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INTERNATIONAL CAPITAL TAXATION

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1 The importance of international considerations in tax design

This chapter assesses the role of international considerations in tax design, emphasizing issues related to capital taxation. It is clear that globalisation carries profound implications for tax systems, yet it is also clear that major tax systems, including that of the United Kingdom, continue to retain many features that reflect closed economy conceptions. The point of the chapter is to review the tax policy implications of economic openness, including assessing the costs of failing to tailor tax provisions to reflect the changing international economic environment. The chapter also considers the role of international tax agreements, and the pressures that countries face as a consequence of cooperative agreements.

While the Meade report considered international issues, institutional barriers to the movement of goods, services and factors of production, and the costs of moving both real activity and paper profits between tax jurisdictions have fallen dramatically since the Meade report was published in 1978. It is now easier for firms to function across geographically distant locations. These changes mean that both tax bases and factors of production are more mobile between jurisdictions. In addition, cross border flows of portfolio investment have also increased substantially.

These changes predominantly affect mobile factors. Capital is widely held to be the most mobile factor, and therefore we focus our attention on taxes on capital.

In the first part of this chapter we summarise some fundamental distinctions and results in the theory of capital income taxation in the open economy and review some empirical evidence on how international investment and corporate tax bases respond to corporate tax policies. We also consider how these policies have evolved in recent decades. In Part 2 we take a closer look at the current UK corporate tax system, seen in international perspective. While Parts 1 and 2 pay much attention to international market pressures on capital income taxes, Part 3 surveys various forms of international tax cooperation that may also constrain UK tax policy in the future. Against this background, Part 4 discusses how the UK system of capital income taxation could be reformed to make it more robust and efficient in an integrating world economy.

1.1 Some fundamental distinctions and a fundamental proposition

A fundamental distinction in the open economy is that between source-based and residence-based capital income taxes. Under the *source* principle (the return to) capital is taxed only in the country

where it is invested. Source-based taxes are therefore taxes on investment. Under the *residence* principle the tax is levied only on (the return to) the wealth owned by domestic residents, whether the wealth is invested at home or abroad. Since wealth is accumulated saving, residence-based taxes are taxes on saving. A pure residence-based tax is said to ensure *capital export neutrality*, since it implies the same tax treatment for domestic and outbound foreign investment. A pure source-based tax, on the other hand, is said to guarantee *capital import neutrality*, since it involves the same tax treatment for domestic investment and inbound foreign investment.

The prime example of a source-based capital tax is the corporate income tax, since most countries only tax corporate income generated within their borders (with some important modifications that are discussed in Parts 2 and 4). By contrast, the personal income tax is based on the residence principle, since domestic residents are liable to tax on their worldwide capital income. As a rough approximation, we may therefore say that the corporation tax is a tax on investment, whereas the personal tax on capital income is a tax on saving (in so far as domestic tax on foreign-source income can actually be enforced).

In an open economy with free international mobility of capital, the two types of taxes have very different effects on the domestic economy and on international capital flows. A small open economy does not have any noticeable impact on the international interest rate or the rate of return on shares required by international investors. Hence the cost of investment finance may be taken as given from the viewpoint of the small open economy. If the domestic government imposes a source-based business income tax, the pre-tax return to domestic investment will have to rise by a corresponding amount to generate the after-tax return required by international investors. Hence domestic investment will fall and capital will flow out of the country until the pre-tax return has risen sufficiently to fully compensate investors for the imposition of the source tax. However, domestic saving will be unaffected since a source-based capital income tax does not change the after-tax return that savers can earn in the international capital market.

On the other hand, a residence-based personal capital income tax will reduce the after-tax return available to domestic savers, thereby discouraging savings. But since a residence-based tax has no impact on international investors, it will not raise the cost of domestic investment finance, so domestic investment will be unaffected. With unchanged investment and lower domestic saving, net capital imports will have to increase.

In summary, a source-based capital income tax reduces domestic investment and generates a capital outflow, while leaving domestic saving unaffected, whereas a residence-based capital income tax discourages saving and induces a capital inflow without affecting domestic investment. These insights have obvious implications for tax policy: if policy makers are keen to raise the level of domestic investment, they should focus on lowering source-based taxes like the corporation tax, but if they are mainly concerned with stimulating domestic saving, they should give priority to lowering the personal capital income tax (assuming that savings respond positively to the after-tax rate of return). The difference between the effects of savings and investment taxes also has important implications for the desirability of relieving the double taxation of corporate income, as we shall explain in section 4.5.

Another fundamental distinction is the one between taxes on the *normal return* to capital and taxes on *rents*. By definition, rents are ‘pure profits’ in excess of the going market rate of return on capital. For debt capital, the normal return is the market rate of interest on debt in the relevant risk class, and for equity it is the required market rate of return on stocks with the relevant risk characteristics. In a closed economy a tax on the normal return to capital will tend to reduce the volume of saving and investment (if the elasticity of saving with respect to the net return is positive) whereas a tax on pure rents will in principle be non-distortionary. However, in the open economy a source-based tax on rents may reduce domestic investment if the business activity generating the rent is internationally mobile, that is, if the firm is able to earn a similar excess return on investment in other countries. In that case we may speak of *firm-specific* or *mobile* rents. When the economy is open, a source-based tax will therefore be non-distortionary only if it falls on *location-specific* (that is, *immobile*) rents. Location-specific rents may be generated by the exploitation of natural resources, by the presence of an attractive infrastructure, or by agglomeration forces, whereas firm-specific rents may arise from the possession of a specific technology, product brand or management know-how.

A fundamental theorem states that in the absence of location-specific rents, a small open economy should not levy any source-based taxes on capital.¹ As already noted, a small open economy faces a

¹ This result was originally derived by Gordon (1986) and restated by Razin and Sadka (1991). These authors did not explicitly include rents in their analysis, but their reasoning implies that a source-based tax on perfectly mobile rents is no less distortionary than a source tax on the normal return, as pointed out by Gordon and Hines (2002). The prescription that small economies should levy no source-based capital income taxes is usually seen as an application of the Production Efficiency Theorem of Diamond and Mirrlees (1971) which states that the optimal second-best tax

perfectly elastic supply of capital from abroad, so the burden of a source-based capital tax will be fully shifted onto workers and other immobile domestic factors via an outflow of capital which drives up the pre-tax return. In this process the productivity of the domestic immobile factors will fall due to a lower capital intensity of production. To avoid this drop in productivity, it is more efficient to tax the immobile factors directly rather than indirectly via the capital tax.

1.2 *Should we expect source-based capital income taxes to vanish?*

If governments pursue optimal tax policies, we might therefore expect to observe a gradual erosion of source-based capital income taxes in the recent decades when capital mobility has increased. However, a number of factors may offset the tendency for source-based taxes to vanish.

First, if firms can earn above-normal returns by investing in a particular location, the government of that jurisdiction may impose some amount of source tax without deterring investors. Moreover, when location-specific rents co-exist with foreign ownership of (part of) the domestic capital stock, the incentive for national governments to levy source-based capital taxes is strengthened, since they can thereby export part of the domestic tax burden to foreigners whose votes do not count in the domestic political process (see Huizinga and Nielsen (1997)). Since globalisation implies increased international cross-hauling (two way flows) of investment, and a resulting increase in foreign ownership shares, this may be an important reason why governments choose to maintain source-based capital income taxes, as suggested by Mintz (1994).

Second, the prediction that source taxes on capital will vanish assumes that capital is perfectly mobile. In practice, there are costs of adjusting stocks of physical capital so such capital cannot move instantaneously and costlessly across borders. Since adjustment costs tend to rise more than proportionally with the magnitude of the capital stock adjustment, the domestic capital stock will only fall gradually over time in response to the imposition of a source-based capital income tax (see Wildasin (2000)). In present value terms, the burden of the tax therefore cannot be fully shifted onto domestic immobile factors, and hence a government concerned about equity may want to impose a source-based capital tax, particularly if it has a short horizon.

Third, some important capital exporting countries like the US, UK and Japan tax the worldwide profits of their multinational corporations, while allowing a foreign tax credit for taxes paid abroad,

system avoids production distortions provided the government can tax away pure profits and can tax households on all transactions with firms.

up to a limit given by the amount of domestic tax on the foreign source income. In these cases the foreign host (source) countries have an obvious incentive to levy a source-based corporation tax, since they can do so without reducing the incentive of foreign multinationals to invest in the domestic economy, as long as the domestic corporation tax does not exceed the corporation tax levied by the home (residence) country of the multinational company. It is less clear why the home country government would want to offer a foreign tax credit, which effectively amounts to a give-away of revenue to foreign host governments. Gordon (1992) argues that foreign tax credits are offered exactly because they give an incentive for foreign host countries to levy source-based taxes up to the limit given by the domestic tax rate. In this way the foreign tax credit enables the home country to tax *domestic* investment without inducing a capital flight from the domestic economy. However, as recognized by Gordon himself (Gordon (2000), pp. 27-28), this argument rests *inter alia* on the counterfactual assumption that home countries tax foreign source income upon accrual. In practice, home country tax is typically levied only when income is repatriated from abroad. Overall, Gordon and Hines (2002) find it difficult to argue that crediting arrangements have a significant impact on host country corporate tax rates.

A fourth factor that may help to sustain a source-based tax like the corporate income tax is that it serves as a 'backstop' for the personal income tax. The corporation tax falls not only on returns to (equity) capital but also on the labour income generated by entrepreneurs working in their own company. In the absence of a corporation tax, taxpayers could shift labour income and capital income into the corporate sector and accumulate it free of tax while financing consumption by loans from their companies. Still, while it is easy to see why protection of the domestic personal tax base may require a corporation tax on companies owned by *domestic* residents, it is not obvious why it requires a source-based corporation tax on *foreign-owned* companies whose shareholders are not liable to domestic personal tax. However, as pointed out by Zodrow (2006, p. 272), if foreign-owned companies were exempt from domestic corporate income tax, it might be relatively easy to establish corporations that are nominally foreign-owned but are really controlled by domestic taxpayers, say, via a foreign tax haven. Hence the backstop function of the corporation tax may be eroded if it is not levied on foreign-owned companies.

Finally, even though it may be inefficient to tax capital income at source, the voting public may not realize that such a tax tends to be shifted to the immobile factors, so levying a source-based corporation tax may be a political necessity, since abolition of such a tax would be seen as a give-away to the rich, including rich foreign investors. More generally, if there are political limits to the

amount of (explicit) taxes that can be levied on other bases, it may be necessary for a government with a high revenue requirement to raise some amount of revenue via a source-based capital income tax, even if such a tax is highly distortionary.

In summary, while the simplest theoretical models predict that source-based capital income taxes will tend to vanish in small open economies, there are a number of reasons why such taxes may nevertheless be able to survive the ongoing process of international capital market integration. In the next section we consider some evidence which is relevant for the debate on the viability of capital income taxes.

1.3 Empirical evidence on corporate taxation in the open economy

Since the corporate income tax is the most important capital income tax, we shall mainly focus on trends in company taxation. In particular, we ask: How do multinational companies react to international tax differentials? How do national tax policies try to take advantage of these company reactions, and how do the policies of different countries interact? Finally, how have corporate tax revenues evolved as a result of changing government policies and private sector reactions to these policies?

The response of real investment to international tax differentials. How responsive is the international location of real investment to differences in (effective) national tax rates, and has it become more responsive over time? The main approach of studies addressing this question has been to estimate the sensitivity of firms to changes in tax regimes. Hines (1999) reviews this literature and concludes that the allocation of real resources is highly sensitive to tax policies.² Devereux and Griffith (2002) discuss these findings and the literature on which they are based. They conclude that, while there is some evidence that taxes affect firms' location and investment decisions, it is not clear how big this effect is. Thus, while we can say that tax policy is important, we are unable to say precisely how strongly international real investment will react to specific changes in national tax policies.

The reaction of ownership patterns to tax differentials. As we explain in section 4.1, the productivity of the assets used by multinational companies may depend on who owns them. If interjurisdictional tax differentials distort the pattern of ownership, they may therefore reduce

² Devereux, Griffith and Klemm (2002), de Mooij and Ederveen (2003) and Devereux and Sørensen (2006) also provide reviews of this literature.

economic efficiency. Hines (1996) compared the location of investment in the US by foreign investors whose home governments grant foreign tax credits for federal and state income taxes with the location of investment by those whose home governments do not tax income earned in the US. Investors who can claim credits against their home-country tax bill for state income taxes paid in the US should be much less likely to avoid high-tax states. Hines found foreign investor behaviour to be consistent with this hypothesis, indicating that the tax system does in fact influence the identity of the owners of assets invested in a particular jurisdiction. Desai and Hines (1999) also found that American firms shifted away from international joint ventures in response to the higher tax costs created by certain provisions of the US Tax Reform Act of 1986.

