order to take share management costs into account. Italy applies the same criterion (dividends and capital gains) with a somewhat more restrictive regulation. Finland does not require a minimum level of participation in the dividend received case, so it applies a total exemption method (only applicable internationally to dividends received from the EU or treaty countries)[(18)]. Ireland and the UK exempt domestic dividends (franked investment income).

In contrast, other countries are far from the exemption method for portfolio investments held by a corporation. Spanish legislation, for instance, distinguishes between international and national portfolio investments (defined in both cases as participations lower than 5%). Spain will probably have to be consistent in the application of the same systems to investments in Spain or other EU countries if the tendency of certain ECJ rulings is eventually applied to the case of portfolio investments held by corporations (see Part 3 below). In the Spanish CIT, with international portfolio investment, multiple taxation is applied together with the deduction method, taxing foreign income net of foreign CIT. A tax credit is also applied in the amount of

the tax paid by the firm resident in Spain, as not resident in the other country. This deduction follows the imputation method with the usual limit of the foreign withholding or Spanish tax liability, whichever is smaller.

With this approach, Spain follows capital export neutrality from a strictly national perspective; in other words, it applies National Neutrality (NN). With this system, marginal pre-tax return on domestic investment tends to be equal to the marginal return on foreign investment after payment of foreign tax. Spain taxes foreign income net of foreign taxes at the same rate as domestic income. Foreign and national investments are equally attractive from a national perspective, and national income is maximised.

In the case of national source dividends from portfolio investments, Spain uses the method described in the previous sub-section, granting a credit against the recipient's tax liability, but in this case valued at only 50% of the total tax due. For capital gains from the transmission of portfolio investments in Spanish (and foreign firms), Spain applies the classical system.

Individual shareholders: personal income taxation

Where one of the three approaches discussed at the beginning of this section is most required is in the taxation of individual shareholders. We should remember that the traditional approach is not unanimously accepted, but the "new view" is not clearly supported by empirical evidence. Application of the "third" approach would depend on how open the economy is and whether the firms generating shareholder income receive international financing. The lack of a widely accepted theoretical approach explains the different solutions applied in practice and the fact that the total exemption system, which could be supported by the traditional view, is not common in personal income taxation.

Furthermore, if the CIT rate is lower than the highest marginal personal tax rates, as is common in practice, the total exemption of dividends and capital gains in the latter would foster the use of incorporation for performing economic activities in a country and a tax avoidance mechanism. Therefore, only if the maximum marginal personal income tax rate (or the only rate in a linear tax) is less than that of the CIT, would the total exemption method be feasible in personal taxes. Even in this case, with foreign dividends with an underlying CIT lower than the

national rate, the exemption system would encourage international investment in countries with low corporate taxes (as we will see in Part 3, the system applicable to resident shareholders in the EU has to include national and other Union dividends).

Given these problems with total exemption and the practical difficulties associated with the imputation method, different systems are understandably used in the case of individual shareholders. There is a tendency to apply modified classical systems with partial exemption or reduced rates to dividends and capital gains in personal income taxes. The systems used in Europe are basically (apart from marginal application of the imputation system):

- dual personal income tax (which, in turn, can include either of the following two systems)
- partial exemption of dividends or capital gains generated by share transmissions
- use of a single reduced rate applicable to shareholder income

The idea of a dual personal income tax is both simple and practical. It is increasingly found that global income taxes are taxing different tax base components differently for several reasons, especially international capital mobility. Providing a simple, homogeneous tax on returns on capital, a dual tax applies a single rate (although more than one could be used) to capital income (normally excluding income from primary residence and pension funds) and a progressive rate scale to earned income. The capital income rate is close to the lowest rate applied to earned income (although not zero) and the CIT rate. Income from business, artistic or professional activities jointly generated by labour and capital is more or less arbitrarily distributed between labour (with a progressive rate) and capital components (taxed with other capital returns). This discretionary distribution is one of the most serious difficulties associated to dual taxation.

There are three countries in Europe with dual taxation, Finland, Norway and Sweden.[19] Partial exemption is also used in Finland and an ASE system in Norway.

Partial exemption is relatively common in EU(15) for dividends. Examples are France, Germany, Italy (with substantial participation[20]) or Portugal. Reduced rates are applied to dividends in Belgium, Italy (without substantial participation), the Netherlands or Spain. Taxation of capital gains from share transmissions at the shareholder's place of residence is not always the same as dividend taxation in EU(15). Belgium, for example, applies total exemption

to capital gains from share transmissions, if they are not derived from speculative operations, as does Portugal if the shares are held for over a year. France, however, applies a reduced rate to capital gains. Note (21) summarises the taxation of dividends and capital gains from share transmission in the above EU(15) countries, showing different particular aspects of the partial exemption or reduced rate methods which, in any event, are the most common systems used. Unlike the parent-subsidiary situation, there is no clear trend in the case of individual shareholders.

2.5 Small and medium-sized enterprises (SMEs)

Another important CIT trend in the last few years has been the tax advantages granted to small businesses, clearly supported by the EU. SMEs are numerous everywhere and provide a large number of jobs. Defined by the number of jobs involved (they all have to have less than 250 employees), these business include micro (up to 9 employees), small (from 10 to 49) or medium-sized firms (from 50 to 249). They combine corporate enterprises (CIT) with individual entrepreneurs or other entities, the treatment of which varies from one country to another (partnerships, for instance, or co-ownership businesses), which can be taxed through the individual income tax. The tax benefits granted to these businesses in CIT (according to size measured by turnover[22], taxable income, number of employees or amount of assets) tend also to be applied in individual taxation.

The statistical information available from the Observatory of European SMEs shows that, over the years, these businesses have registered less labour productivity and value added growth than large scale enterprises (LSE). Employment growth, however, tends to be negatively correlated with enterprise size over time. LSEs are more likely to export although, as SMEs supply goods and services to LSEs, their indirect contribution to exports may be significant. The large number of SMEs, their lower productivity, their contribution to employment and their more direct contact with the public make them in the eyes of policymakers more “deserving” and they are generally considered worthy of better tax treatment than large corporations.

Special CIT regimes for SMEs vary, but they tend to apply lower rates to all or part of the tax base, with advantages which are not always very significant for each business but represent a considerable loss of revenue overall. Other tax incentives for small business may be accelerated depreciation, or even free depreciation in special cases, and rules to facilitate compliance, such

as admitting global provisions for possible insolvent debtors for tax deductibility. Higher or special tax credits are also used, especially in relation to technological innovation, information and communication technology access (largely the Internet and e-commerce), staff training or good environmental performance.

A range of problems are associated with these concessions to small businesses. In addition to lost revenue, they also represent an incentive to break-up corporations, which leads to greater complexity when defining SMEs, and higher control costs. If SMEs are defined by turnover, for instance, it would have to be the turnover of all the members of a group of firms, in accordance with business legislation, and the same would apply (with regards to voting rights or the appointment and dismissal of board members) to an individual alone or with his or her family up to a certain degree of affinity. The interrelation between corporate and personal taxes on the small business level is also complicated, due to the incentive to incorporate given the possibility of converting income from labour into income from capital with better tax treatment. Furthermore, there are no advantages for companies in relation to their capacity for growth or innovation, but only to their size. In view of these problems, we are forced to question the reasons for providing special tax treatment for SMEs.

The arguments for special tax treatment of SMEs

The OECD (1994) maintains that special tax regimes for SMEs must be based on economic reasons and respond to problems specific to such businesses. The conclusions of another report - OECD (1997) - support tax systems playing a role favourable to small businesses. What economic rationale justifies tax concessions for small firms?

An initial argument refers to the "market failures" facing small businesses, such as lack of information or the barriers to entry generated by LSEs. These two problems are not of great tax significance, however, as they can be best solved with non-fiscal measures. The financial constraints making it difficult for small firms to obtain financing, however, are important. Their lack of access to national or international capital markets, insufficient collateral for credit institutions and limited information explain why SMEs depend on financing from banks, generally at a higher cost, the creation of reserves, provided there are sufficient profits, or their ability to attract risk capital.

The tax system can therefore help business financing with legislation which is not only favourable for small businesses but also for "venture capital corporations". At the same time, the application of lower tax rates to SMEs increases the profits available for reinvestment, although this cannot be guaranteed without the obligation to create specific reserves. Higher depreciation allowances represent free government financing, which also reduces the "market failures" related to financial constraints. All the above assumes that such firms are earning a profit; appropriate regulation of loss compensation in new SMEs could also be important when initial investments are made.

The lack of information found in small businesses is also an argument related to the use of new technologies and the R&D field in general. Indeed, tax legislation could facilitate technological innovation, personnel training or environmental compliance in small firms.

Another aspect refers to reduced tax compliance costs for small businesses which have fewer possibilities (regarding personnel or expertise) than LSEs when facing tax legislation. This problem is probably greater for medium-sized enterprises, as small or individual firms often compensate directly for those costs with varying degrees of non-compliance. It is an important issue, nonetheless, and should be contemplated by the tax authorities not only in relation to income taxation but also to VAT.

Finally, with regards to the intergenerational transmission of firms, the tax costs involved due to Inheritance and Donation Tax (IDT) are also worthy of special attention – European Commission (1994). This does not only affect SMEs but all family businesses in which the entrepreneur is not just the owner but represents a group of people with family ties. Individual entrepreneurs are indeed family businesses and many SMEs fit into this category, but a good number of family enterprises are large corporations.

The basic problem of IDT in relation with family businesses is actually paying the tax because the property transferred between generations usually consists of productive assets, without the necessary cash being available for payment. IDT will be considered by another Conference contributor, so my remarks will be limited. Possible solutions to this problem range from reductions applied to the IDT base for the transfer of family businesses to, and this probably makes more sense, deferral and fractioning tax payments for some years.

Given these arguments in favour of providing tax concessions to SMEs, it is hardly surprising to find a large number of such concessions in current tax systems. This policy is somewhat traditional in the EU and can be expected to last. These arguments, however, are not fully convincing, especially because the tax system does not distinguish between SMEs with growth and innovation potential and others which will only last for a few years. But once a tax benefit is in place, it is not easily eliminated, especially when it enhances "political image" and there are a large number of voters who are small and medium-sized business entrepreneurs.

3. International coordination of CIT: the EU case

The reluctance of national governments to even slightly relinquish fiscal sovereignty in relation to direct taxes is well known and has been touched upon previously. However, a fair amount of international coordination is in place with regards to CIT. It has been largely developed through the OECD (from the 1963 Model Tax Convention to present-day transfer pricing or tax avoidance matters, including the harmful tax practices initiative) or, in a regional setting, by the EU. This part of the paper will briefly discuss the current EU process of coordination and mutual approximation of CITs. It should be underlined from the beginning that international CIT coordination in the EU does not lead to any sort of systematic harmonisation(23), and that the unanimity principle is maintained for all tax matters. The process satisfies the European principle of subsidiarity, though it establishes limited constraints for the tax policies of member States (MSs).

EU coordination

Only the Directive on mutual assistance in direct tax matters was adopted prior to 1990, reinforcing the exchange of information content of most Tax Treaties which followed the OECD Model. Anti-avoidance issues have always been of interest, chiefly in the transfer pricing field, with the European Commission working alongside the OECD. In 1990, the European Council adopted the Arbitration Convention (on the elimination of double taxation in connection with the adjustments of profits of associated enterprises, including permanent establishments). In 2006, the Council adopted a Code of Conduct on transfer pricing documentation.

On 1 December 1997 the Ecofin Council agreed on different measures to reduce "harmful tax competition" (EU Code of Conduct for business taxation), and in 1998 the

Commission adopted a Communication on unacceptable State aid in the field of direct business taxation. In 1998 the OECD presented the Harmful Tax Practices Initiative. The EU Code and OECD Initiative (neither of them legally binding), together with the 1998 EC Communication, aim to discourage member countries (and tax havens) from using measures that could influence the location of investment and profits. In this respect, Keen (2001) has argued that preferential tax regimes help CIT revenues because countries tend to tax more immobile investments or activities when there is competition. Janeba and Smart (2003), however, considering the endogeneity of the total tax base, show that by eliminating tax concessions, EU countries will compete for less mobile tax bases and attract capital from other parts of the world, thus raising total tax revenue.

Furthermore, the economic crisis of 2008 will probably lead to more pressure from the OECD, EU and individual countries against offshore centres. A large number of tax sanctuaries have already promised greater cooperation and the provision of more information. This may be seen with scepticism but, hypocrisy aside, there are sufficient means with which to curb non-cooperation. In any case, the results of the EU Code and the OECD initiative cannot be described as successful so far (remember that some of the places where corporation anonymity is offered are within large economies).

Three significant measures regarding corporations were adopted in July, 1990: the Arbitration Convention, the Merger Directive and, most important for this paper, the Parent-Subsidiary Directive. The Merger Directive provides for the deferral of taxation on capital gains (of corporations and their shareholders – either other corporations or individuals) on defined cross-border reorganisations within the EU (mergers, divisions or partial divisions of corporations, transfer of assets, exchange of shares, transfer of a permanent establishment or of the registered office of a *Societas Europaea* or a European Cooperative Society). The central idea of the Directive is to defer taxation of hidden reserves of the transferring corporation until they are actually realised. It is a deferral of taxes on income accrued at source, but not realised. The historical book value of assets is maintained for the transferee's tax purposes. MSs may, for the recipient corporation's holding in the capital of the transferring corporation, require a minimum participation of up to 10% for the former to gain the benefits of the Directive. The same scheme is also normally provided for domestic restructurings.

The Parent-Subsidiary Directive deals with EU inter-corporate dividends and profit distributions received by a permanent establishment (PE) of a corporation located in another MS, if profits are distributed by a subsidiary located in a Member State. In many national legislations, the scope of the Directive has been extended to distributions from any country other than tax havens. MSs may decide between the following two shareholder taxation systems (or provide both, leaving the decision to taxpayer):

- an imputation-credit system, covering not only the tax paid by the immediate subsidiary but also the taxes paid by any other lower-tie subsidiary
- an exemption system (of no less than 95% of distributed income if countries want to take into account the deductible management costs of the holding with the other 5%).

A minimum holding of up to 10% may be required in both systems, with an uninterrupted holding period of no more than 2 years (counted before and after distribution). The participation criterion may be replaced with one related to the holding of voting rights.

As we have already discussed, and for the reasons given above, exemption has taken the lead as the most widely practiced shareholder taxation system in the parent-subsidiary case in Europe and in many other OECD countries. This establishes a trend for source-based CITs and territorial taxation. However, the Directive contains another important element, which balances this trend by favouring a residence-based tax system: profits distributed by the subsidiary to the parent corporation are exempted from withholding tax (on non-resident shareholders). Within the EU, in the participation exemption situation, the source country cannot tax outbound distributions, only corporate profits. The residence country of the parent corporation will not tax distributed profits received, but may tax further payouts to resident or non-resident shareholders (individuals or corporations left out of the participation scheme).

ECJ rulings have also influenced shareholder taxation. Following a decision of the European High Court in the *Verkooijen* case[(24)], on 19 December 2003 the European Commission –COM (2003) 810– adopted a Communication providing guidance on dividend taxation of individuals, as portfolio investors, in the Internal Market. The aim of the Communication is to eliminate tax discrimination for individual shareholders so that capital markets are not fragmented in the Community. The main guideline established is that MSs cannot levy higher taxes on inbound dividends (from other MSs) than on domestic dividends.

The guideline may be summarised as follows. MSs have to apply the same individual shareholder taxation systems to both inbound and domestic dividends. This provides a further explanation of why the imputation system (with credit usually restricted for domestic dividends, lest the foreign country's high tax generates a large treasury transfer) has fallen into disuse. For outbound dividends (to other MSs), the withholding tax cannot exceed domestic taxation.

Also note that the scope of this guideline includes juridical double taxation. MSs have to apply the same system to inbound dividends, giving credit for foreign withholding tax.

Although the exemption from withholding tax on profit distributions by the subsidiary to the parent corporation and the main guideline of the 2003 Communication reinforce aspects of non-discriminatory residence-based taxation of dividends in the EU, this does not mean that CEN is applied to individual shareholders. CEN would require the combined effects of CITs, withholdings and individual taxes to produce the same effective tax burden for domestic and foreign investments. This is extremely difficult in practice, if not impossible.

Another step in the direction of retaining elements of residence-based taxation in the EU was provided by the 2003 Directive to eliminate withholding taxes on interest and royalty payments between related corporations from different MSs with cross shareholdings of at least 25% (including their permanent establishments). MSs may require shares to be held for 2 years uninterruptedly. In many cases, for both interest and mobile capital gains (obtained without a permanent establishment), exemption at source is granted to individuals or corporations resident in another MS without any further requirement.

Finally, the EU Savings Tax Directive of 2005 provides for exchange of information between countries in the form of reporting interest paid to non-resident individuals to the tax authorities of the recipient's residence. Alternatively, MSs must levy source-based withholding taxes on interest payments to non-residents (during a transitional period) –Austria, Belgium and Luxembourg have chosen to follow this alternative. These withholding rates increase with time (15% for the first 3 years, 20% for the following 3 years and 35% thereafter), and 75% of the revenue must be transferred to the recipient's country of residence. The recipient is entitled to credit the withholding tax against his personal tax liability in his country of residence.

The exchange of information to prevent tax evasion and enforce residence-based taxation of an individual's capital income might be extended in the future to more countries if it proves effective (the Savings Directive's transitional period will not expire until the US, and other countries, accept information exchange upon request). On the debit side, the Savings Directive generates a considerable compliance burden for EU financial institutions. It is also easy to avoid: individual investors can simply locate their wealth in tax havens outside the EU – again there is a clear need to hinder offshore operations and increase exchange of information on an international scale, if residence-base taxation of capital income is to be even partially applied. The most important loophole in the Savings Directive, however, is that it does not cover dividends, thus providing evident arbitrage opportunities between interest and dividends. The Directive's efficacy in its present form is far from clear.

Proposals for an EU common consolidated corporate tax base (CCCTB) and Home State Taxation for SMEs

Tax consolidation regimes are not widespread on an international scale, but they normally require high levels of participation in capital and their scope is reduced to resident corporations(25). Recent ECJ rulings on the Marks & Spencer and Papillon Cases(26) may change the latter, for reasons related to the free movement of capital, extending national tax groups to all corporations resident in any MS (it should be recalled that tax groups affect both CIT and VAT).