Taxation and international income-shifting. By lowering their corporate income tax rates, individual governments may try to shift both real activity and taxable corporate profits into their jurisdiction. There is ample evidence that international profit-shifting does indeed take place, despite the attempts of governments to contain it via transfer-pricing regulations and rules against thin capitalization. Thus, using different methods of identifying income-shifting, Grubert and Mutti (1991), Hines and Rice (1994), Altshuler and Grubert (2003), Desai et al. (2004), and Sullivan (2004) all find evidence of significant tax-induced profit-shifting between the U.S. and various other countries. Weichenrieder (1996) and Mintz and Smart (2004) find similar evidence for Germany and Canada, respectively, and Bartelsman and Beetsma (2003) use a broader data set to support their hypothesis of tax-avoiding profit-shifting within the OECD area.

Strategic interaction in tax rate setting. In so far as growing capital mobility of capital increases the sensitivity of capital flows to tax differentials, one might expect the tax policy of individual countries to become more sensitive to the tax policies pursued by other countries. There is a small but growing literature that tries to estimate the reaction functions between countries in setting taxes. These studies investigate whether individual governments cut their own tax rate in response to tax-rate cuts abroad. Devereux, Lockwood and Redoano (2004) find evidence of such strategic interaction in corporate tax setting in the OECD between 1992 and 2002 and in the EU-25 between 1980 and 1995. Besley, Griffith and Klemm (2001) also found evidence of interdependence in the setting of five different taxes in the OECD between 1965 and 1997, with a stronger interdependence the greater the mobility of the tax base. However, interdependence in tax setting might not reflect competition for mobile tax bases; it could also be the result of ‘yardstick’ competition where politicians mimic each others’ tax policies to seek the votes of informed voters, or it could simply reflect a convergence in the dominant thinking regarding appropriate tax policies, e.g., a growing

belief across countries that a tax system relying on broad tax bases combined with low tax rates is less distortionary. This literature still has far to go in distinguishing between these explanations.³

Tax exporting. As discussed above, a government seeking to maximise the welfare of its own citizens will be tempted to ‘export’ some of the domestic tax burden to foreigners through a source-based capital income tax. *Ceteris paribus*, one would expect the incentive for such tax-exporting to be stronger the higher the degree of foreign ownership of the domestic capital stock. Recent empirical evidence provided by Huizinga and Nicodème (2006) confirms this hypothesis. Using firm-level data from 21 European countries for the period 1996-2000, they find a strong positive relationship between foreign ownership and the corporate tax burden. According to their benchmark estimate, an increase in the foreign ownership share by one percent raises the average corporate tax rate by between a half and one percent.

Trends in tax rates. Statutory corporate income tax rates have fallen substantially in most OECD countries over the last decades. This would seem to support the hypothesis that growing capital mobility and the ensuing international tax competition puts downward pressure on source-based capital income taxes. However, statutory corporate tax rates remain far above zero, and corporate tax bases in almost all OECD countries have also expanded, through reductions in the generosity of allowances. Thus the *effective* corporate tax rates have fallen, but by much less than the statutory tax rates (see, *inter alia*, Chennells and Griffith (1997), Devereux, Griffith and Klemm (2002), Griffith and Klemm (2004) and Devereux and Sørensen (2006)). This finding is based on an analysis of ‘forward-looking’ measures which use the methodology developed by Auerbach (1983) and King and Fullerton (1984) on the basis of Jorgenson’s (1963) user cost of capital.⁴

Trends in tax revenues. Forward-looking measures of effective tax rates seek to illustrate the effect of the tax code on the current incentive to invest. However, these measures may not fully capture all of the special provisions of the tax code which affect the incentives to invest in particular sectors or

³ There are also a number of papers that have looked at policy interdependence across sub-national governments. Brueckner and Saavedra (2001) find strategic interaction in local property taxes in cities in the Boston metropolitan area and Brett and Pinsky (2000) obtain similar results using business property taxes of municipalities in British Columbia (Canada). Buettner (2001) finds interdependence for local business tax across German municipalities, while Esteller-Moré and Solé-Olé (2002) study Canadian income taxes and find evidence of interdependence across Canadian provinces. A paper that specifically finds evidence of yardstick competition is Besley and Case (1995) using income tax data for US States.

⁴ This was further developed by Devereux and Griffith (1998). For an overview and discussion of different measures, see Devereux et al (2002), Devereux (2004) and Sørensen (2004a).

assets. Some studies have therefore focused on ‘backward-looking’ measures of effective tax rates based on actual revenues collected. The actual taxes paid in any given year will be a function of past decisions over investment, the profitability of those investments, loss carry forward and a range of other factors. Thus it is not clear that backward looking measures of effective tax rates are very meaningful for evaluating the effects of changes in tax rules on investment incentives, although they do of course provide information on the ability of governments to collect revenue from capital income taxes. The backward-looking measures do not show any systematic tendency for the overall effective tax rate on capital income to fall (see Carey and Rabesona, 2004). This is consistent with the fact documented in Devereux and Sørensen (2006) that corporate tax revenues have remained fairly stable and have even increased as a percentage of GDP in several OECD countries.

To sum up, there is evidence that the location of real investment, the cross-country pattern of company ownership and in particular the location of paper profits react to international tax differentials. There is also evidence that national tax policies are inter-dependent, although the extent to which this reflects competition for mobile tax bases is unclear. Further, statutory corporate tax rates have fallen significantly in recent decades and forward-looking measures of effective tax rates have also tended to fall, but corporate tax revenues have been stable or even increased. Thus source-based capital income taxes seem alive and well.

1.4 *Why have corporate tax revenues remained so strong?*

How can the buoyancy of corporate tax revenues be reconciled with the tendency for average effective corporate tax rates to fall? A simple decomposition of the ratio of corporate tax revenue to GDP may throw some light on this puzzle. If R is corporate tax revenue, Y is GDP, P is the total profit bill, and C is the total profit earned in the corporate sector, we have

$$\frac{R}{Y} = \frac{R}{C} \cdot \frac{C}{P} \cdot \frac{P}{Y}$$

The fraction R/C may be seen as a rough measure of the average effective tax rate on corporate profits. The decomposition above shows that even if this average effective tax rate is falling, the ratio of corporate tax revenue to GDP may increase if there is a sufficient increase in the ratio of corporate profits to total profits (C/P) and/or in the profit share of GDP (P/Y). Using data from OECD national income accounts, Sørensen (2007) finds that, while the total profit share has remained fairly stable, the share of total profits accruing to the corporate sector has in fact tended to

increase significantly in several countries during the last two decades. This may help to explain why corporate tax revenues relative to GDP have remained robust in most countries, despite the fact that the effective rate of taxation has fallen.

The rise in corporate profits relative to total profits may in part reflect the secular decline of certain sectors such as agriculture, where the non-corporate organizational form has tended to dominate, but it may also reflect income-shifting into the corporate sector induced by the large cuts in statutory corporate tax rates. Indeed, based on a European panel data set, de Mooij and Nicodème (2006) estimate that between 10 and 17% of corporate tax revenue can be attributed to income shifting, and that income shifting has raised the ratio of corporate tax revenue to GDP by some 0.2 percentage points since the early 1990s. While the evidence is far from conclusive, the data are suggestive. Thus, even though international tax competition may not have eroded corporate tax revenues, it may nevertheless have caused some erosion (though it is not clear how much) of personal income tax revenue by inducing income shifting into the corporate sector.

2 The UK corporate tax system in international perspective

Having dealt with general international trends in capital income taxation, we shall now take a closer look at the UK tax system against an international background. This part of the chapter also serves as a basis for our discussion in Part 4 of alternative options for tax reform.

2.1 The current corporate tax system

The statutory tax rate on corporate income in the UK has fallen substantially over the past two decades and currently stands at 28%. This lies above the (unweighted) average across OECD countries, but is the lowest amongst G7 countries, see Figures 1 and 2.

Figure 1: Statutory corporate income tax rates, 2006/7
Source: OECD Tax Database

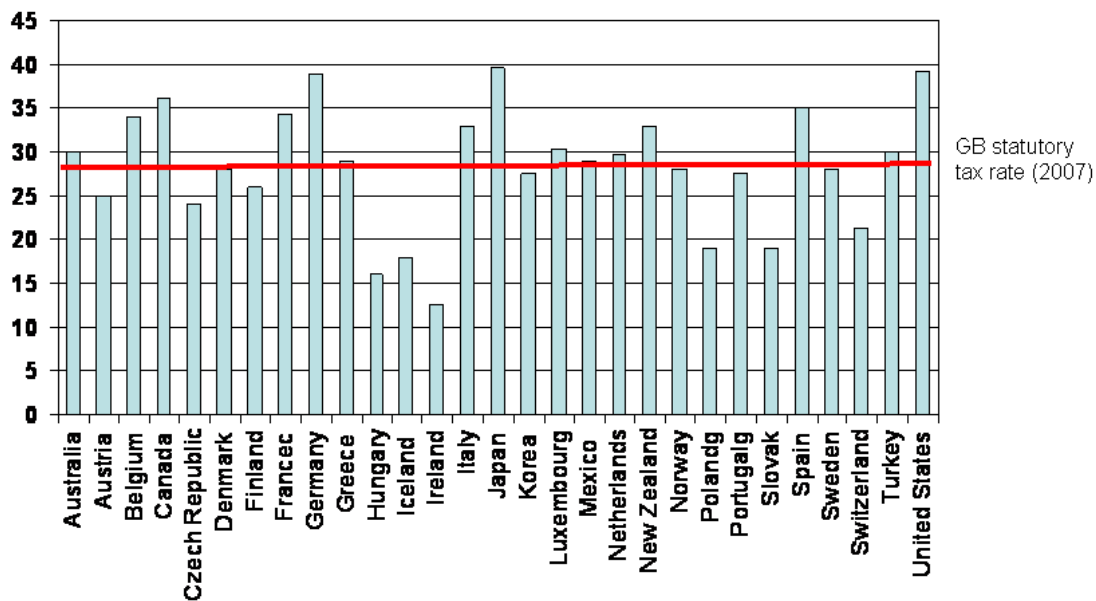
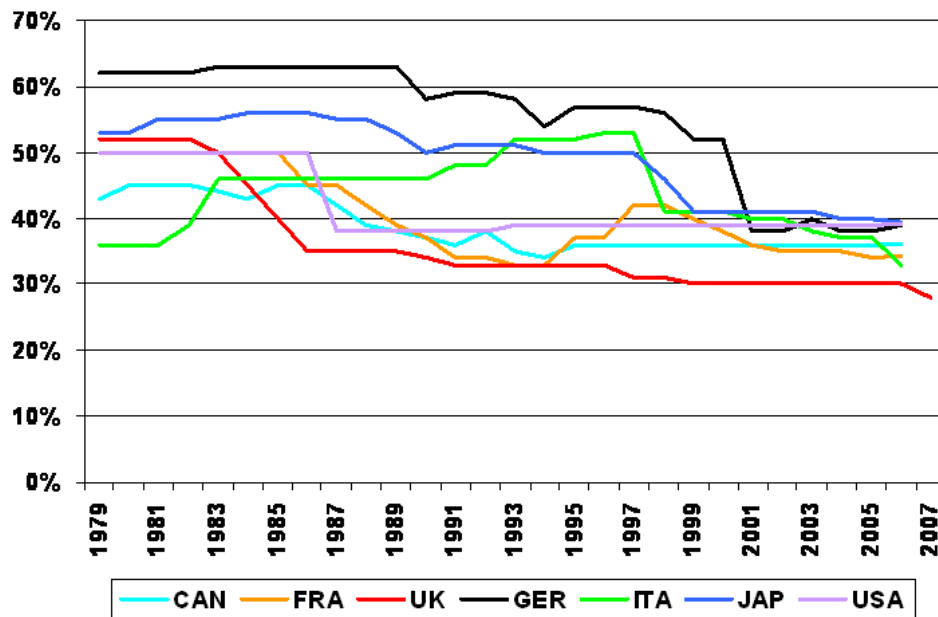


Figure 2: Statutory corporate income tax rates, G7 countries, 1979-2006



At the same time as the tax rate was lowered, reforms have reduced the generosity of various allowances. This helps to explain why corporate tax revenues in the UK have held up quite well, as indicated in Figure 3.

Figure 4 shows the sectors of the economy that pay the most corporation tax. A striking feature of this figure is the large share of tax paid by the banking/financial sector. This is disproportionate to its share of economic activity.

The UK operates a world-wide system of corporate income taxation, which means that UK-incorporated companies are taxed on the total earnings from activities both in the UK and internationally. In order to avoid companies paying double taxation the UK allows them to credit foreign taxes against their domestic tax liabilities. In general, resident companies are not subject to UK tax on earnings from their foreign subsidiaries until the profits are repatriated to the UK. However, reforms in 2000 and 2001 to the corporate tax regime for controlled foreign companies (CFCs) restricted the ability of UK-based groups to retain profits overseas without paying a full UK tax charge.

Figure 3: Corporate Tax Revenue as % GDP

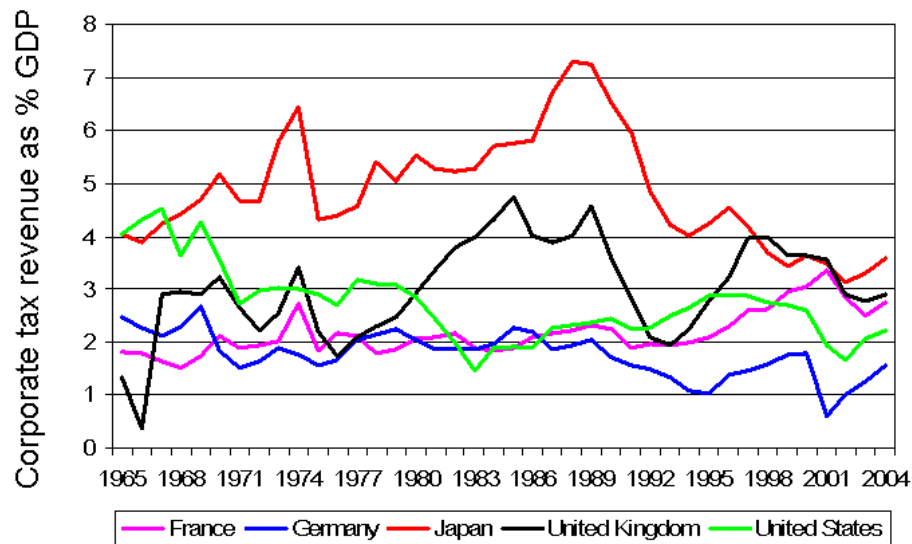
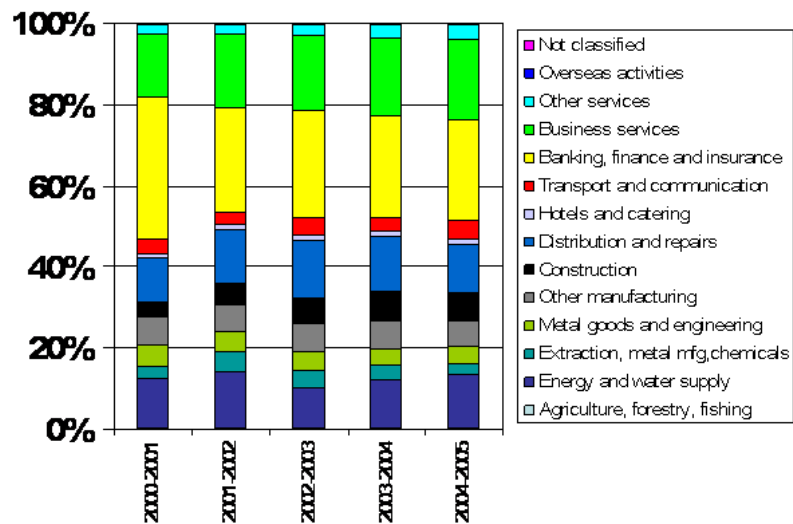


Figure 4: UK Corporate Tax Revenue, by sector



Source: HMRC T11.7 Corporate Tax Payable, £m
http://www.hmrc.gov.uk/stats/corporate_tax/menu.htm

The March 2000 Budget also removed the UK tax advantages of offshore mixer companies; prevented excess tax credits on high-taxed foreign dividend income from eliminating UK tax on tax-haven profits; permitted ‘onshore pooling’, so that excess foreign tax credits on foreign dividends (capped at a 45% rate as compared with the UK 28% rate) can be set against low-taxed foreign dividends (provided they are not derived from a tax haven); and allowed excess foreign tax credits on foreign dividends to be carried back to earlier accounting periods, carried forward to later accounting periods or set against UK tax on other foreign dividends on a company or group basis.

In April 2002 an R&D tax credit for large companies was introduced. It allows a 125% deduction from taxable profits.⁵

The personal income tax generally subjects savings income to a three-bracket tax schedule with rates of 10%, 20% and 40%. However, dividend income is taxed at 10% up to the limit of the second band in this schedule (£33,300 in 2006-07), and at 32.5% above that. Moreover, this is offset by a dividend tax credit which reduces the effective tax rates on dividends to 0% and 25%, respectively. There is thus a substantial alleviation of the domestic double taxation of distributed corporate profits. Capital gains realized by individual shareholders are taxed as savings income and are hence subject to a top marginal rate of 40%. Thus there is double taxation of retained corporate profits (which usually generate a capital gain on shares), although the effective tax rate on accrued capital gains is reduced to the extent that realisation of the gain is deferred.

2.2 UK versus Ireland

Although the UK statutory corporate tax rate is the lowest amongst the G7 countries, it is higher than in many smaller OECD countries, as shown in Figure 1. In particular, the UK rate is much higher than the corporate tax rate in neighbouring Ireland. It is therefore sometimes debated whether the low corporate tax regime in place in Ireland since the early 1980s has negatively affected the level of activity in the UK? There is no real evidence that it has. Walsh (2000) suggests that tax played little role in the recent growth in inward FDI into Ireland:

“The Irish boom coincided with a marked increase in the inflow of FDI, especially from the United States. Ireland’s share of the flow of FDI from the United States to the EU rose from 2 percent in 1987 to over 7 percent in 1993. Exactly why we became more attractive to FDI at this time remains

⁵ There is also an R&D tax credit for SMEs introduced in April 2000, the credit allows a 150% deduction from taxable profits, and is repayable to firms with no taxable profits.

a puzzle. No changes in the corporation tax regime occurred at that time, but several other factors might have played a role.” Walsh (2000)

There is recent evidence (Desai, Foley, Hines 2006a, 2006b) that nearby tax havens may actually contribute to economic activities in high-tax countries such as the UK, though this evidence is more general than the specific issue of Ireland.

2.3 Loss of multinational headquarters?

One of the costs of taxing worldwide income at a high rate is that doing so reduces the attractiveness of a country as a tax home for multinational corporations. Under UK tax laws a corporation's home country is its place of active management and control, so any effect of UK taxation on corporate home must entail changing the location of corporate management. This requirement makes corporate relocation generally more costly and therefore less likely than it is under alternative systems (such as that used by the United States, where corporate home is determined by site of legal incorporation). At the same time the UK definition of corporate residence increases the cost of corporate relocation to the home government, which stands to lose the benefits of local management.

Effects of home country tax systems on the location of corporate homes can take two forms. The first, and most visible, form appears when existing firms relocate their homes for tax purposes. A spurt of relocations of U.S. corporate homes to nearby tax havens around the turn of the century (Desai and Hines (2002) document more than 25 such cases, including seven Fortune 500 firms with combined market capitalization exceeding \$25 billion) offers considerable evidence that firms standing to reap the greatest associated tax benefits were the most likely to relocate. The second form, which is much less obvious but considerably more significant from an economic standpoint, is that tax rules may prevent local multinational firms from materializing in the first place. Domestic firms on the verge of expanding their operations internationally may be discouraged from doing so by the tax costs they would incur, whereas their counterparts in countries operating territorial tax systems (i.e. exempting foreign source income from domestic tax) face no such impediments. Internationally mobile companies looking for homes are certainly well advised to include tax considerations in their calculations, and doubtless most do so. What net effect this has on the location of multinational headquarters remains conjectural, though its sign is clear enough. In Part 4 we shall return to this issue. In that part of the chapter we shall also discuss the related issue

of whether the UK system of worldwide income taxation causes an inefficient pattern of ownership of multinational corporate assets.

3 International tax cooperation

What has been the experience with international tax cooperation, and what does it say about the prospects for greater cooperation in the future? Do countries benefit from international cooperation, and if so, how much do they benefit and what costs do they incur from the constraints that cooperative agreements necessarily entail? In this part of the chapter we consider these controversial issues. We start by discussing the case for international cooperation on tax policy. We then describe the most important international and European initiatives to coordinate national policies in the area of capital income taxation.

3.1 *Non-cooperative tax setting and the case for tax coordination*

Since the publication of the Meade Report a large literature on the non-cooperative tax setting behaviour of governments has developed. This literature has focussed on the international spillover effects which national tax policies can have, and which are not accounted for when governments choose their tax policies solely with the purpose of maximising national welfare. For example, if one country lowers its source-based corporate income tax, it may attract corporate investment from abroad, thereby reducing foreign national income and foreign tax revenues. When this spillover effect is not accounted for by individual governments, there is a presumption that corporate tax rates will be set too low from a global perspective.⁶

The problem may be put another way: From a global viewpoint the elasticity of the capital income tax base with respect to the (effective) capital income tax rate is determined by the elasticity of saving with respect to the net rate of return. This elasticity is often thought to be quite low. However, from the perspective of the individual country, the elasticity of the capital income tax base is greatly increased by international capital mobility when taxation is based on the source principle. To minimise tax distortions, individual countries will therefore tend to set a rather low source-based capital income tax rate even though global capital supply might not be very much discouraged if all countries chose a higher tax rate. If the marginal source of public funds is a source-based capital tax, as assumed by Zodrow and Mieszkowski (1986), the result will be an under-provision of public goods relative to the global optimum. Alternatively, if governments can

⁶ Oates (1972) provided an early analysis of the effects of fiscal externalities. Gordon (1983) elaborated these ideas, and many others have since contributed to the literature. See Wilson (1999) for a survey.

rely on other sources of public finance and if there are no location-specific rents, as assumed by Razin and Sadka (1991), capital mobility will tend to drive source-based capital income taxes to zero, causing a shift of the tax burden towards immobile factors such as labour. From a global efficiency viewpoint this is likely to imply an excessive taxation of labour relative to capital if labour supply is elastic, and it may also imply greater inequality of income distribution, as capital income tends to be concentrated in the top income brackets.

The reasoning above underlies the popular view that growing capital mobility will trigger a ‘race to the bottom’ in capital income tax rates through ever fiercer tax competition. But non-cooperative tax setting need not always drive capital income taxes below their globally optimal level. As noted in section 1.2, source-based taxes on location-specific rents may be a way of exporting some of the domestic tax burden onto foreigners, and since growing capital mobility tends to increase the foreign ownership share of the domestic capital stock, it strengthens the incentive for tax exporting through a higher corporate tax rate. Hence one cannot say a priori whether effective corporate tax rates will become too high or too low as a result of increased capital mobility.

At any rate, both tax competition and tax exporting imply international fiscal spillovers, and unless the two effects happen to exactly offset each other, the existence of these fiscal externalities provides a case for international tax coordination. If tax competition exerts the dominant effect, global welfare may be improved through a coordinated rise in corporate tax rate. By contrast, if the incentive for tax exporting dominates, there is a case for an internationally coordinated cut in corporate tax rates.⁷

The fiscal spillovers described above would vanish if capital income taxation were based on a consistent residence principle. Thus, one form of international tax cooperation could be measures such as international exchange of information that could help national governments to implement

⁷ It should be noted that fiscal spillovers arise because governments are assumed to deviate from ‘marginal cost pricing’, i.e., the marginal effective tax on a unit of investment is assumed to deviate from the marginal cost incurred by the government in providing public goods and services to firms. If the source tax on capital were simply a user fee reflecting the government’s marginal cost of hosting investment, a substantial body of literature has shown that international tax competition in tax rates and infrastructure services could well lead to an efficient level and allocation of investment (for a brief survey of this ‘Tiebout’ literature, see Wildasin and Wilson (2001)). However, our discussion assumes that governments will typically need to mobilize some net fiscal resources from the corporate income tax rather than just using it as a pure benefit tax.

the residence principle. However, a pure residence principle would require source countries to give up their taxing rights which is hardly realistic.

3.2 *The case for tax competition*

The theoretical models predicting welfare gains from tax coordination implicitly or explicitly assume that governments are benevolent, acting in the best interest of their citizens. To put it another way, these models assume that government policy decisions reflect a well-functioning political process ensuring a ‘correct’ aggregation of voter preferences.

Proponents of tax competition typically challenge this assumption. They argue that, because of imperfections in the political process, governments tend to tax and spend too much, and that this tendency may be offset by allowing international tax base mobility, since this will make it more difficult to raise public funds.