Tax consolidation in CIT eliminates the problems of double taxation and loss offsets. It also provides a major advantage. Internationally, with strong economic integration as is found in the EU, consolidated taxation considerably reduces administration and compliance costs due to national CITs and other legislation. Albeit only for the EU Group and not for transactions with affiliates outside the EU, it would eliminate the problems caused by transfer pricing, cross-border loss compensation, or cost allocation (financial, R&D or marketing) among group members. It would also facilitate business restructuring and the general application of tax and accounting standards. It makes no sense to foster a single business investment area in the EU, when firms face 27 different legislations and tax systems.

All this has led the European Commission to suggest two lines of work leading to a Common Consolidated Tax Base (CTB) in the UE and Home Taxation for SMEs (HT-SMEs), in both cases applicable optionally to business activities performed in at least two member States by

a group of corporations. This work-in-progress started in 2001 and there is as yet no date set for its completion.

These lines of work have not considered the possibility of a harmonised tax base for CITs in the Union, and even less the establishment of a European CIT, which could be managed by the member States or an EU tax authority. A harmonised CIT base would create a situation similar to that of VAT, eliminating many of the present administrative and compliance costs. These alternatives, however, are technically difficult and politically impossible (Albi *et al*, 1997), so a less ambitious approach has been used.

The CTB contemplates a common consolidated tax base system, as an alternative option to national systems, according to which a group of European firms could establish tax consolidation resulting in a single tax base. This tax base would be allocated to each country (which would apply its national tax rate) according to an apportionment formula which would take different factors into consideration.

The first step would therefore be to establish a common tax base. Some important aspects, among others, would refer to asset evaluation and depreciation policy, treatment of capital gains, provisions and reserves, or the consideration of international aspects with non group members. International Accounting Standards could be of help in all these cases, once the differences between the accounting and tax approaches had been solved.

The definition of tax group is also important, according to minimum degrees of participation, as is determination of the tax consolidation method to be applied. Finally, another significant factor is the choice of variables, and their weightings, to be included in the formula in order to allocate the CTB to each of the country's involved.

The apportionment formula (AF) can include sales, payroll and/or capital. Other approaches consists of using value added as the apportionment system, based on either source or destination (the underlying apportioning factors in this case are labour costs, interest costs and profits), or simply applying a "macro apportionment system" based on the GDPs of the MSs where the group operates. These possibilities are not neutral in relation to the revenue received by each country or the group's tax bill. They can also produce distortions, especially in relation to business location, or new factor shifting incentives, as shown by Gordon and Wilson (1986) or

Mintz (2004). The choice of apportionment system is therefore an essential part of the European tax consolidation project - see Agúndez (2006).

The AF is also a focal point of the European Commission's line of work related to SMEs, defined as companies with less than 250 employees, a turnover of €50 million or less and a balance sheet of €43 million or less. In this case, firms established in at least two member States can choose to determine their consolidated tax base according to the legislation of the parent company's country of residence. This tax base will be allocated to the different States in which it is established, according to an apportionment formula, with each country applying its own tax rate. The allocation formula for HT-SMEs will presumably be based on each country's sales and payroll in proportion to the total, or just one of these variables.

This home taxation system maintains the differences between European tax systems, based on the States' mutual recognition of tax rules. Tax verification will be difficult for the tax authorities of other than the parent's countries. Tax neutrality also diminishes, as firms could be subject to different tax rules (those of the parent's country of residence). The system is not appropriate, therefore, other than as a first step towards the application of a single CTB in the European Union.

4. The challenges of corporate taxation in open economies. Alternative bases revisited

After thirty years of economic globalisation, CIT now has new features in OECD countries which can be characterised by the following stylised facts:

- international tax competition for more mobile capital, governments' reaction to income shifting by multinationals (lest the latter's search for lower rates is too appealing) and the belief that limited rates (and base broadening) moderate the distortionary costs of corporate taxation, have resulted in a considerable reduction in statutory CIT rates in most OECD countries since 1985. The smaller reduction in average and marginal effective rates may be explained by the simultaneous broadening of the CIT base in order to maintain revenue (which increased on average in the last fifteen years of the 20th century, in terms of both GDP and total tax revenue).
- CIT base broadening in the last twenty years resulted from the elimination of exemptions and tax preferences coupled with less generous depreciation allowances. Tax authorities'

performance in the field of transfer pricing, thin capitalisation and tax avoidance, in general, provide another explanation of wider CIT bases. The tax concessions granted to SMEs have the opposite effect, although the overall result is a broader tax base which partially counteracts the effects of lower rates on revenue.

- tax credits do not usually target capital investment, but attempt to influence corporations' performance in favour of R&D and innovation, information technologies, environmental protection and occupational training. A careful revision of the "new" CIT tax credits is still pending(27).
- with regards to shareholder taxation, the imputation system has been replaced in most countries by participation exemption in the inter-corporate case. This reinforces source-based taxation of corporate income. The exemption system is also applied for corporations' portfolio investments but not as generally as in the parent-subsidiary situation.
- mainly for individual shareholders –dividends and capital gains– and, in some cases, for corporations' portfolio investments, elements of residence-based taxation have been maintained by EU regulation and in practice in many tax systems. For individual taxation, pragmatic solutions such as the use of specific reduced rates or partial exemption both in dual income taxes or scheduler personal income taxes are in place in European countries.
- international coordination of corporate taxation, though limited, is gaining strength at least in regional areas such as the EU.
- SMEs receive beneficial tax treatment in OECD countries and, given the political setting, this may continue for a long time.

The challenges of corporate taxation in open economies

Traditional CIT distorts many business decisions, financial or otherwise, causing neutrality deficiencies related to the different effective tax borne by assets and involving problems regarding the matching of income and expense (depreciation, interest expense, valuation of intangibles, and so on) or inflation accounting, when needed. New challenges appear with globalised economies. Tax competition and income shifting are clear examples. Compliance

and enforcement costs are multiplied in an integrated economy, and shareholder taxation is deeply transformed.

The most important distortions caused by CIT on business behaviour, within an international setting, can be summarized as follows:

1. A traditional distortion regards corporate financial policy, given the tax deductibility of interest expense but not of the return to equity. In general, this tends to favour debt financing relative to equity, especially for international investors, with financial innovations making it increasingly difficult to distinguish between debt and equity instruments. However, non-tax reasons (risk of bankruptcy or financial distress and reduction of agency costs) balance the tax effect. In fact, CIT does not appear to have a great impact on debt/equity discrimination –De Mooij and Ederveen (2008).

   Furthermore, the higher tax cost of distributions relative to creating reserves, generates a bias in favour of retaining profits to finance investments. Nevertheless, tax and non-tax benefits, mentioned earlier when discussing the "traditional view" –see 2.4–, explain why profits are distributed and shares issued as a means of financing corporations (recall also that, under the "new view", the higher tax cost of dividends is simply capitalized in "old" share value, not affecting dividends or investment decisions).

2. The effects of CIT and individual income taxation may encourage or discourage incorporation as a form of organizing business activity. Double taxation of corporate income biases the decision concerning organizational form in favour of acting as an entrepreneur subject to individual income tax. However, if, in addition to the non-tax benefits of incorporation (limited liability, scale economies, ability to attract capital), the source of finance is debt or retained earnings, the advantages of the non-corporate form of conducting business fade. If this is the case, the individual entrepreneur may become a corporate owner-manager under sole proprietorship.

   The latest empirical evidence on this topic is provided by De Mooij and Nicodème (2008), who report income shifting from the personal to the corporate tax base, with tax base semi-elasticity of around -1.0, using a panel of European countries from 1997 to 2003. The

revenue effects of such income shifting are not considerable, since income is subject to either CIT or personal taxation.

3. CIT may increase, decrease or even leave unaltered the cost of capital (depending on depreciation systems, types of finance, investment tax incentives or inflation). This effect, measured by the METR, has an impact on investment, according to the two main different approaches used in empirical literature –Hasset and Hubbard (2002) and Chirinko (2002) -, valued as an elasticity of investment to the cost of capital between -0.5 and -1.0. The influence of CIT on marginal investment provided by De Mooij and Ederveen (2008) –assuming, METR: 10% and 50% of the taxable base representing economic rents– is given by a semi-elasticity which lies between -0.3 and -0.6. Therefore, the effect of CIT on the scale of investment is neither large nor insignificant.

4. With regards to FDI location decisions, it is the AETR which is significant if discrete location choices are made. This happens in the case of "lumpy" investments, where investors pledge a large amount of capital or nothing at all –Devereux and Griffith (1998, 2002)–, or when multinationals own mobile firm-specific assets. The meta-analysis performed by De Mooij and Ederveen (2008) suggests a large impact of CIT in this respect –semi-elasticity of -1.2, based on 20% foreign share of capital as reported by Huizinga and Nicodème (2006).

5. Finally, statutory CIT rates exert an important effect on international income shifting undertaken by multinationals –De Mooij and Ederveen (2008) report an effect size of -1.2, based on 60% share of multinationals.

The result of the above list is that a source-based CIT, as applied in most tax systems, is highly distortionary, generating large compliance and enforcement costs and tax-induced managerial underperformance. Corporate income taxation, however, is alive and well and, for better or worse, playing a role in tax systems.

There are different ways of reducing the distortionary effects and costs of CITs. One is to continue the process of base-broadening and rate-moderating which started in the second half of the 1980s. This process provides more neutrality, or at least more uniformity, in the tax treatment of business activity which, though not necessarily efficient, may reduce distortions and compliance or enforcement costs. In this respect, a better approximation of tax depreciation to

the actual depreciation of assets will be of help, as will be to continue to eliminate tax preferences. With low inflation, it is better to avoid complex inflation adjustments, thus resulting in more revenue which can be used in rate reductions.

With regards to the new areas where tax credits are presently applied (R&D, technological innovation, environment, training costs), so scant is the information about the efficiency of such incentives that the foregone revenues might be more usefully employed in applying lower CIT rates. This field deserves further analysis, as economic arguments support public aid for these activities. As for the special tax treatment of SMEs, although it may be a lost cause given the political constraints at work, it might also be trimmed in some aspects. For instance, in relation to the favourable tax consideration provided to the intergenerational transmission of family businesses or to the application of lower tax rates without any obligation to create reserves for investment.

This broader-based CIT, with a greater scope and limited rates and concessions, may also be less inviting for multinationals' income-shifting schemes. In any case, a coordinated effort by different Administrations with regards to transfer pricing, thin capitalization, interest allocation and tax avoidance in general are needed to prevent profit-shifting. Good tax administration performance is a must for all taxes but provides special benefits with CITs in open economies. Of special significance in this respect, particularly in the area of transfer pricing, is the reduction of double taxation risks; it requires a good international system for settling disputes between countries (and an international data base on arm's length prices). A different sort of business risk reduction may be boosted through loss offsetting in inter-border operations, especially in business restructuring situations.

With a fairly comprehensive source-based CIT, and with the possibility of applying moderated rates to obtain reasonable revenues, the policy-makers in open economies, competing for FDI, need not to be too unhappy even under the strain of tax competition and profit-shifting. Obviously, source-based taxation is not efficient or simple to manage in a globalized world. For instance, it might be difficult to determine the source country of profits with integrated economies, and income needs to be allocated between source countries on the basis of arm's length pricing. However, residence-based taxation –on an individual or corporate scale– appears to be unfeasible for a variety of reasons discussed above, including the fact that shareholders are mobile and can change their place of residence. The main reasons for using corporate taxation in

a fiscal system, mentioned in the Introduction, are attained by policy-makers through a source-based CIT, with good political support and without much confrontation with the corporate sector (domestic or international).

Participation exemption, which globalization has given a leading role on an international scale, may generate more tax competition and profit-shifting than the traditional imputation system with deferral (though perhaps not much more), as governments tend to reduce rates to attract investment and multinationals try to enjoy lower rates. Furthermore, with exemption at residence, the parent's country's revenue loss is evident (but not necessarily considerable) if the host country's tax is lower than that of the parent corporation's country of residence. The territorial system may therefore be convenient for capital importing countries but not for capital exporters such as the US –which maintains the imputation system– or the UK –which introduced tax exemption for foreign dividends in July 2009 (in the EU, Germany and France adopted the exemption system years ago). Territoriality, however, does not deter repatriation and it encourages multinationals to use the country as the base for international acquisitions, especially if the exemption extends to foreign capital gains. The latter, of course, requires some complication of the exemption system in the form of "restricted" interest deduction rules, lest the funding costs of a foreign acquisition generate deductible expenses with capital gains of sales exempt. These restrictions may also apply to other expenses that support overseas investment (for 2011, the US, an imputation with deferral country, is proposing an increase in this sort of restrictions, showing that they are not only needed when exemption is enforced).

With regards to the shareholders of the parent corporation, the international exemption system introduces certain difficulties. For instance, domestic closely held corporations may reincorporate abroad, establishing a home country's holding corporation. Moreover, domestic exemption of dividends and capital gains would reinforce these challenges and encourage portfolio investment (by corporations or individuals) in countries with low corporate taxes (or even the incorporation of individual entrepreneurs, unless maximum marginal income tax rates are equal, or lower, than that of the CIT). All this explains why, at least for individual shareholders, a total exemption system is not used and a pragmatic approach based on the application of specific rates or partial exemption is leading the way, at least in the European setting.

This pragmatic approach contains elements of residence-based taxation and borrows many ideas from Scandinavian Dual Income Taxation. A Dual Income Tax (DIT) may, or may not, become widespread in Europe, but its scheduler nature with most capital income (and gains) taxed homogeneously(28) (at lower rates than earned income) in the individual tax is a solid bet in a globalized world.

More complete international exchange of information (including dividends) is required to foster residence-based taxation on an individual level. In this respect, fairly recent analytical literature, well represented by Keen and Ligthart (2006), provides ideas on information-sharing incentives. Moreover, better international coordination in tax matters seems a clear corollary to globalization. In the EU setting, coordination in the CIT field is fairly advanced. The completion of the proposals for an EU CTB will be an important test in this direction.

All the above proposals for action and reform provide a more neutral approach to corporate taxation and tend to reduce compliance costs. Distortions, however, persist and international enforcement costs will increase. It is time to see whether more radical reforms, using alternatives to CIT, give a better benefit/cost balance, changing what is taxed (and where) as corporate income.

Alternative bases revisited

In section 2.1 alternatives to the traditional CIT were presented together with a summary of their scant use in tax systems. We also showed that other combinations of these alternatives had been proposed. The different types of alternatives to CIT are: flow-of-funds corporation taxes (which may take a VAT-type form) or the possibility of bringing an ACE into a CIT, in both cases with the aim of taxing only rents above the normal return on investment; the CBIT (or a "pure" DIT imposed at the corporate level) and the BVT affect all returns irrespective of the source of finance.

In addition to these four main classes of taxes, there are different variations or combinations. For instance, ACE may be extended to corporate debt –allowance for corporate capital (ACC)– not admitting the tax deductibility of actual interest expense, as suggested initially by Boadway and Bruce (1984). The distinction between debt and equity for tax purposes is thus eliminated although, if capital gains tax is deferred until realization, without a surcharge,

equity is favoured over debt. As mentioned in 2.1, in the individual shareholder tax, ACE may be transformed into ASE –Sørensen (2005a), also with its own variations.

Other cases involve explicit two tier systems such as the Hall and Rabushka (1995) Flat Tax or the X-tax variant series of the flat tax by Bradford (1986), where a corporate cash-flow tax is coupled with an individual tax on earned income and retirement benefits (pension contributions being deductible). CBIT may be combined, as another possibility, with immediate expensing of investments (ICBIT), only taxing economic rents on an accrual basis at the corporate level.

All these alternatives to CIT may eliminate, or reduce, some or all of the distortions generated by CIT and listed in the previous subsection –see Sørensen (2007) or OECD (2007), among other references. On the choice between debt and equity to finance investments, cash-flow taxes or the use of ACE, with the "right" imputation cost of equity, have a neutral impact, as both systems exempt normal return on capital (as interest or as a return to equity). Taxes applied to the whole return on capital regardless of the source of finance (CBIT, "pure" DIT, or BVT) provide financial neutrality, taxing all returns to debt and equity at the corporate level with the same rate. Note, however, that CBIT and BVT highly increase the cost of debt financing for corporations –with risk of bankruptcy– and that, in an international setting, with shareholders subject to different individual income taxes, neutrality between debt and equity requires either exemption at residence or taxation, at the same rate, of interest, dividends and capital gains. Moreover, for all the alternatives considered, taxation of capital gains on a realization basis implies non-neutrality favouring equity finance via retention of profits unless, for instance, the fairly complex "retrospective" capital gains tax on realization proposed by Auerbach (1991) is used(29).

The decision regarding organizational form is not affected by cash-flow taxes, CBIT, BVT or even ACE if applied to corporate and un-corporate business. DIT, however, encourages the incorporation of active owners of small firms who try to shift labour income into lower taxed capital income (double taxation and ASE counterbalance this effect). Also on the debit side, DIT has to split income into labour and capital for individual businesses, which is always a difficult exercise.

Scale of investment is unaffected by cash-flow taxes or by CIT with ACE as the marginal tax rate is zero in both cases, so the cost of capital remains unchanged. The rest of the alternatives do not score well in this respect, as they include the normal return to capital in the tax base (except ICBIT).

With regards to multinationals' decisions on location of investment and income-shifting by way of transfer pricing, all source-based alternatives to CIT fail to eliminate the distortions generated by the wide international range of statutory or AETRs. These distortions may even worsen if statutory rates increase to maintain revenue in the cash-flow or ACE cases. However, since these source-based alternatives treat debt and equity finance alike, problems related to income-shifting through financial transactions are removed. Only a destination-based cash-flow tax –as in the proposal by Auerbach *et al.* (2009)– is neutral towards location decisions and removes transfer pricing problems, also retaining the non-distortionary characteristics of cash-flow taxes.