An early and rather uncompromising version of this sceptical view of government was presented by Brennan and Buchanan (1980) who claimed that policy makers basically strive to maximise public revenues and to spend it on wasteful rent-seeking activities that do not benefit the general public. In popular terms, the government is seen as an ever-expanding ‘Leviathan’ that needs to be tamed, and one way of ‘starving the beast’ is to allow inter-jurisdictional competition for mobile tax bases, since this will reduce the revenue-maximising tax rates.

More moderate advocates of tax competition argue that, because of the importance of lobbying groups for electoral outcomes, and due to asymmetric information between bureaucrats and politicians regarding the cost of public service provision, there is a tendency for governments to give in to pressure groups and to accept low productivity in the production of public services, resulting in inefficiently high levels of taxation and public spending. The claim is that lobbyism and asymmetric information imply a bias in the political process in favour of bureaucrats and other special interests. Since tax base mobility increases the distortionary effects of taxation, it may be expected to harden voter resistance to higher tax rates, thus forcing politicians to pay greater attention to the welfare of the ordinary citizen rather than serving special interests. In this way it is believed that tax competition will reduce the scope for rent-seeking and increase public sector efficiency.

In addition to these general arguments in favour of tax competition, the academic literature has pointed out two political economy reasons why tax competition in the area of capital income

taxation may be beneficial even in the absence of rent-seeking and special interest groups (see Persson and Tabellini, 2000, ch. 12). The first of these arguments focuses on redistributive politics: when tax rates are set in accordance with the preferences of the median voter whose income is below average, the median voter's interest in redistribution tends to imply an inefficiently high level of capital taxation, since capital income is normally concentrated in the higher income brackets. By making it harder to overtax capital, capital mobility and the resulting tax competition may offset this tendency.

The second argument in favour of capital income tax competition assumes that governments have short horizons and that they lack the ability to pre-commit to the tax policy which is optimal ex ante, before investors have made their decisions to save and invest. If international capital flows are constrained by capital controls, the supply of capital to the domestic economy will be inelastic once wealth has been accumulated, giving short-sighted governments a strong incentive to impose heavy capital taxes ex post. Anticipating this political incentive, investors will hold back their investments, so investment will be suboptimal due to the (correct) expectations that capital will be overtaxed ex post. In these circumstances an opening of the capital account and the ensuing international competition for mobile capital income tax bases may improve the government's ability to commit to a low-tax policy, since capital mobility offers investors a route of escape from excessive domestic taxation, thereby strengthening the credibility of the government's ex ante promise that it will not impose punitive capital taxes.

An entirely separate line of thought supporting tax competition notes that conformity to a common tax system and common tax rates is unlikely to represent an optimal configuration of national tax provisions. To the degree that national tax differences reflect sensible and purposive choices in response to differing situations, tax coordination threatens to undermine the benefits that such choices may offer.

3.3 Quantifying the potential gains from tax coordination

The discussion above suggests that neutralizing tax competition through international tax coordination involves an economic cost if fiscal competition reduces 'slack' in the public sector and if coordination reduces the scope for tailoring the tax system to particular national needs. But tax coordination could also create benefits by internalizing international fiscal spillovers and by reducing tax distortions to the cross-country pattern of saving and investment. If these benefits

could be quantified, policy makers would have a better basis for judging whether tax coordination is on balance likely to increase social welfare.

Some recent studies have constructed computable general equilibrium models in an effort to quantify the potential welfare gains from tax coordination, assuming a well-functioning political process that does not allow rent-seeking. The 'TAXCOM' simulation model developed by Sørensen (2000, 2004b) was designed to estimate the potential gains from international tax coordination on a regional as well as on a global scale, recognizing that coordination among a subgroup of countries such as the EU is more realistic than coordination among all the major countries in the world. The TAXCOM model allows for elastic savings and labour supplies, international capital mobility, international cross-ownership of firms and the existence of pure profits accruing partly to foreigners, productive government spending on infrastructure as well as spending on public consumption, and an unequal distribution of wealth providing a motive for redistributive taxes and transfers. In the absence of tax coordination public expenditures are financed by a source-based capital income tax and by (direct and indirect) taxes on labour income. Fiscal policies are determined by the maximisation of a social welfare function which may be seen either as the objective function of a benevolent social planner who trades off equity against efficiency, or as the welfare of the median voter who has a personal interest in some amount of redistribution from rich to poor.

Because it incorporates location-specific rents, the model includes an incentive for tax exporting, but at the same time capital mobility provides an incentive for countries to keep their source-based capital income taxes low. With plausible parameter values, including a realistic foreign ownership share of the domestic capital stock, the TAXCOM model implies that tax competition will drive capital income tax rates and redistributive income transfers considerably below the levels that would prevail in a hypothetical situation without capital mobility.

Sørensen (2000, 2004b) uses the TAXCOM model to simulate a number of different tax coordination experiments. The bulk of his analysis focuses on tax coordination within the 'old' European Union (the EU-15), assuming that tax competition will continue to prevail between the EU and the rest of the world, and allowing for a higher degree of capital mobility within the EU than between the Union and third countries. The model is calibrated to reproduce the observed cross-country differences in income levels and in the level and structure of taxation and public spending. On this basis Sørensen (op.cit.) estimates the welfare effect of introducing a common

minimum source-based capital income tax in the EU-15 that would maximise the population-weighted average social welfare for the EU, taking the policies of the rest of the world (mainly the U.S.) as given. His simulations suggest that introducing such a binding minimum (effective) capital income tax rate would raise social welfare in the EU by some 0.2-0.4 percent of GDP. The gain would be somewhat higher for the Nordic countries and for the United Kingdom where the initial effective capital income tax rates are estimated to be relatively high, whereas it would be smaller for Continental Europe where initial effective capital income tax rates are low. The United States would also gain some 0.1 percent of GDP from EU tax coordination, since such coordination would imply less intensive tax competition from Europe.

These estimates assume that countries are free to adjust all of their social transfers in response to the pressures from fiscal competition. The estimated gains are not pure efficiency gains; rather, they reflect that national governments have greater scope for pursuing ambitious redistributive policies when the pressures from tax competition are reduced. However, since important parts of the social security system have a quasi-constitutional character, they may be difficult to change in the short and medium term. When tax competition puts downward pressure on public revenue, it may therefore be easier for governments to adjust via changes in discretionary spending on public services. If changes in public revenues are reflected in changes in public service provision rather than in changes in redistributive transfers, the simulations presented in Sørensen (2004) indicate that the social welfare gain from tax coordination will be about 1.5 times as large as the gains reported above. Moreover, in this scenario the estimated gain will tend to reflect a pure efficiency gain, as tax coordination helps to offset an under-provision of public goods.

One limitation of the TAXCOM model described above is that it does not capture the asymmetries in the tax treatment of the many different types of capital income. Moreover, the model lumps the smaller EU countries into regions and thus does not fully disaggregate down to the level of the individual small country. The more elaborate 'OECDTAX' simulation model of the OECD area developed in Sørensen (2002) seeks to overcome these limitations. This model includes private portfolio choices, endogenous corporate financial policies, a housing market, a distinction between foreign direct investment and foreign portfolio investment, explicit modelling of the financial sector and a detailed description of the tax system. In particular, the model distinguishes between the corporate income tax and the various personal taxes on interest, dividends and capital gains, and it allows for the various methods used to alleviate the double taxation of corporate income in the domestic and international sphere.

Brøchner et al. (2006) have recently used an extended version of the OECDTAX model to simulate the effects of a harmonisation of corporate tax bases and/or corporate tax rates in the EU-25. Due to the existing differences in national corporate tax systems, the cost of corporate capital varies considerably across EU Member States, thus causing an inefficient allocation of capital within the Union, as the tax differentials drive wedges between the marginal productivities of capital invested in different Member States. A harmonisation of corporate tax bases and tax rates would cause a cross-country convergence of the costs of corporate capital. Hence capital would be reallocated towards Member States where investment yields a higher pre-tax rate of return, which in turn would raise aggregate income in the EU.

In the model the broadness of the corporate income tax base is captured by a capital allowance rate which is calibrated to ensure that the initial general equilibrium produced by the model reproduces the observed ratios of corporate tax revenues to GDP, given the statutory corporate tax rates prevailing in the base year (2004). In the simulation summarized in Table 1 below, the capital allowance rates and the statutory corporate tax rates are assumed to be fully harmonised across the EU-25, at levels corresponding to their GDP-weighted average values in the EU in 2004. In most countries corporate tax harmonisation implies a change in total tax revenue. In Table 1 these revenue changes are assumed to be offset by corresponding changes in total transfers to the household sector, to maintain an unchanged budget balance.

The bottom row in Table 1 shows that complete harmonisation of corporate tax rates and tax bases at their GDP-weighted averages across the EU would leave total tax revenue in the union unchanged while raising total GDP in the union by some 0.4 percent. This rise in total income is driven by an improved allocation of capital, as investment is reallocated from countries with relatively low to countries with relatively high pre-tax rates of return. However, total welfare (measured by the population-weighted average welfare of the representative consumers in each country) only rises by about 0.1 percent of GDP because the higher economic activity requires an increase in factor supplies (e.g. an increase in work efforts) which is costly in terms of consumer utility.

Table 1. Effects of harmonising corporate tax rates and tax bases in the EU

Member State	Change in GDP (%)	Change in welfare (% of GDP)	Change in total tax revenue (% of GDP)	Change in corporate tax rate (%-points)	Change in capital allowance rate (%)
Austria	0.4	0.1	-0.1	-1.4	5.6
Belgium	2.4	0.5	-0.1	-1.4	51.2
Denmark	1.3	0.2	-0.1	2.6	66.1
Finland	1.2	0.1	-0.1	3.6	83.5
France	2.0	0.3	-0.3	-2.4	43.7
Germany	-2.1	-0.1	0.4	-5.4	-52.1
Greece	0.6	0.1	0.0	-2.4	2.1
Ireland	-1.3	-0.2	0.8	20.1	13.7
Italy	1.1	0.1	-0.3	-0.4	30.3
Luxembourg	3.4	0.5	-0.7	2.2	218.3
Netherlands	2.3	0.3	-0.4	-1.9	60.9
Portugal	0.8	0.1	-0.2	5.1	62.3
Spain	0.0	0.1	0.0	-2.4	-6.1
Sweden	0.7	0.0	-0.1	4.6	52.5
UK	1.9	0.2	-0.6	2.6	134.3
Cyprus	-1.4	-0.2	1.3	17.3	-7.8
Czech Rep.	2.0	0.1	-0.5	4.5	144.4
Estonia	-2.6	-0.1	1.5	6.5	-71.3
Hungary	0.3	-0.2	0.1	16.2	173.6
Latvia	-0.2	0.0	0.7	17.3	107.7
Lithuania	0.1	-0.1	0.5	17.5	190.5
Malta	-1.4	-0.1	0.3	-2.4	-36.9
Poland	-1.3	-0.3	0.7	13.5	-19.7
Slovak Rep.	-0.9	-0.2	0.8	13.5	7.5
Slovenia	-1.9	-0.2	0.7	7.4	-44.4
EU25	0.4	0.1	0.0		

Note: Statutory corporate tax rates and capital allowance rates are harmonised at their GDP-weighted average levels in 2004. The harmonised corporate tax rate is 32.6%. Government budgets are balanced by adjusting income transfers.

Source: Brøchner et al. (2006).

The modest magnitude of the overall welfare gain is explained by the continued existence of other tax distortions to the pattern of saving and investment across the EU. Even if corporate taxes were harmonised, tax rules for household and institutional investors would still differ across Member States. In particular, the taxation of corporate source income at the shareholder level would continue

to differ across countries. Moreover, a significant part of the total capital stock is invested outside the corporate sector, particularly in housing capital. Corporate tax harmonisation is therefore not sufficient to equalize the marginal productivity of different types of investment across the EU.

Although the aggregate effects of corporate tax harmonisation are quite modest at the EU level, the effects on individual countries are often much larger and rather divergent, as indicated in Table 1. At the individual country level, the effects are driven mainly by the change in the overall level of taxation implied by corporate tax harmonisation. Roughly speaking, countries which are forced to increase their effective corporate tax rate experience a drop in GDP and welfare, whereas countries that are forced to reduce the effective tax burden on the corporate sector tend to experience an increase in total output and welfare. This simply reflects the distortionary character of the corporation tax.

This analysis highlights some fundamental dilemmas for any policy of tax harmonisation. On the one hand harmonisation cannot generate any aggregate efficiency gain from an improved allocation of capital unless national tax systems differ from the outset. On the other hand, these initial differences in national tax policies inevitably mean that tax harmonisation creates losers as well as winners. As long as decisions on EU tax harmonisation require unanimity among the Member States, it is thus inconceivable that any agreement could be reached without some kind of compensating transfers from the winning to the losing countries.

But this points to another dilemma: Any compensation scheme must identify winners and losers. If losers are defined as those countries where tax revenues fall as a result of harmonisation, the implication would be that countries suffering drops in GDP (and welfare) would compensate countries with gains in GDP (and welfare). If, on the other hand, losers are defined as those countries where GDP decreases as a result of the reforms, the implication would be that countries suffering drops in tax revenues would compensate countries with gains in tax revenues. Both options would undoubtedly be hard to accept for policy makers.

A further dilemma arises from the fact that the (sometimes significant) changes in Member State revenues implied by tax harmonisation can hardly be absorbed without a noticeable impact on the internal distribution of income and welfare within EU countries. Presumably, this makes tax harmonisation even more controversial.

In summary, recent quantitative studies based on computable general equilibrium models suggest that the aggregate economic welfare gains from tax coordination within the European Union are

likely to be rather modest, amounting perhaps to 0.1-0.4 percent of GDP. Moreover, the aggregate gain is likely to be quite unevenly distributed, with some countries gaining considerably and others facing substantial losses in GDP and welfare.

It should be noted that these estimates may understate the potential welfare gains from tax harmonisation since they do not account for the reduction in compliance and administration costs that would follow from a harmonisation of corporate tax rules across the EU. Moreover, the alternative harmonisation scenarios considered by Brøchner et al. (2006) indicate that the overall gain from tax harmonisation would be more evenly distributed across countries if changes in corporate tax revenues were offset by changes in labour income taxes, or if harmonisation took place only among the EMU member countries (exploiting the opportunity for Enhanced Cooperation among a subgroup of EU Member States provided by the Nice Treaty).

On the other hand, tax harmonisation suppresses differences in national policy preferences as well as the ability of national governments to differentiate their tax systems in accordance with cross-country differences in economic structures. The estimates in Table 1 do not include the costs of this loss of national autonomy. In conclusion, there is no doubt that individual Member States would be affected very differently by a complete harmonisation of corporate taxes, so full harmonisation seems highly unlikely under the current unanimity rule for tax policy decisions at the EU level. In the following we shall therefore focus on the less far-reaching attempts at international tax cooperation that have been made in the OECD and in the EU in recent years.

3.4 *OECD initiatives against harmful tax practices*

The most ambitious multilateral tax agreement to date is an effort of the Organisation for Economic Cooperation and Development (OECD), the statistical arm of the 30 wealthiest countries that also offers guidance on economic policies, including fiscal affairs.

The OECD in 1998 introduced what was then known as its Harmful Tax Competition initiative (OECD, 1998), and is now known as its Harmful Tax Practices initiative. The purpose of the initiative was to discourage OECD member countries and certain tax havens (low tax countries) outside the OECD from pursuing policies that were thought to harm other countries by unfairly eroding tax bases. In particular, the OECD criticized the use of preferential tax regimes that included very low tax rates, the absence of effective information exchange with other countries, and ring-fencing that meant that foreign investors were entitled to tax benefits that domestic residents

were denied. The OECD identified 47 such preferential regimes, in different industries and lines of business, among OECD countries. Many of these regimes have been subsequently abolished or changed to remove the features to which the OECD objected.

As part of its Harmful Tax Practices initiative, the OECD also produced a List of Un-Cooperative Tax Havens, identifying countries that have not committed to sufficient exchange of information with tax authorities in other countries. The concern was that the absence of information exchange might impede the ability of OECD members, and other countries, to tax their resident individuals and corporations on income or assets hidden in foreign tax havens. As a result of the OECD initiative, along with diplomatic and other actions of individual nations, 33 countries and jurisdictions outside the OECD committed to improve the transparency of their tax systems and to facilitate information exchange. As of 2007 there remained five tax havens not making such commitments,⁸ but the vast majority of the world's tax havens rely on low tax rates and other favorable tax provisions to attract investment, rather than using the prospect that local transactions will not be reported.

It is noteworthy that the commitments of other tax haven countries to exchange information and improve the transparency of their tax systems is usually contingent on OECD member countries doing the same. Given the variety of experience within the OECD, and the remaining differences between what countries do and what they have committed to do, the ultimate impact of the OECD initiative is still uncertain. Teather (2005, ch. 9) argues that the OECD initiative has essentially failed to achieve its objective of reducing tax competition from tax haven jurisdictions because of the reciprocity clauses securing that tax havens will not have to follow the OECD guidelines until all OECD member countries are forced to do likewise. On the other hand, the OECD (2006) reports considerable progress in commitments to information exchange, though there remain many gaps, particularly among tax havens.

There is substantial uncertainty over the effects of low tax rate countries, particularly tax havens, on total corporate tax collections. Multinational firms report that they earn significantly more taxable income in tax haven countries than would ordinarily be associated with levels of local economic activity (Hines, 2005). While this suggests that tax havens drain tax base from high tax countries, it does not necessarily follow that tax collections fall in high tax countries, since the existence of tax

⁸ These tax havens are Andorra, Liberia, Liechtenstein, the Marshall Islands, and Monaco.

havens changes the dynamics of tax competition by permitting high tax countries to distinguish the taxation of activities that are internationally mobile (and benefit from using tax haven operations) from activities that are not. This, in turn, facilitates taxing immobile activities at high rates, thereby maintaining corporate tax collections above the levels that would prevail in the absence of tax havens (Keen, 2001). Evidence from American firms indicates that the availability of nearby tax havens encourages investment in high tax countries (Desai, Foley and Hines, 2006a), which suggests that tax havens contribute to economic activity, and thereby tax collections, in high tax countries.

3.5 *The EU Code of Conduct on Business Taxation*

Like the 1998 OECD initiative, the EU Code of Conduct for business taxation – agreed by the EU Council of Ministers in December 1997 – was aimed at tackling ‘harmful tax competition’. The Code was designed to curb ‘those business tax measures which affect, or may affect, in a significant way the location of business activity within the Community’ (European Commission, 1998). The Code defines as harmful those tax measures that allow a significantly lower effective level of taxation than generally apply. For example, the criteria used to determine whether a particular measure is harmful includes whether the lower tax level applies only to non-residents, whether the tax advantages are ‘ring-fenced’ from the domestic market, and whether advantages are granted without any associated real economic activity taking place. Rules for profit determination that depart from internationally accepted principles and non-transparent administrative practices in enforcing tax rules are also considered to be harmful.

The EU’s Finance Ministers initially identified 66 measures that were deemed harmful (40 in EU Member States, 3 in Gibraltar and 23 in dependent or associated territories), most of which were targeted towards financial services, offshore companies and services provided within multinational groups. Under the Code, countries commit not to introduce new harmful measures (under a ‘standstill’ provision) and to examine their existing laws with a view to eliminating any harmful measures (the ‘rollback’ provision). Member States were committed to removing any harmful measures by the end of 2005, but some extensions for defined periods of time beyond 2005 have been granted.

The Code of Conduct Group established by the EU Council of Finance Ministers has been monitoring the standstill and the implementation of rollback under the Code and has reported regularly to the Council. Although the Code is not a legally binding document but rather a kind of

gentleman agreement among the Finance Ministers, it does seem to have had some political effect in restraining the use of preferential tax regimes for particular sectors or activities.

The idea of the Code of Conduct is that if a country decides to reduce its level of business income tax, the tax cut should apply to the entire corporate sector and not just to those activities that are believed to be particularly mobile internationally. In this way the Code intends to increase the (revenue) cost to individual Member States of engaging in international tax competition and to avoid intersectoral distortions to the pattern of business activity.

A recent theoretical literature has studied whether a ban on preferential tax treatment of the more mobile business activities will indeed enable national governments to raise more revenue from source-based capital income taxes.⁹ In a provocative paper, Keen (2001) reached the conclusion that it will not. When countries are forced to impose the same tax rate on all activities, their eagerness to attract international investment will lead to more aggressive competition for the less mobile tax bases. In Keen's analysis, this will reduce overall tax revenue. In support of his argument that the Code of Conduct could intensify tax competition, Keen points to the example of Ireland. Under the Irish tax system prevailing until the end of 2002, manufacturing firms (mainly multinationals) paid a reduced corporate tax rate of 10%, whereas other firms (mainly domestic) paid the 'standard' rate of 40%. When the Code of Conduct forced Ireland to move to a single-rate tax system, the country chose to impose a very low common rate of 12.5% from 2003.

However, Keen (2001) assumed that the aggregate international tax base is fixed and hence independent of the level of taxation. Janeba and Smart (2003) generalise Keen's analysis to account for endogeneity of the total tax base. Thus they allow for the possibility that lower corporate tax rates in the EU could increase the aggregate EU corporate tax base. In this setting a ban on tax discrimination that leads EU countries to compete more aggressively for the less mobile tax bases could attract capital from outside the EU. As shown by Janeba and Smart (op.cit.), it then becomes more likely that restrictions on preferential tax regimes will raise overall tax revenue. Haupt and Peters (2005) also find that a home bias of investors (i.e. a preference for investing at home rather than abroad) makes it more likely that a restriction on tax preferences granted to foreign investors reduces the intensity of tax competition and raises overall tax revenue.

⁹ Eggert and Haufler (2006, Part 3) offer a full survey of this literature.

Moreover, none of these studies account for the loss of economic efficiency occurring when tax preferences to particular sectors channel additional resources into those sectors, thus driving the marginal productivity of factors employed there below the level of productivity prevailing elsewhere. Overall, then, it seems likely that the EU's Code of Conduct does in fact help to avoid a counterproductive distortion of resource allocation within Europe.

3.6 *The EU Savings Tax Directive*

After many years of difficult negotiations, the EU's 'Savings Tax Directive' was finally passed on 24 June 2005, taking effect from 1 July 2005. The Directive seeks to prevent international evasion of taxes on interest income by requiring that all affected countries must either levy a withholding tax on all interest payments to EU residents or automatically report the amount of interest paid to the recipient's national tax authorities so that they can tax it themselves under the residence principle. For countries opting for a withholding tax, the required tax rate is 15 percent for the first three years of operation of the system, 20 percent for the next three years, and 35 percent thereafter. The withholding tax must be deducted from interest payments by the payer (whether a bank or other entity), and 75 percent of the revenue must be transferred to the investor's home government. The recipient of the interest income is entitled to a credit for the withholding tax from his residence country and may be exempt from the withholding tax if he provides for information on his foreign source interest income to be transmitted to his residence country.

The adoption of the Savings Tax Directive was made contingent on its adoption by ten dependent/associated territories of EU Member States (in the Channel Islands, the Isle of Man and the Caribbean) as well as by the main non-EU European tax havens: Switzerland, Liechtenstein, San Marino, Monaco and Andorra. In response to considerable diplomatic pressure from several EU Member States, all of these jurisdictions ended up accepting the Directive during 2003/04.

The long term goal of the Savings Tax Directive is to establish automatic exchange of information among all EU countries, but Member States may opt for the alternative of a withholding tax during a 'transitional period', which will expire if and when all the dependent territories plus the five non-EU European tax havens, as well as the United States, have committed themselves to information exchange upon request. Within the EU, Austria, Belgium and Luxembourg opted for a withholding tax rather than information exchange in order to preserve their strict bank secrecy rules. However, the rather high withholding tax rate of 35 percent to be imposed after the first six years and the

requirement that 75 percent of the revenue be transferred to the residence country are designed to induce these countries to switch to information exchange in the long run.

The Savings Tax Directive aims to help EU governments to enforce residence-based taxation of capital income. Effective implementation of the residence principle allows individual governments to choose their own preferred level of taxation without inducing residents to invest abroad rather than at home (or vice versa). This approach to tax coordination has the attraction that it does not sacrifice national tax autonomy, in contrast to tax harmonisation. Enforcement of the residence principle also puts serious limits on tax competition, since investors can no longer take advantage of lower tax rates offered abroad unless they change their country of residence. For many EU Member States, this brake on tax competition was an important motive for supporting the Savings Tax Directive.

However, the effectiveness of the Directive is likely to be very limited, for several reasons. First of all, investors still have plenty of opportunities to channel their wealth to safe havens outside the scope of the Directive. For example, in 2003 Hong Kong experienced a massive influx of capital, apparently from European sources, as the adoption of the Savings Tax Directive began to seem a realistic possibility.

Second, the Directive leaves several obvious loopholes which have earned it the nickname of the ‘fools’ tax’ in some circles (Heather, 2005, p. 96). The Directive applies only to interest, but not to dividends. If interest income from an EU source is paid out to a company that does not reside in an EU country, and the company subsequently distributes its interest income as a dividend to an EU investor, the latter can escape taxation so long as his dividend income is not reported. By channelling their funds via companies established in third countries – including the EU’s dependent/associated tax haven jurisdictions – EU residents can thus evade tax by having interest income transformed into dividend income.