A destination-based cash-flow tax (R base) exempts exports and taxes imports. If applied like a VAT-type consumption tax (destination-based), its base would include sales to domestic consumers minus purchases from domestic suppliers and labour costs (the latter deduction makes the base unlike VAT, which quantifies value added as economic rent plus labour income). It is, therefore, a tax on domestic consumption from non-labour income, which cannot be avoided by locating production in other countries. Transfer pricing problems are also eliminated as related export transactions are not taxed and the value of imports from international related parties is irrelevant because it is non-deductible. Nevertheless, destination-based cash-flow taxes suffer from other difficulties and transition problems(30). Among others, one primary difficulty is that it does not tax either the normal return or the economic rents consumed abroad, although one of the main objectives of corporate taxation is to tax rents which flow to foreign owners.

As for "combined" alternatives, their effects on the distortions inherent to a CIT follow the patterns already discussed with regard to the main types of alternatives to CIT. The series of Flat Tax initiatives include a cash-flow tax at the business level with the same flat rate applied in the individual income tax on labour income. Therefore, its good points and difficulties are those of consumption-based taxation –Zodrow (2006). The case of extending ACE to corporate debt (ACC) –interest expense being non-deductible– boosted by Kleinbard (2007 and 2007a) with his proposal of a Business Enterprise Tax (BEIT) basically has the merits of ACE. The elimination

of any tax-difference between debt and equity still leaves the problem that capital gains can be deferred and equity finance is therefore favoured. To deal with this difficulty, Kleinbard introduces a minimum distribution rule for corporations. Individual investors would also be taxed on a presumptive normal return on the investment (at the notional rate applied to corporate equity) which resembles the Dutch "deemed yield of asset" system. Kleinbard's system has many virtues –normal return is taxed at the individual and rents at the corporate level– but it may be too complex for practical purposes. Finally, the already mentioned ICBIT –CBIT with immediate expensing of investment– attracts the benefits and costs of its tax of origin, with no deduction of interest expense but with instantaneous depreciation of assets, and might be used as a first step to gradually introduce cash-flow tax on corporations –OECD (2007).

The above discussion on the worth of alternative corporate taxes to eliminate CIT distortions, shows that there are plenty of possibilities to choose from, each with its own pros and cons. Other difficulties arise, however, when moving from theory to possible implementation. Important transition problems are found with most of the alternatives, which have been widely discussed in the literature –OECD (2007). For example, cash-flow taxes impose a higher burden on existing capital which is inequitable and distorts competition, unless this "old" capital obtains access to the new expense treatment. For the sake of brevity, we shall not be considering these well known problems here.

Loss of revenue is certain (unless rates rise, increasing the problems related to the location of FDI and profit shifting) with all the alternatives that relinquish the taxation of normal profits (mainly cash-flow systems and implementing ACE). However, the magnitude of such a loss is not clear, as revenue collections on the normal return to capital are reported by several studies as low –Gordon *et al.* (2004), Becker and Fuest (2005) for Germany, or Sørensen (2007). This topic requires further research on a per country basis if any of the alternatives to CIT has to be even considered by governments. Policy-makers never want to loose revenue, but especially not during an economic crisis. When the current recession abates, reduction of public deficits and debt will mean increased taxation (and spending cuts). One may hope that greater tax revenue might also be used to implement "better" taxes if the related collection losses are not high.

To establish some boundaries for our discussion of the difficulties involved in applying any of the alternative corporate bases, and in order to help select the most appropriate, two pivotal factors must be considered. One is the international legal compatibility of fundamental

corporate income tax reform. The other has to do with the possibilities of the agents involved accepting what would be a "radical" tax reform.

International legal compatibility

In open economies, with important flows of investment or income across borders and foreign ownerships of assets, corporate tax reform has to seriously consider its international legal consequences. Even with the widespread use of participation exemption, some countries (such as the US) with huge in- and out-flows of capital, stick to the imputation system. Moreover, exemption is not the rule for portfolio investments and individual investors. Therefore, tax treaties or domestic legislation are required to prevent double taxation.

If an isolated country, or group of countries, reforms its corporate tax base, this could give rise to a difficult situation, as other countries' interpretation of Treaties or internal legislation may rely on the legal definition of their CITs, which will more than likely be that of an income tax on the return to equity based on the profit and loss accounting balance to which fiscal adjustments are made. If this is so, some of the alternatives to CIT may not be creditable against these other countries' taxes, certainly hindering capital and income flows.

Zodrow (2006) reports that the US Internal Revenue Service may not be prepared to consider a cash-flow tax as a creditable tax for US multinationals, though it allows the creditability of a portion of the Italian IRAP (recall from 2.1 that it is an origin-based tax on the value added of enterprises, net income type, close to BVT). The creditable portion of the IRAP in the US is, in general, the value-added base less interest payments and labour costs (both non-deductible for IRAP). This confirms what we said earlier about the appropriate definition of a CIT as an income tax. Cash-flow taxes (VAT-like or not) are not considered income taxes. All other alternatives to CIT that disallow the deductibility of interest expense or labour costs may have curtailed creditability. A CIT *cum* ACE, as in Belgium, should have no problems in relation to international legal compatibility even if it only taxes rents, as it is an income tax on part of the return to equity. The BEIT, CBIT or BVT may be doubtful candidates for total creditability against other countries' taxes.

Acceptance by other agents

The agents involved in any tax reform are numerous and have their own interests which differ considerably among themselves and from those of academic public economists. We mentioned this in the Introduction as being an important factor for this paper. The agents with influence on tax reforms obviously include policy-makers and tax officials, mainly interested in revenue and administration and enforcement issues, though they may also appreciate the importance of the elimination of tax distortions for an economy. With regards to the "business community", lower statutory or AETRs and the limitation of compliance costs are objectives to accomplish. Moreover, individuals responsible for tax matters in corporations, especially those who sign returns and incur in legal responsibility (the CEO, board members, chief financial officers and so on) want to clearly understand the tax in question. In this regard, an important characteristic, which can be extended to most of the other agents involved, is that the training of these individuals in economics may not be very sophisticated but based more on accrual accounting, among other disciplines. The same applies to tax auditors and public accountants, or tax advisors, who have a direct or indirect say on tax reform matters. Different economic sectors, primarily the financial sector, may be very interested in a change of tax base for corporate taxation. Finally, members of Parliament, politicians in general or trade unionists, with very different origins and training, will also be involved in tax reforms.

A significant amount of information is needed for these agents to understand and accept a fundamental reform in corporate taxation (or in any other tax). This may be a messy job, but it is a necessary precondition for any radical reform. This is also of great help in selecting the appropriate alternative to CIT on which "educational" efforts may concentrate during the coming years(31).

Let's start by discussing an important aspect of cash-flow taxes. They are normally seen as simpler than income taxes. This is true in so far as CIT problems with regard to depreciation or capital gains, the matching of revenue and expense or inflation accounting, for instance, simply vanish with the flow-of-funds concept. There are further difficulties, however. Accounting for business purposes is based internationally on accrual and not on cash-flows. This means that either a firm keeps two sets of accounts (increasing compliance costs) or transforms accrual accounting to, for instance, the R base of a flow-of-fund corporation tax, no easy task (of course, the S base would be far simpler to implement, although it may seem odd to many of the agents involved).

International Accounting Standard 7 regulates Cash-flow statements, (C-FS), the application of which varies among countries. In the Spanish Accounting Plan, for instance, this statement is not mandatory for SMEs(32). C-FS classifies cash-flows by operating, investing and financing activities. This activity-based classification is open to the criteria of businesses. Furthermore, a single transaction may include cash-flows that are classified differently. For example, when the cash repayment of a loan includes both interest and capital, the interest may be classified as an operating activity and capital as a financing activity.

Two methods can be used to report cash-flow from operating activities: the direct method (major classes of gross cash receipts and payments are disclosed) which is the best, although fairly difficult to apply with the information in the accounts, or the indirect method, whereby profit or loss is adjusted for the effects of non-cash transactions, deferral or accruals of past or future operating cash receipts or payments and income or expense items associated with investing or financing cash-flows. In the Spanish case the indirect method is mandatory, possibly because of the difficulties involved in applying the direct method. Nevertheless, though C-FS shows the net variation in cash-flows, the indirect method does not provide the information on receipts and payments of operating activities needed for a (R) cash-flow corporation base and other difficulties arise for investing activities. This requires further transformation of the C-FS mainly for operating activities through methodologies (not highly complex but with a fair amount of difficulty) based on information from the current profit or loss account and differences between the balance sheets of two consecutive years. The end result is an estimate of taxable income as receipts minus payments for operating and investing activities(33).

The main disadvantage of the cash-flow alternative is not just this complexity that increases compliance costs, or the need to choose a methodology and to describe it in written legal terms, plus the resulting tax audit difficulties. The big question mark is whether the lack of familiarity with and understanding of flow-of-funds concepts among tax officials and auditors, public accountants, individuals responsible in firms for tax issues or returns, and many other agents involved in reforming the corporate tax base, may be a definitive reason for not accepting the reform. I believe this to be the case and doubt that the situation will change even with a major information effort. We are all aware of the accounting and tax differences in CITs and the problems they generate. Both approaches –accounting and tax–, however, aim to estimate profits. Cash-flow taxation requires a detachment from accrual accounting to compute rents. This simplifies the tax but may result in its non-acceptance.