Indeed, it may not even be necessary to undertake such transformation of income since the bank or other interest-paying entity could make its payment to a trustee based in a non-EU jurisdiction. The trustee could then pass on the payment free of tax to the ultimate investor residing in an EU country. It has also been suggested that redeemable preference shares – the return on which is essentially equivalent to interest, but legally considered a dividend – could be used to circumvent the Savings Tax Directive.

Although the Directive does appear to increase the transactions costs associated with international tax evasion, the cost increase is probably not significant relative to the amounts invested by large wealth owners. The very limited (additional) tax revenues that have so far been collected under the Savings Tax Directive seem to confirm the impression that it is not very effective. Thus it is hard to avoid the conclusion that the Savings Tax Directive in its present form is mostly a symbolic gesture rather than a serious attempt to enforce the residence principle of capital income taxation.

3.7 A Common Consolidated Tax Base for EU multinationals?¹⁰

Over the years the European Commission has made many proposals for coordination or partial harmonisation of the corporate tax systems of EU Member States. Although Member States have adopted the Parent-Subsidiary Directives on cross-border dividends, interest and royalties which eliminate withholding taxes on such payments between associated companies in different EU countries, the more ambitious Commission proposals have failed to obtain the required unanimous support from Member State governments.

In recent years the Commission has tried to promote the idea of introducing a so-called Common Consolidated Corporate Tax Base (CCCTB) for European multinational enterprises. Under a CCCTB system EU multinational groups could opt to have all of their EU-wide taxable profits calculated according to a common set of rules. This tax base would then be allocated across EU Member States according to a common formula, and each Member State would apply its own corporate tax rate to its apportioned share of the EU-wide tax base. Companies without international operations and multinationals not opting for the CCCTB would continue to have their profits computed and taxed according to the national tax rules of individual EU countries.

Under the current international tax regime the individual entities in a multinational group of companies must calculate their taxable profits on a separate accounting basis, using different national tax rules, and intragroup transactions must be priced at ‘arm’s length’, using the prices that would have been charged between independent parties. But because arm’s length prices are so hard to identify for specialized products and services traded within multinational groups, taxation based on separate accounting becomes increasingly vulnerable to profit-shifting via distorted transfer

¹⁰ This section draws on Sørensen (2004c). See also McLure and Weiner (2000), Hellerstein and McLure (2004), and Weiner (2005) for a more detailed analysis of the issues involved in formulary apportionment of the corporate tax base.

prices as the volume of cross-border transactions within multinational groups increases. In reaction to this, national governments have introduced complex rules for the setting of transfer prices, and despite the efforts of the OECD to coordinate these rules, they sometimes differ across countries. Obviously this increases the costs of tax compliance for multinationals. The differences in transfer pricing rules also imply that national tax bases sometimes overlap, whereas at other times the uncoordinated rules leave gaps in the international tax base.

Under a Common Consolidated Corporate Tax Base, EU multinationals would no longer have to deal with all the different national tax rules within the EU. In particular, they would no longer have to deal with differing and sometimes inconsistent transfer pricing rules. Moreover, in principle the abolition of separate accounting would eliminate the possibility for multinationals to shift profits to low-tax countries within the EU through artificial transfer prices and thin capitalisation.

However, the introduction of a CCCTB raises a large number of technical issues which are currently being scrutinised in a working group established by the Commission. One main issue is how to delineate those groups of companies whose income should be consolidated and apportioned among EU governments. Another important issue is the choice of the formula for apportionment of the tax base. One possibility would be to follow the practice under the state corporate income tax in the United States where the tax base is allocated according to some weighted average of the proportion of the company's assets, payroll and sales in each jurisdiction. But as shown by McLure (1980), the individual jurisdiction's corporate income tax is then effectively turned into a tax on or subsidy to the factors entering the formula for apportionment of the tax base.

If the corporation tax is really intended to be a tax on capital, it would thus seem natural to allocate the corporate tax base on the basis of the assets invested in the various countries. This raises another problem, however, since intangible assets – which are inherently difficult to measure - constitute an important and growing part of the total assets of many multinationals. In principle, one could calculate the value of a patented intangible asset by discounting the royalties paid for its use. But intra-company royalties and the associated asset value may be distorted as multinationals try to shift taxable profits from high-tax to low-tax jurisdictions. Thus, if intangibles are included, a system of formula apportionment based on asset values will be subject to some of the same transfer pricing problems as the current system of formula apportionment.

Moreover, the apportionment of profits would apply only to income generated within the EU, so separate accounting and the associated transfer pricing problems would continue to prevail for intra-

company transactions between entities inside and outside the EU. This combination of formula apportionment within the EU and separate accounting between the EU and the rest of the world may have controversial implications. For example, suppose the US tax authorities decide to increase the transfer price of a product delivered from a US affiliate to its French parent company, thereby raising the affiliate's taxable profits in the US. Under current tax treaty principles, the French authorities should then undertake an offsetting downward adjustment of the taxable profits of the French parent company to prevent international double taxation. But under a European system of formula apportionment, a decision by France to reduce the (apportionable) profits of the French parent would also reduce the tax base of other EU countries, assuming that the French multinational operates on a European scale. Indeed, the main effect on the tax base may well be felt in the rest of Europe. A switch to a European system of formula apportionment could thus introduce a new and unwelcome type of fiscal spillover effect among EU Member States.

From the viewpoint of the business community, one attraction of the Commission proposal for a CCCTB is that multinational companies can decide for themselves whether they want to subject themselves to the system. Presumably companies will only opt for the CCCTB if they can thereby reduce their overall tax bill, so introducing the system is likely to cause a revenue loss. From the viewpoint of tax administrators, a further drawback is that they will have to deal with the new system of CCCTB along with the existing national tax rules for companies not subject to the system. The coexistence of two different tax regimes – one applying to (some) multinationals and another one applying to all other companies – may also distort resource allocation within the corporate sector.

Thus, while the well-known problems associated with separate accounting and transfer pricing do provide a case for considering alternatives, the European Commission's proposal for a Common Consolidated Corporate Tax Base raises a number of difficult technical and political issues, so it is not surprising that EU Member States have so far shown little enthusiasm for the proposal.

3.8 *The European Court of Justice: Implications for Member State tax policies*¹¹

While the European Commission has had rather limited success in its efforts to influence the rules for direct taxation within the EU, the European Court of Justice (ECJ) is gaining increasing

¹¹ This section draws heavily on Bond et al. (2006).

influence on the evolution of capital income taxation in the EU. Under the EC Treaty, Member States retain competence in matters of direct taxation, and the adoption of common rules of taxation within the EU requires unanimous agreement in the Council of Ministers. However, the Treaty also prescribes that national tax laws may not discriminate between the nationals of different EU countries, and they may not violate the ‘four freedoms’ of the EU internal market, that is, the free movements of goods, services, capital and persons and the related freedom of business establishment within the Union. In recent years the ECJ has defended these Treaty provisions with increasing vigour, by striking down national tax rules that were deemed to discriminate on grounds of nationality or to jeopardize one of the four freedoms. With respect to capital income taxation, there are four areas where the ECJ has been or is expected to be particularly influential.

Integration of personal and corporate taxes. Over the years most EU countries have sought to alleviate the domestic double taxation of corporate income either by granting an imputation credit against the personal tax on dividends for (part of) the corporation tax on the underlying profit, or by some other means such as a reduced personal tax rate on dividends. However, these tax benefits have typically been granted only to domestic holders of shares in domestic companies. For example, imputation credits have been granted only against personal tax on dividends distributed from domestic companies and have not been extended to foreign holders of domestic shares. In a series of cases, the ECJ has ruled that such practices impede cross-border investment and therefore violate the EC Treaty. To respect Community law, Member States with an imputation system must also provide a tax credit on dividends paid by foreign companies to resident shareholders, even though such a credit represents corporate tax paid to another government. In response to this ruling by the ECJ, several EU countries (including France, Germany, Ireland, Italy and the UK) have replaced their imputation systems by various systems involving preferential personal tax treatment of dividends from domestic as well as from other EU sources (e.g. in the form of a reduced tax rate or a dividend tax credit applying to all dividend income).

International tax base allocation. In their efforts to counter profit-shifting to low-tax countries, governments apply transfer pricing rules and thin capitalisation rules which have in some cases resulted in cross-border transactions being taxed more heavily than equivalent domestic transactions. In several such cases the ECJ has not accepted the grounds that Member States have stated to justify their application of anti-avoidance rules. In response to this, some EU governments have reacted by extending the scope of their transfer pricing rules and thin capitalisation rules to cover transactions among domestic affiliates of a corporate group. In formal terms, this implies that

domestic and cross-border transactions are treated the same, even though the anti-avoidance rules are only needed in a cross-border context where the affiliated firms face different tax rates. It remains to be seen whether the ECJ will accept this response to its rulings which has the unfortunate effect of increasing tax compliance costs for purely domestic firms. It should be added that the decisions of the ECJ in the area of tax base allocation have not consistently gone against the revenue interests of governments. In 2005 Marks and Spencer brought a case against the UK government involving tax relief against UK corporation tax for losses that had been made by some of its European subsidiaries. The ECJ ruling greatly limited the circumstances in which losses made by an overseas subsidiary can be set against profits made by the parent company, so that the revenue implications of this decision for the UK Exchequer are not serious.

Controlled Foreign Companies. Controlled Foreign Company (CFC) rules allow governments to tax the profits of overseas subsidiaries located in low tax regime countries on a current basis, that is, without deferring tax until the foreign profits are repatriated to the domestic parent company. For example, the profits of a foreign company in which a UK resident company owns a holding of more than 50% are attributed to the resident company and subjected to tax in the UK, where the corporation tax in the foreign country is less than three quarters of the rate applicable in the UK. The resident company receives a tax credit for the foreign tax paid by the CFC. The UK tax on profits retained by the CFC may be waived if the parent company can show that neither the main purpose of the transactions which gave rise to the profits of the CFC nor the main reason for the CFC's existence was to achieve a reduction in UK tax by means of diversion of profits (the so-called 'motive test'). Cadbury Schweppes challenged the legality of these rules as they have been applied to two subsidiaries located in Dublin and taxed under the favourable Irish International Financial Services Centre regime. In a much publicized ruling of September 12, 2006, the ECJ concluded that the EC Treaty precludes the UK from applying its CFC rules except in the case of 'wholly artificial arrangements' designed to escape normal UK tax. The Court found that the UK CFC legislation constitutes a restriction on freedom of establishment within the EU, since the CFC rules involve a difference in the treatment of resident companies depending on whether they fall under this legislation or not. The fact that a CFC is established in an EU Member State for the purpose of benefiting from more favourable tax treatment does not in itself suffice to justify such a restriction on the freedom of establishment. With this ruling the effectiveness of CFC rules within the EU could be seriously weakened. CFC rules are mainly required to reduce the incentives for multinationals to shift profits into tax havens outside the EU. Nevertheless, restrictions on their

application within the EU could have significant revenue implications for some EU governments, by making it easier for multinationals headquartered in high-tax countries to route profits through other EU countries that have less effective CFC legislation against non-EU tax havens.

Credit versus exemption. The EU's Parent-Subsidiary Directive allows Member States to eliminate international double taxation of EU multinationals through an exemption system or via a credit system. Under the exemption system, also referred to as a 'territorial' system, the parent company is exempt from domestic tax on dividends from foreign subsidiaries. Under the credit system, currently applied in the UK, the parent pays domestic tax on foreign-source dividends but receives a credit for any foreign corporation tax on the underlying profit, up to a limit given by the domestic corporation tax on the foreign profit. Nevertheless, on the occasion of a case brought before the ECJ, the Advocate General appointed by the Court has expressed a non-binding Opinion concluding that the current UK system of international double tax relief appears to be discriminatory on the ground that dividends from foreign subsidiaries are liable to tax, whereas dividends from domestic subsidiaries are not. It remains to be seen whether the ECJ will subscribe to this far-reaching interpretation of Community law. If it does, the implications will be felt by all Member States relying on the credit method for international double tax relief. These countries would then seem to have two options. One possibility would be to extend the credit method to dividends received from domestic subsidiaries, even though that would just introduce unnecessary complications into the domestic tax system. Alternatively, the credit method could be replaced by an exemption system. In section 4.3 we discuss the arguments in favour of the latter alternative.

4 Options for capital income tax reform in an open economy

A basic policy choice in international taxation is that between residence-based and source-based taxation. This also involves the choice between the credit method and the exemption method of international double tax relief. Another important question is whether there is need for relief of the domestic double taxation of corporate income in an open economy, and if so, whether relief should be given at the company or at the shareholder level. A third fundamental issue which is attracting increasing attention is whether a progressive comprehensive personal income tax is sustainable in an open economy, or whether it is necessary and desirable to separate the personal taxation of capital income from the taxation of labour income.

In this final part of the chapter we will discuss these issues on which there is currently little professional consensus. To limit the scope of the chapter, we do not address other important policy choices such as the one between cash flow taxation and conventional income taxation, since this topic is dealt with elsewhere in this report.

4.1 International double tax relief: alternative concepts of tax neutrality

In evaluating alternative methods of international double tax relief, it is useful to briefly review some concepts of tax neutrality appearing in the literature on international taxation. It is generally accepted in international tax law that the source country from which income is derived has the first right to tax that income. To avoid international double taxation, the taxpayer's residence country may then exempt the foreign-source income from domestic tax, or it may subject the foreign income to domestic tax but grant a credit for the foreign tax already paid. If foreign income is taxed immediately by the residence country and foreign taxes are fully creditable, the taxpayer will face the same effective tax rate on income from foreign and domestic investments in line with the doctrine of Capital Export Neutrality (CEN). Alternatively, if foreign income is tax exempt in the residence country, one obtains Capital Import Neutrality (CIN), since capital income is then taxed at the same rate in the source country, regardless of the residence of the investor (assuming that the source country tax does not discriminate between foreign and domestic investors).

If effective capital income tax rates were completely harmonised across countries, both CEN and CIN would prevail. When tax rates are not harmonised, so that a choice between the two forms of neutrality has to be made, it has usually been argued that, from a global perspective, CEN should take precedence over CIN, implying a preference for the credit method of international double tax

relief. The reasoning is that when investors face the same effective tax rate on foreign and domestic investment, the cross-country equalisation of after-tax rates of return enforced by capital mobility is achieved when the pre-tax rates of return are brought into line. In this way a regime of CEN will tend to equalise the marginal productivities of capital across countries, as required for maximisation of world income.¹²

The time-honoured concepts of CEN and CIN were developed by Richman (1963). She also pointed out that from a national as opposed to a global perspective, neither the credit method nor the exemption method of international double tax relief seems optimal. From the viewpoint of the individual country, the addition to national income generated by investment abroad is the rate of return after deduction for the foreign source country tax. To maximise national income foreign investment should only be carried to the point where its marginal return *after* payment of foreign tax equals the *pre-tax* marginal return to domestic investment. Since capital mobility tends to equalize after-tax rates of return, this national optimum is attained when international double taxation is (partially) relieved through the *deduction* method. Under this method the residence country taxes foreign income *net* of foreign taxes at the same rate as domestic income. Such a tax system is sometimes said to imply National Neutrality (NN), by making foreign and domestic investment equally attractive from a national perspective.

In a world with little explicit tax coordination it may seem surprising that national governments hardly ever use the deduction method of international double tax relief in the area of foreign direct investment (FDI).¹³ Indeed, the trend in developed countries has been towards increased reliance on the exemption method for corporate taxpayers (see Mullins (2006)). However, as argued by Desai and Hines (2003), this trend may be easier to grasp once one recognizes the importance of ownership of the assets utilized in FDI. Desai and Hines point out that the assets developed by multinationals through R&D, marketing etc. are often highly specific, so the productivity of these assets may depend critically on who owns and controls them. From this perspective it is important

¹² This may be seen as another application of the Production Efficiency Theorem of Diamond and Mirrlees (1971) to international taxation. Strictly speaking, however, the Production Efficiency Theorem is relevant in an international context only if national government budgets are linked through a system of international transfers, as shown by Keen and Wildasin (2004). The optimality of production efficiency also rests on the assumption that governments can tax away pure profits. If they cannot, global optimality requires a compromise between CEN and CIN, as demonstrated by Keen and Pikkola (1997).

¹³ In the area of foreign portfolio investment the deduction method is implicitly used since residence countries impose domestic personal tax on the foreign-source dividends paid out of after-tax foreign profits.

that the tax system does not distort the pattern of ownership. Building on earlier work by Devereux (1990), Desai and Hines (op.cit.) therefore suggest that the concept of 'ownership neutrality' should carry at least as much weight in the evaluation of the international tax system as the traditional concepts of CEN and CIN. A tax system satisfies Capital Ownership Neutrality (CON) if it does not distort cross-country ownership patterns. CON is attained *either* if all countries in the world practice worldwide income taxation with unlimited foreign tax credits *or* if they all exempt foreign income from domestic tax. Under worldwide income taxation multinationals will acquire the assets that maximise their pre-tax returns in the different countries, since this acquisition policy will also maximise their after-tax returns. Hence assets will be held by those companies that would be willing to pay the highest reservation prices for them in the absence of tax, i.e. by those companies that can utilize the assets most productively. However, the same result may be obtained if all countries exempt foreign income from domestic tax so that taxes are levied on a pure source basis (territoriality). In that case companies from all over the world face the same effective tax rate in each individual country, so again the assets invested in each country will be held by those companies that can earn the highest pre-tax (and hence the highest after-tax) return on them.

The important point is that if global ownership neutrality is the policy goal, a territorial tax system is just as attractive as a system of worldwide taxation with foreign tax credits. Moreover, if optimisation of the ownership pattern is the overriding goal, the territorial system is actually the preferred policy from the *national* viewpoint of an individual country, as argued by Desai and Hines (2003). If a country practices worldwide income taxation, its multinationals will tend to earn a lower after-tax return on operations in a foreign low-tax country than will multinationals headquartered in countries that exempt foreign income. Assets invested in low-tax countries will therefore tend to be taken over by companies based in territorial countries, even if the assets could be used more productively by companies based in countries with a worldwide system. By giving up the worldwide system and switching to territoriality, a country will increase the reservation prices that its multinationals are willing to pay for assets located in foreign low-tax countries, enabling domestic companies to take over assets that they can use more efficiently than companies based in other countries. Thus a policy of exemption will maximise the after-tax profitability of domestic multinationals. A country seeking to maximise the sum of its tax revenue and the after-tax profits of its companies will therefore opt for the exemption system if such a system does not reduce domestic tax revenue raised from domestic economic activity. This condition will be met if any increase in outbound investment triggered by the switch to territoriality is offset by an equally productive

amount of new inbound investment from foreign firms. Desai and Hines (op.cit.) argue that increased outbound FDI will indeed typically be offset to a very large extent by additional inbound investment. They point out that the bulk of global FDI takes the form of acquisitions of existing firms rather than new greenfield investment. Thus most cross-border FDI seems to involve a reshuffling of global ownership patterns rather than involving a net transfer of saving from one country to another. The active market for corporate control also suggests that asset ownership may have important consequences for business productivity. In these circumstances a policy of territoriality may come close to maximising national welfare. In the terminology of Desai and Hines, a tax system that exempts foreign income from domestic tax may be said to satisfy National Ownership Neutrality (NON).

The focus on the importance of ownership and the concept of NON may help to explain the trend in the OECD towards greater reliance on the exemption system in recent decades where FDI has tended to grow relative to total economic activity. Apparently governments feel that the exemption system is better suited than the worldwide system to promote the global competitiveness of domestic multinationals.

4.2 Obstacles to Capital Export Neutrality and the effects of deferral

While the exemption system and the worldwide system with a foreign tax credit are equally effective in promoting ownership neutrality from a global perspective, the worldwide system and the associated property of CEN does have the additional attraction that it does not distort the international location of real investment. However, there are two important reasons why countries relieving international double taxation through a foreign tax credit system do not in practice achieve CEN. The first reason is that residence countries limit the foreign tax credit to the amount of domestic tax payable on the foreign-source income. Most credit countries limit their credits on a country-by-country basis ('credit by source'), but some countries, like the US, only impose an overall limit on the credit equal to the total amount of domestic tax payable on total foreign income ('worldwide credit'). The reason for the limitation on credits is that government are not willing to allow taxes levied abroad to erode the revenue from tax on domestic-source income. In the absence of limits on foreign tax credits the governments of source countries could appropriate the revenues of residence countries through high source country tax rates without deterring inbound investment. Because of the limitation on credits, investors are subject to the higher of the foreign and the

domestic tax rate, whereas CEN requires that they should always face the same tax rate whether they invest at home or abroad.

The second reason for the failure of CEN under real-world credit systems is that residence countries usually defer domestic tax on the 'active' business income of foreign subsidiaries until this income is repatriated in the form of a dividend to the domestic parent company. Profits retained abroad are thus only subject to the foreign corporation tax, so for retained earnings existing credit systems tend to work like an exemption system. An argument often given in defence of the deferral of residence country tax is that without extensive international information sharing among tax authorities, it is difficult for the tax administrators of residence countries to audit and enforce domestic tax on profits retained abroad.

A foreign tax credit system with deferral is essentially a tax on repatriations (when the foreign tax rate is below the domestic tax rate so the limit on the credit is not binding). Some years ago Hartman (1985) argued that for mature subsidiaries with sufficient earnings to cover their need for investment funds through retentions, such a tax will be neutral. To see the argument, suppose a subsidiary may either reinvest a profit of £100 at a rate of return of 10% after foreign corporation tax or distribute the profit to its parent company, in which case the parent will have to pay an additional net tax of 10% of the dividend to its home country. If the profit is distributed immediately, the parent will receive a net income of £90 after domestic tax. If the profit is temporarily reinvested abroad and then paid out with the addition of the 10% return after a year, the parent will at that time receive a net income of $110 \times (1 - 0.1) = £99$. By postponing repatriation, the multinational thus earns a net return of $(99 - 90) / 90 = 10\%$ which is identical to the net return obtainable in the absence of the repatriation tax. Thus, provided the repatriation tax cannot be avoided so that equity is 'trapped' in the foreign subsidiary, this tax will be neutral towards the subsidiary's investment and distribution policy. This is an application of the so-called 'new view' of dividend taxation in the international context.

However, Hartman's analysis applies only to mature subsidiaries. Sinn (1993) extended the analysis to cover the entire life cycle of a foreign subsidiary, starting from the time it is established. He found that the repatriation tax will induce the parent company to inject less equity into the subsidiary initially. Over time, the subsidiary grows by reinvesting its earnings, thus benefiting from deferral, but in the long run the subsidiary's capital stock ends up at the same level as it would have reached in the absence of the repatriation tax, and the tax again becomes neutral, as in

Hartman's analysis. Grubert (1998) confirmed the validity of the Hartman-Sinn results even when alternative repatriation vehicles such as royalties may be used.

The studies by Hartman and Sinn were based on the new view of dividend taxation according to which investors have no non-tax preference for distributed over retained earnings. In practice such a preference may exist. For example, in an international setting where domestic investors may have difficulties monitoring the activities and investment opportunities of overseas subsidiaries, they may value distributions from a subsidiary as a signal of its profitability or as a means of preventing overseas managers from using the funds in a way that does not benefit shareholders. According to this 'old view' of dividend taxation investors trade off the non-tax benefits from distributions against the (additional) tax cost of paying dividends, and a tax on repatriations will then affect the investment and distribution policies of multinationals.

If the new view of dividend taxation is correct, the repatriation taxes collected under existing systems of worldwide corporate income taxes are essentially lump-sum taxes, generating revenue at zero efficiency cost. But if the old view comes closer to the truth, the revenue comes at the cost of distortions to foreign investment and repatriations. Based on US data, Desai, Foley and Hines (2001, 2002) estimate that one percent lower repatriation tax rates are associated with one percent higher dividends from foreign subsidiaries. Grubert (1998) also reports estimates indicating that repatriations are quite sensitive to their tax prices. The fact that repatriation behaviour depends on taxation is evidence in favour of the old view of dividend taxation.

Over the years several observers (including Gravelle (2004)) have called for the abolition of deferral in order to move existing systems of worldwide income taxation closer to a regime of full Capital Export Neutrality, but as we noted, it is not clear that doing away with deferral for all companies (and not just for CFCs located in tax havens) is administratively feasible, given the limited extent of international information sharing. In the discussion below we shall assume that the realistic policy choice is between a territorial system of international double tax relief and a system of worldwide taxation with limits on foreign tax credits and deferral of home country tax on active business income.

4.3 *Should the UK move to territoriality?*

Following an earlier proposal by Grubert and Mutti (2001), the US President's Advisory Panel on Federal Tax Reform (2005) recently advocated that the US should move to a territorial basis for taxation of corporate income by exempting dividends paid out of active foreign business income from US corporation tax. Under this proposal passive and highly mobile income such as royalties and interest from foreign affiliates would be taxed in the US on a current basis (i.e. without deferral) and a foreign tax credit would still be granted for any foreign tax paid on such income. Interest expenses and general administrative overhead expenses incurred in the US in generating exempt foreign income would not be deductible from the US tax base. Such expenses would be allocated to foreign income on a prorated basis, say, depending on the share of worldwide assets invested abroad.