Different acceptability problems arise with regards to other than CIT bases. Consider the types of alternative taxes that disallow interest expense deductibility (CBIT, BVT and, to a lesser extent, BEIT). Apart from the considerable increase in the costs of debt financing, which creates difficult problems for firms, the financial sector's opposition to these taxes is obvious. Other fundamental reforms based on combining taxes, such as proposals for a Flat Tax or a BEIT, require parallel reforms in individual income tax which make their general acceptance more difficult (and possibly that of the policy-maker, who may be in favour of changes in one tax and not in the other). A "pure" DIT imposed at the corporate level, with interest withheld by the paying corporation –Cnossen (2000)– would face the bitter German experience of the early 1990s trying to withhold interest flowing abroad. With current VAT (consumption sort) in all OECD tax systems, except the US, new VAT taxes (consumption or net income type) may be difficult to accept, even if labour costs are deducted or their taxation compensated in some way, simply because a similar tax is already in place. High increases in current VAT rates, to substitute the revenue of a repealed CIT, will not be acceptable for distributive and other economic reasons, or because the roles of a CIT in a tax system will not be fulfilled (the possibility of a moderate increase in ordinary VAT rates to enable CIT rate reductions is another issue).

All the above leaves us with the alternative of using ACE within a traditional CIT[(34)]. This alternative is internationally compatible (it is an income tax on the return to equity, though normal profits are exempt via the adjustment provided by the allowance) and it is easier to understand and accept by many of the agents involved in its selection, approval and implementation, simply because it is a very close alternative to the classical CIT.

This does not mean that a CIT-ACE has to be the most suitable choice for everyone, but it is certainly the most convenient according to the two pivotal factors selected for our discussion. I hasten to point out that, obviously, ACE does not convert the CIT into a perfect tax.

As already discussed, CIT-ACE scores high to obtain neutrality between debt and equity but, with capital gains taxed at realization, this tax favours equity finance and the creation of reserves. If ACE is not applied to unincorporated business, the decision on organizational form is affected (the use of ASE is administratively difficult since it requires a registry of the acquisition cost of shares)[(35)]. The level of investment may be unaffected with ACE, but, being a source-

based tax, distortions with regard to the location of investment or income shifting via transfer pricing are not solved and may worsen if rates increase to maintain revenue (as ACE erodes the tax base).

Moreover, other traditional problems related to CIT, mainly regarding the matching of income and expense, remain with ACE, except in the field of depreciation. One merit of ACE is investment neutrality. Applied asset depreciation systems are irrelevant as, if businesses use a more accelerated than a truly economic depreciation, it will be offset by a reduction in future ACE of equal present value. The allowance's base computed either on the basis of the written-down value of assets for tax purposes or as the equity of the firm (capital and reserves)[(36)] takes care of the differences between actual depreciation and "true" economic depreciation.

If, however, the equity method of computation is chosen and depreciation for tax purposes is accelerated with no effect on the accounting written-down value of assets (which is the usual situation with tax benefits), then equity has to be adjusted (negatively) by the respective base of the liability for (taxable) temporary differences: deferred tax (which is equal to the written-down value of the assets for accounting purposes at the beginning of each tax period).

An example may help to explain this. Imagine that a corporation, with an accounting profit for year 1 of 2000 units, has invested 1000 in an asset working since the first day of the year, with an accounting life of four years (25% accounting depreciation rate). The depreciation charged to profit and loss is, therefore, 250. This asset enjoys free depreciation for tax purposes. The CIT rate is 30 per cent and there are no other permanent or temporary differences.

Assuming the total tax expensing of the asset in year 1, the taxable base will be 2000–750=1250. The current tax payable is 0.30x1250=375 and tax expense (current tax plus deferred tax) is 0.30x2000=600. It is irrelevant whether profits after tax expense (2000–600=1400) are distributed or retained. Assume, for simplicity, that the total amount is paid out as dividends, as in this case, if nothing else such as new shares issued or acquired (see note 36) has to be considered, equity value (capital and reserves) is not altered. The corporation, however, enjoys a higher level of liquid assets amounting to 225 (the tax not currently paid, which is in fact a non-interest loan from the government repayable in the following three years) and the allowance's base has to incorporate this fact. This is accomplished via the deduction of the base of the related liability for temporary differences (deferred tax liability), so that the value of the allowance is

reduced to compensate for the immediate depreciation for tax purposes which has not been accounted for.

If the imputed rate of interest is, for instance, 5 per cent, equal to the discount rate, the net change in the present value of taxes paid by the corporation will be:

$$-0.30\text{x}750 + \frac{0.30}{[250+0.05\text{x}750]} + \frac{0.30}{[250+0.05\text{x}500]} + \frac{0.30}{[250+0.05\text{x}250]} = 0$$
$$\qquad\qquad 1.05 \qquad\qquad (1.05)^2 \qquad\qquad (1.05)^3$$

(750, 500, 250 are the values of the corresponding bases of the liabilities for temporary differences in years 2, 3, and 4), so that the initial tax benefit is offset in present value terms by the higher current tax of the following years due to the adjusted ACE and payment of the deferred tax (reversion of the temporary difference).

In general, ACE compensates for the delay of a depreciation allowance instead of immediate expensing. This makes CIT-ACE similar to a (R+F) cash-flow tax. But, if a specific tax benefit provides, for instance, immediate depreciation, without accounting effects, the ACE base should be reduced, as there is no delay in depreciation for tax purposes.

The selection of the suitable notional rate of return to equity for ACE is also a central element of this alternative to traditional CIT. After Bond and Devereux (1995), it is commonly accepted that the most convenient rate would be a risk-free rate of interest expressed in nominal terms (so that inflation may be disregarded). The risk-free nominal rate of interest is approximated by the average interest rates of short-term government bonds. In this respect, care should be taken to provide moving averages of past government bond issues, as a corporation's financial years do not always coincide with the calendar year (recall from 2.1 that the Belgian "notional interest deduction" is only applicable to corporations where the economic year is the calendar year, possibly for this reason). Furthermore, in order to obtain neutrality, full loss compensation has to be provided (so that the firm and its shareholders receive a safe cash-flow via the benefits of the allowance). This means admitting the indefinite carry-forward of losses, with the (notional) interest rate added –so that ACE is not reduced in present value terms–, and that the shareholders will receive a tax credit for unutilized ACE in the case of bankruptcy. This represents a real problem for CIT-ACE as, in practice, tax legislations do not allow such a full loss offset, largely for revenue and administrative reasons.

In spite of all problems of the ACE alternative, my bet for the future is on CIT-ACE, mainly because it scores high in the two pivotal factors selected for the above discussion: international legal compatibility and the possibility of acceptance by the agents involved in any major tax reform. Research efforts directed towards technical aspects (for instance, possible losses of revenue, definition of the allowance base, the best notional rate of return, the problem of loss compensation, etc.) and also intermediate steps in the direction of CIT base-broadening and rate reduction, will further clarify this debate.

5. Conclusions

Traditional CIT, with new features after globalization, will be "well and alive" for a good number of years fulfilling its roles in tax systems. No Finance Minister will propose major reforms risking revenue that, on average for OECD countries, has amounted to around 3.5 percent of the GDP (and around 10 per cent of total revenue) especially after the present, crisis-induced huge public deficits found in all economies. I am afraid that governments will continue to scramble for national gains through the CIT, and the tax system in general, for a long time to come. More base-broadening, and perhaps rate reduction, will possibly be undertaken in the future in order to better control the distortions derived from the CIT. International coordination of capital income taxation poses a major question for the years to come, although it would appear to be inevitable if economic globalization continues to expand.

For the more distant future, public economists have produced a large number of proposals for alternatives to the CIT. The option that probably scores better as a policy prescription is the implementation of ACE in a traditional CIT, although this will clearly not be the best choice for everyone. Further research on different aspects of the alternatives to CIT (primarily on the conditions for the success of a fundamental reform) is required if a professional consensus is ever to be attained.

NOTES

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(1) As a courtesy to the reader, it may be useful to list the EU member countries.

EU (15): Austria, Belgium. Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom,

with the recent entries, EU now comprises 27 member countries, the fifteen mentioned above plus:

Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovak Republic and Slovenia

Other European countries referred to in the main text which are not Union members are Croatia, Norway and Switzerland.

Euro countries are the members of EU (15) except Denmark, Sweden and the UK, plus Cyprus, Malta and Slovenia.

Finally, after the Agreement of 13-12-93, the European Economic Area includes UE(27) plus Iceland, Liechtenstein and Norway.

(2) In an international setting, if governments are not able to capture rents, Keen and Piekkola (1997) suggest that, to obtain global optimality, a source-based corporate tax may be a good indirect form of taxing pure profits by a capital-importing country.

(3) The ideas on cash-flow taxes maintained by the Meade Committee (1978) have a precedent in Cary Brown (1948) and were discussed at that time, and previously, by others. Since about 1980, much literature has been produced on cash-flow taxation, with the latest major effort being "The Mirrlees Review", Reforming the Tax System for the 21st Century, (2009).

(4) In the following paragraphs the main references are: European Tax Handbook (2008 and 2009), OECD (2007) and Bordignon *et al.* (2001). For the last sub-sections of 2.4 we basically used the European Tax Handbook as a reference.

(5) *Diario Oficial de la Federación* (DOF), Mexico, 1 October 2007. For this information and other references, my thanks to Lourdes Jerez and her doctoral thesis on Cash-Flow Corporate Taxes, University of Extremadura (Spain).

(6) OECD Europe, as well as the EU(15) countries, includes four EU(27) members –Czech Republic, Hungary, Poland and Slovak Republic (as the rest are not OECD members) and another four non-Union members –Iceland, Norway, Turkey and Switzerland–. This group of twenty-three European countries is preferable to the EU(27), given the comparison with the total OECD. The combined CIT rate of the central and sub central government level is used for the countries where there are two levels of corporate income taxation.

(7) In 2008, and relative to the previous year, Germany reduced the basic central statutory CIT rate (inclusive of surtax) from 26.375% to 15.83% and the subcentral basic rate from 5% to 3.5%. Other reductions in central rates

have been: Spain from 32.5% to 30% and UK from 30% to 28%. In 2009, Luxembourg had a reduction from 22% to 21% and Sweden from 28% to 26.3%.

(8) The text contains a simple explanation based on the experience of any multinational. An in-depth analysis can be found in Markusen (2002). Furthermore, tax competition (to an extent in reverse) can also act through tax exporting to foreigners, as the evidence in Huizinga, H. and Nicodème, G. (2006) appears to show, as they find a positive relationship between corporate tax burdens and foreign ownership.

(9) It is also worth mentioning that Sinn (1991), among others, has extended the "new view" to a dynamic setting, using an analysis which is referred to as the "nucleous theory of the firm".

(10) Mainly on a national scale, the effects of shareholder taxation extend to the choice of an individual or corporate form of business and the balanced treatment of labour and capital income in closely-held corporations. These issues might be best approached as part of an analysis of personal income.

(11) Total integration of CIT and the individual income tax is attained with residence-based individual shareholder taxation where all profits of a corporation (distributed or not) are imputed to shareholders and taxed on an accruals basis (abolishing the source-based CIT and, therefore, relinquishing its roles in fiscal systems). However, this is impracticable. Consider the difficulty of paying taxes for imputed income without the liquidity of receiving the corresponding dividends or realizing capital gains. Additionally, the system is impossible to enforce given the high rotation of shares (many of them bearer shares) and the multiple tiers of corporations that may exist in corporate structures.

The residence-based corporation tax requires the elimination of deferral which also makes this system impracticable, apart from the fact that corporation headquarters are quite mobile and that auditing foreign subsidiaries is impossible.

(12) The underlying income is taxed at the residence of the shareholder only aproximately. If dividends are paid out, they will be charged to the difference between the accounting profit and the tax expense (current tax and deferred tax). The current tax is the CIT paid (and imputed) which differs from the tax expense in the amount of the deferred tax. Therefore, if there are taxable temporary differences (deferred tax liabilities), the CIT imputation will be smaller to what corresponds to the dividend in the accounts. These temporary differences revert over time.

(13) Residence-based taxation achieves global productive efficiency, without the tax system affecting production decisions, meeting criteria established at least since the contribution of Diamond and Mirrlees (1971). The conditions required for the productive efficiency of Diamond and Mirrlees, however, are considerable and difficult to meet. Moreover, Keen and Wildasin (2004) showed that, if lump sum transfers are not made between countries, second-best solutions may require productive inefficiencies such as source-based taxes, as a means of internationally reallocating resources.

(14) Clausing (2007), however, finds that credit countries receive 0.5–1 percentage points more CIT revenue relative to GDP than territorial countries, depending on specifications.

(15) CON is also achieved if all countries follow the residence principle and same tax base definition.

(16) With losses in the recipient corporation, integration of the gross dividend received from other resident corporations (or capital gains produced by the transmission of shares in resident companies, in which case the same

system is followed) in taxable income reduces the loss. The unused deduction has a seven-year carry-forward period providing the reduced loss is compensated during that time. Imagine that a corporation has a loss of 100 from its activity and 100 from dividends (or capital gains) from its participation in a Spanish subsidiary. WIth this credit against tax liability system, the loss of 100 becomes zero when the 100 units of dividends (or capital gains) are included in taxable income. In the year when the corporation obtains a profit of 100 (within the 7-year period), it can use the previously unused credit but the compensation of the initial loss has already been produced and its tax effect vanishes. On the other hand, with participation exemption, if a corporation has a loss of 100 from its activity and 100 of dividends (or capital gains) from its participation in a subsidiary, when it obtains a profit of 100 in subsequent years, it covers the loss with a tax saving equal to tax rate x 100.

(17) On the other hand, with participation of at least 5% in the capital of the subsidiary, the reinvestment of capital gains tax credit allows a deduction from tax liability of 12% of the gain, in the part which does not correspond to the reserves which are the source of the reduction discussed in the text, if all the proceeds are reinvested. This means that part of the capital gain may be exempted and the rest is taxed at a 18% rate (considering the standard Spanish CIT rate of 30%).

(18) However, in Finland dividends are partly taxable (75%) if the recipient corporation holds directly less than 10% of the capital of the distributing corporation (portfolio investment) and: a) the distributing corporation trades on a stock exchange and the recipient corporation does not, or b) the recipient corporation is a financial or insurance corporation holding the shares as investment assets, so that dividends constitute regular business income. Situation a) hinders the avoidance of tax on dividends from traded shares by interposing a private holding corporation between an individual shareholder and the distributing listed corporation.

(19) Finland, which applies a fixed 28% to capital income (CIT rate of 26%), exempts 30% of dividends received by individuals from listed corporations which are Finnish or located in the EU or in a country with a double taxation convention with Finland. The dividends received from non-listed corporations (Finnish or as described above) are exempt up to 9% of the mathematical value of the shares (in accordance with Valuation Law) or their market value (if the corporation is foreign), with a maximum of €90,000 per shareholder and year. Thirty per cent of the excess over the €90.000 figure is exempt and the remaining 70% is applied the fixed rate of 28% additionaly. Thirty per cent of the excess over 9% of the share value is also exempt but the rest is taxed at the progressive rates applicable to earned income. Capital gains from share transmissions are not exempt.

Norway, not an EU member, with a 28% rate on capital gains and other income – combination of the national and municipal rate–, the same as the CIT rate, deducts an allowance from dividends (national or foreign) equal to a risk-free return on the acquisition cost of shares. This approach has the advantage of tax neutrality - Sørensen (2005-a), as described in the text, but is administratively costly. With regards to capital gains from share transmissions (of resident or non-resident corporations), the acquisition cost is adjusted by the unused allowance for dividends received (up to 2005, for capital gains from shares in resident corporations, their acquisition cost was increased with the value of the profit allocated to reserves). The unused allowance may also step up the value of the shares for dividends distributed on future profits.

Sweden, on the other hand, does not use partial exemption but applies a reduced rate of 30% to capital income, while the progressive rate applicable to earned income and individual business activity (if it is not kept in the company as a reserve taxed at 28%, the same as the CIT rate) is divided into three steps, 31.6%, 51.6% and 56.6% (these percentages include a State rate of 0-20-25% and a municipal rate which is usually 31.6%).

In the three countries a system of splitting between labour and capital income is mandatory for self-employed (unincorporated businesses)

(20) Substantial participation in Italy is defined for this purpose as follows:

- holding more than 5% of the capital –or 2% of the votes– in listed corporations
- holding more than 25% of the capital –or 20% of the votes– in unlisted corporations

(21) France applies 60% exemption to dividends received by individuals from French companies or firms located in countries with a double-taxation treaty with France, and provides other personal allowances. Capital gains from occasional share transmissions are generally taxed at a reduced rate of 26% (18% plus 7.5% social contribution and 0.5% contribution to the Social Security deficit), although gains from French shares or firms located in the EU, Iceland and Norway are dealt with by a progressive exemption system, depending on for how long they were held.

Germany exempts 50% of dividends received by individuals (from resident or non-resident firms and with any degree of participation) applying other smaller personal allowances. The same 50% exemption is applied to capital gains from share transmissions when the latter are subject (which is not always).

Italy exempts 60% (to be amended due to the reduction of the CIT rate in 2008) of the dividends or capital gains pertaining to substantial participations –see note (20)– (in resident firms or not) or when holding such shares represents an economic activity. Otherwise, dividends or capital gains are taxed at 12.5%.

Portugal has partial exemption of 50% for domestic or EU dividends, as an alternative to a fixed 20% rate, with a general exemption for capital gains from shares held for over 12 months.

Belgium applies a reduced rate of 25% to dividends (from resident firms or not) and total exemption to capital gains other than those produced from speculative operations (fixed rate of 33%) or the sale of more than 25% of a resident firm to a non-resident corporation (16.5%). Austria also applies a fixed rate of 25% to dividends (national or foreign) which, in the case of domestic dividends, can be exempt for newly issued shares in resident corporations. Capital gains, in general, are exempt except gains for the alienation of shares forming a substantial holding which are taxed at one half of the effective rate applicable to the taxpayer's total income.

Holland, with an explicit schedular system, applies a reduced rate of 25% to dividends from resident firms when the taxpayer and his/her spouse directly or indirectly own 5% of the capital (in family businesses, children and parents are included). When such participation is in a non-resident firm, the 25% tax rate is applied to 4% of the market value of the shares at the beginning of the year, less the dividends received.

When the participation is smaller, the Dutch system uses a system based on deemed yield of asset with a 30% tax rate on the amount resulting from applying a 4% return to the world value of the taxpayer's net assets, which are thus taxed at 1.2%, and dividends as such are not taxed. Capital gains are not taxed, in general, but losses are deducted from dividends with a substantial participation of 5%, and 25% of the excess is deducted from earned income taxed at a progressive rate of up to a marginal 52%.

Finally, Spain applies a 18% rate to dividends and capital gains from share transmissions, together with other mobile capital income; the first €1,500 of dividends received per year are exempt.

(22) In Spain, for example, the special regime for SMEs affects firms with a turnover of less than €8 million in the previous fiscal year. This is higher than the figure established in business legislation for presenting an abridged balance sheet and not being obliged to audit the annual accounts (4.75 million euros), so the definition of a SME is quite broad.

(23) It is very unclear whether full harmonization of the CIT may provide an optimal tax setting with sizeable growth or welfare gains for countries. For example, Brøchner *et al.* (2006), using the OECD TAX model to simulate

the effects of harmonizing corporate tax bases and rates in EU-25, obtain a total GDP increase in the Union of 0.4% and a rise in the average welfare of the representative consumer in each country of only 0.1% of the GDP. These low gains are unequally distributed among countries; some have considerable gains and others losses in GDP and welfare. This results are in line with those obtained by Sørensen (2004-a), and do not seem to convince governments to lose sovereignty.

(24) Case C-35/98 *Verkooijen* (2000) ECR I-4071. This jurisprudence continued, for example, in the *Lenz* case (C-315/02) or the *Manninen* ruling (C-319/02).

(25) The Spanish tax consolidation regime requires that the dominant corporation has a direct or indirect participation of at least 75% in the capital of other corporations in the tax group, maintained throughout the tax period. All corporations in the group have to be residents of Spain.

(26) Case C-446-03 *Marks & Spencer*, Ruling of 13, December, 2005; Case C-418/07 *Papillon*, Ruling of 27, November, 2008.

(27) With regards to R&D tax credits, accelerated depreciation allowances or financial concessions provided by governments, the results of the available review of the literature are inconclusive –see OECD (2002) and EC (2003-a).

(28) Taxation of capital income at lower rates than earnings can be justified for economic efficiency reasons. However, these reasons do not necessarily support the tax uniformity derived from applying a single rate to capital income. Indeed, according to optimal taxation, assets should be taxed in inverse proportion to their price elasticity or "mobility". Tax uniformity is efficient with perfectly substitutive assets or assets with the same price elasticity. With differential compliance and administrative costs, or regulatory, organisational or other differences, homogeneous taxation is not efficient.

Uniformity, therefore, does not mean fiscal neutrality. Taxation of savings would be neutral, and theoretically efficient, if the effective tax rates for all assets were the same for each saver, as their net real after-tax income would be the same irrespective of the investment option. This is evidently not possible in practice. The parameters required to design such a system, with different rates for different types of income, are unknown, and it would not be feasible from an administrative viewpoint. Moreover, much care is required with different tax treatments, as they tend to open the door for tax advantages which have little to do with efficiency or fairness. The most sensible conclusion for tax policy is that homogeneous tax treatment of savings is reasonable, providing it does not impede fiscal neutrality at the cost of economic efficiency.

(29) Auerbach's proposal borrows from Vickeray's ideas on cumulative averaging –Vickeray (1939) and (1947).

(30) As pointed out by Sørensen (2007), a special transition problem has to do with exchange rates, or relative price levels, given the exemption of exports and taxation of imports. With flexible exchange rates this would lead to an appreciation of the currency which would generate gains or losses to residents with net liabilities or claims denominated in foreign currency. In a currency area such as the euro, the domestic relative price level would increase to produce the revaluation effect.

(31) In general, I now believe, more than I did twenty years ago –Albi (1985), that economists acting in an advisory role and providing tax policy prescriptions, must consider many more aspects of the policy implementation process than they usually take into account.

(32) An SME is defined for this purpose as an enterprise fulfillling two of the following three requisites: assets ≤ 2.850.000€, turnover ≤ 5.700.000€ or number of employees ≤ 50.

(33) The aforementioned doctoral dissertation by Lourdes Jerez (Universidad de Extremadura, Spain) –note 5– provides one methodology for adjustments.

(34) Two recent proposals in favour of ACE, combined with DIT at an individual level, are: Keuschnigg and Dietz (2007) and Griffith *et al.* (2009)

(35) This requirement is clear in order to administratively control ASE, at least if the number of taxpayers declaring dividends is large. In Spain, for 2006 (last year with numerical information), taxpayers declaring dividends were 3,056,308 – 17.13% of the total number of returns: 17,840,783.

(36) With a negative adjustment for the net holding of new shares in other corporations to avoid domestic "double" counting, as the acquisition cost of these shares will be included in the issuer's equity. The same adjustment should be made for foreign shares so that (with exemption), if return on investment is not taxed, foreign investment does not erode the domestic base via the allowance.

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ANNEX 1

Table 1

Statutory Corporate Income Tax Rates[1]

(unweighted averages)

	1981[a)]	1985	1990	1995	2000	2005	2008[b)]
EU(15)	44,90	49,78	41,76	37,27	35,11	29,78	27,20
OECD Europe	–	48,72	41,53	35,86	32,63	27,13	24,83
OECD Total	47,56	48,34	41,17	36,71	33,57	28,65	26,63
US[c)]	49,70	49,80	38,65	39,61	39,34	39,28	39,25

Source: own elaboration based on OECD Tax Database (2009)

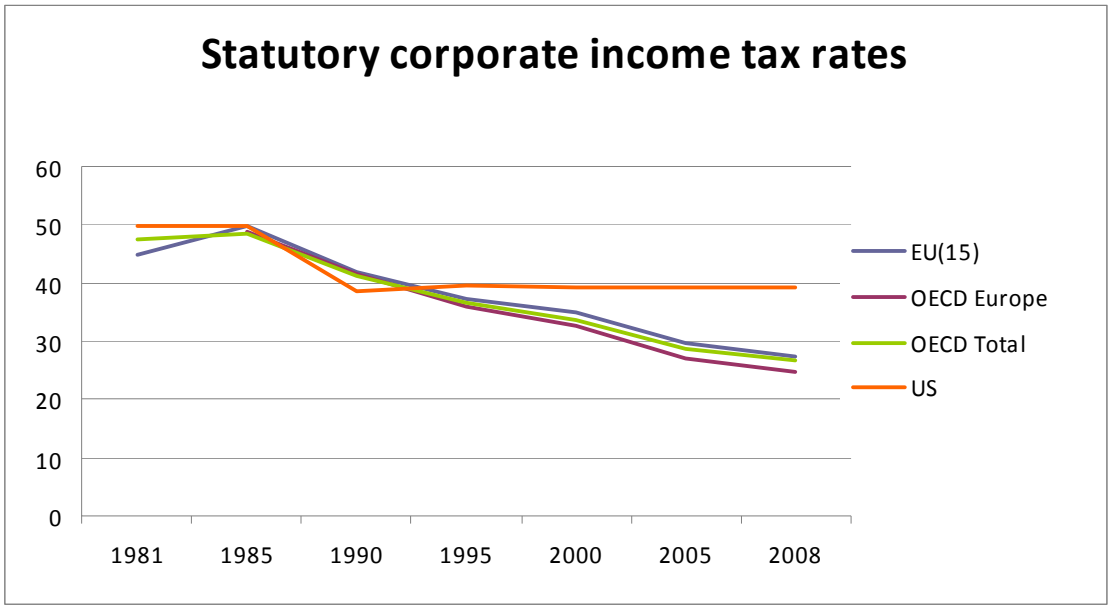
1 Basic central statutory CIT rate inclusive of surtax (if any), adjusted by deductions with respect of sub-central income tax, if applicable, plus the sub-central rates. Up to 1995 information is non available for a variable number of countries, decreasing with the years. This explains that no average is given for OECD in 1981.

a) OECD Tax Database provides comparable information since 1981, this is the reason to include 1981 and not 1980 in the Table

b) It should be taken into account that in Belgium, since 2006, ACE reduces the effective CIT rate. The Belgium statutory rate is the one considered for all averages.

c) For the US, as elaborated by the OECD Tax Database, the subcentral rate is a weighted average corporate tax rate.

Figure 1



Source: Table 1

Table 2

Taxes on corporate income as percentage of GDP

(unweighted averages)

	1980	1985	1990	1995	2000	2005
EU(15)	2,0	2,4	2,5	2,6	3,7	3,4
OECD Europe	2,1	2,5	2,4	2,5	3,5	3,5
OECD Total	2,4	2,6	2,6	2,8	3,6	3,7
US	2,8	1,9	2,4	2,9	2,6	3,1

Source: OECD (2008), Tax Revenue Statistics, 1965-2007

Table 3

Taxes on corporate income as percentage of total taxation
(unweighted averages)

	1980	1985	1990	1995	2000	2005
EU(15)	5,7	6,3	6,7	6,8	9,3	8,6
OECD Europe	5,9	6,9	6,7	6,9	9,2	9,1
OECD Total	7,6	8,0	8,0	8,0	10,1	10,3
US	10,8	7,5	8,9	10,3	8,7	11,4

Source: OECD (2008), Tax Revenue Statistics, 1965-2007