The US Tax Reform Panel gave the following main reasons for proposing a territorial system: 1) To reduce the administrative complexity associated with the foreign tax credit system, 2) to move towards Capital Import Neutrality/Ownership Neutrality in order to improve the competitiveness of US firms in foreign markets, 3) To remove the distortionary incentive to retain profits in foreign low-tax countries implied by the current US tax on repatriations, and 4) To eliminate certain possibilities for abusing the current US system of worldwide income taxation.

The first three reasons stated above may also be relevant in a UK context. In particular, the arguments made in the previous section suggest that the ownership neutrality implied by a territorial system could help UK multinationals to make more productive use of their assets. The current UK taxation of foreign income discourages UK firms from investing in low-tax countries more than do the tax systems of the firms in territorial countries with which they compete. With a switch to territoriality, UK multinationals may relocate some of their overseas activities from foreign high-tax to foreign low-tax countries to take advantage of increased after-tax profitability.

At the same time UK companies may also relocate some of their domestic activities to foreign low-tax countries in response to a move to territoriality, resulting in reduced rewards to local (UK) fixed factors of production and reduced UK tax revenues. Territoriality may also provide increased scope for income shifting through transfer pricing.

The extent to which these behavioural effects would occur will depend on the extent to which deferral makes the current system of international double tax relief equivalent to an exemption system. Using data for US multinationals, Grubert and Mutti (2001) found that the sensitivity of

foreign investment location to host country tax rates and the tendency to shift income to low-tax jurisdictions is practically the same whether a US company faces a binding limitation on its foreign tax credits – in which case it faces the same tax rates as under an exemption system – or whether the limitation on credits is non-binding. Although these estimates are not directly transferable to the UK context, they do suggest that the behavioural effects of a switch to exemption may be limited.

What would be the revenue implications if the UK moved to a territorial tax system? This is a difficult question to answer, in part because there are no official estimates of the UK corporation tax collected on foreign-source income (net of tax credits), and partly because a switch to territoriality would affect revenue through changes in company behaviour that are hard to predict.

If we look at countries that operate exemption systems we do not see any evidence that they collect systematically less revenue from corporate taxes. Table 2 shows corporate tax revenue as a share of GDP and statutory tax rates for countries that operate some sort of credit system, and for countries that operate exemption systems, either as a general policy or as a policy towards tax treaty partners.

Grubert and Mutti (1995) estimated that the average US corporate tax rate on foreign-source income is only 2.7%. Since the UK corporate tax rate is lower than that in the US, it also seems likely that the UK Exchequer collects very little net tax on the foreign income of UK multinationals.

In any case, the revenue and behavioural effects of a switch to exemption would depend critically on the exact design of any new system, including the rules for allocation of overhead and interest expenses between domestic income and foreign exempt income. Most of the exemption countries included in Table 2 allow full deduction for such expenses against domestic-source income, even if some of them may have been incurred to generate foreign income exempt from domestic tax. Such a lack of expense allocation obviously strengthens the incentive for multinationals based in high-tax countries to establish affiliates in foreign low-tax countries. To counteract this incentive, some exemption countries only exempt a certain fraction of foreign income (typically 95%) from domestic tax, as shown in Table 2.

Table 2. Corporation Tax Revenue and statutory tax rate, 2004

Tax treatment of foreign source dividends	Corporate tax revenue as % of GDP	Statutory tax rate	Deductibility of costs related to tax exempt foreign dividends	Amount of tax exempt dividends (%)
Credit system				0
Ireland	3.6	13	-	0
United Kingdom	2.9	30	-	0
Greece	3.3	35	-	0
Canada	3.5	36	-	0
United States	2.2	39	-	0
Japan	3.6	40	-	0
Exemption system				
Switzerland	2.5	25	Yes	100
Norway	10.1	28	No	100
Sweden	3.1	28	Yes	100
Finland	3.6	29	Yes	100
Denmark	3.2	30	Yes	100
Luxembourg	6.1	30	Yes	100
Belgium	3.8	34	Yes	95
Austria	2.3	34	No	100
Netherlands	3.2	35	No	100
Spain	3.5	35	Yes	100
France	2.7	35	Yes	95
Italy	2.9	37	Yes	95
Germany	1.6	38	No interest deduction*	95

* Full deductibility in case the foreign subsidiary does not distribute profits.

Source: Yoo, Kwang-Yeol (2003).

While a lack of expense allocation could turn an exemption system into a direct subsidy to investment in foreign tax havens, a mechanical rule for expense allocation could also imply excessive taxation in some cases. To illustrate, suppose that the total interest expense of a multinational group is allocated between domestic and foreign income according to the location of assets, as proposed by Mutti and Grubert (2001).¹⁴ A multinational with 50% of its assets in the UK and 50% of its assets abroad and a total interest expense of £10 million would then only be allowed to deduct £5 million of its interest expense against its UK income, even if all the expense were incurred by the UK parent company and did not in any way reduce the foreign tax liability of the group. Such a system imposes an implicit domestic tax on foreign income, since additional foreign

¹⁴ A similar interest allocation rule is already used under the current US foreign tax credit system for the purpose of calculating the limit on foreign tax credits.

investment reduces the domestic tax benefits of deductions for existing UK administrative and interest expenses. Hence one might expect numerous disputes between taxpayers and tax administrators over expense allocation, so some of the alleged benefits of an exemption system in terms of simplification and reduced compliance costs might be lost.

Any difference in expense allocation rules across exemption countries would also violate the ownership neutrality which is a main theoretical benefit of the system. Moreover, as far as many intangible assets are concerned, a dividend exemption system like the one proposed for the US will not attain ownership neutrality, since it maintains the present residence-based taxation of royalty income.

Mullins (2006) also expresses concern that a switch to territoriality in the current credit countries may intensify global tax competition. Table 3 documents the important role played by the US and the UK in global FDI. If these countries were to abolish their foreign tax credit systems, and if the credit system has so far counteracted the incentive for source countries to set low tax rates to attract investment, there could indeed be a significant additional stimulus to tax competition. While there is no evidence that tax competition has so far eroded the corporate tax revenues of OECD countries, there is some evidence that *developing* countries have had difficulties maintaining their corporate tax revenues in the face of the global trend towards lower statutory tax rates (see Keen and Simone (2004)). Since several of these countries already have fiscal problems, a further downward pressure on their revenues would be unwelcome, and unfettered tax competition among all countries in the world may not necessarily be desirable from a global viewpoint.

As already mentioned, however, there is some evidence that the effects of the current credit systems on investment location and income shifting are not really different from those one would expect to see under an exemption system. This suggests that a switch to territoriality in the UK and the US would not intensify global tax competition to any significant degree. Indeed, the recent ruling of the European Court of Justice threatening to undermine existing CFC regimes in the EU (see section 3.8) could imply a stronger stimulus to international tax competition than a UK and US switch to a dividend exemption system.

In summary, a move from the current foreign tax credit system to an exemption system involves a number of difficult issues. In theory, a territorial system has the potential to generate a more efficient international ownership pattern and may help to improve the competitiveness of UK multinational companies and the UK's attractiveness as a base for multinational headquarters.

Table 3. The level and composition of outward FDI

Home Country	FDI outward stock in % of GDP	Share of worldwide FDI outward stock (%)	Location of FDI outward stock:		
			Share (%) invested in		
			Developed countries	Eastern Europe	Developing countries
United States	17.2	20.7	70.5	0.7	28.8
United Kingdom	64.8	14.2	90.3	1.1	8.6
France	38.1	7.9	93.3	2.1	4.6
Germany	30.8	8.6	86.3	5.9	7.8
Japan	7.9	3.8	73.0	0.4	26.6

Source: Compiled from Mullins (2006, tables 3 and 4).

Moreover, as mentioned in section 3.8 the Advocate General of the European Court of Justice has recently argued that the current UK practice of taxing dividends from foreign subsidiaries, while exempting dividends from domestic subsidiaries violates the EC Treaty. For these reasons the option of moving towards territoriality deserves serious scrutiny by UK policy makers. However, the extent to which such a move would actually improve the neutrality properties of the UK tax system will depend on a number of critical design issues, including the question of whether and how rules for expense allocation should be implemented. Before a policy decision can be made, these issues need careful consideration. A policy decision should also be informed by estimates of the effects of territoriality on effective rates of tax on domestic and foreign investment and the likely effects on investment location decisions, repatriation behaviour and income shifting.

4.4 Home State Taxation versus a Common Consolidated Tax Base¹⁵

Multinationals operating within the EU currently have to deal with up to 27 different national corporate tax systems and companies and tax administrators are confronted with difficult issues of transfer pricing. This situation creates significant costs of tax compliance and tax administration and

¹⁵ This section draws on Sørensen (2004c).

has led to proposals for a Common Consolidated Corporate Tax Base (CCCTB) as an option for EU multinationals (see section 3.7).

One obstacle to a CCCTB is the need for EU Member States to agree on a common definition of the corporate tax base. As an alternative, Lodin and Gammie (2001) proposed a system of Home State Taxation (HST). Under HST EU multinationals are allowed to calculate the consolidated profits on their EU-wide activities according to the tax code of the residence country of the parent company. This tax base would then be allocated across Member States through formulary apportionment, and each Member States would apply its own tax rate to its allotted share of the base, as would be the case under a CCCTB. Hence the two systems raise the same technical issues of tax base allocation, but from the perspective of national governments eager to maintain autonomy in matters of tax policy, the advantage of HST is that it does not require any harmonisation. All that is needed is that Member States mutually recognize the company tax systems of the other countries participating in the system (which could be only a subgroup of all EU countries). From the perspective of company taxpayers, one attractive feature of HST is that they will not have to familiarize themselves with a new common EU tax base and that the system is optional: no company will be forced to switch to the system, but those that make the switch are likely to experience lower tax compliance costs. Switching to a consolidated tax base will also enable companies to offset losses on operations in one country against profits made in another, and corporate restructuring within a consolidated group will meet with fewer tax obstacles (such as the triggering of capital gains taxation).

But the attractive flexibility of HST may also be its main weakness, since existing differences in national tax systems will continue to create distortions. In particular, unlike a CCCTB, HST will not attain Capital Import Neutrality and Capital Ownership Neutrality, since members of different multinational groups operating in any given EU country will be subject to different tax base rules if their parent companies are headquartered in different Member States.

In auditing the foreign affiliates of the domestic parent company, the tax authorities of the Home State will also depend on the assistance of the foreign tax administrators who may not be familiar with the Home State tax code. Moreover, HST would invite Member States to compete by offering generous tax base rules in order to attract company headquarters. Such competition would generate negative revenue spillovers, since a more narrow tax base definition in any Member State would apply not only to income from activity in the Home State, but to income earned throughout the EU (or the group of participating countries). Proponents of HST argue that the participating countries'

mutual recognition of each others' tax systems will help to limit tax competition. However, any laxity in the auditing and enforcement effort of the Home State tax administration would also have a negative spillover effect by reducing the revenues accruing to other Member States, and such administrative laxity would seem hard to constrain through the mutual recognition of formal tax rules. Finally, the fact that companies may freely choose between HST and the existing tax regime is bound to create some loss of revenue as firms opt for the system promising the lowest tax bill.

For these reasons it is not obvious that Home State Taxation would be preferable to a Common Consolidated Tax Base, despite the greater degree of harmonisation required by the latter system. The European Commission has in fact tried to promote HST as an option for small and medium-sized enterprises within the EU, but so far Member States have shown little interest in the system.

4.5 Alleviating the double taxation of corporate income in the open economy: is there a case for an ACE?

The return to corporate equity is subject to corporation tax at the level of the company, and in so far as its shareholders are liable to personal tax it is taxed once again at the investor level in the form of taxes on dividends and capital gains. A perennial policy issue is whether and how this domestic double taxation of corporate income should be alleviated. The appropriate answer to this question may depend critically on the openness of the economy. In a small open economy the required rate of return on shares is essentially determined exogenously in the global capital market, as noted in section 1.1. Hence the cost of capital for domestic companies with access to the world capital market will be unaffected by domestic personal taxes on shareholder income, so these taxes will not discourage domestic investment.

However, because they make shareholding by individual personal investors less attractive, domestic personal taxes on shareholder income will create a clientele effect in favour of tax-exempt institutional investors and foreign investors, thus reducing the fraction of domestic shares held by domestic personal investors. Since the productivity of corporate assets may depend on who owns them, this tax distortion to the pattern of shareholding may reduce economic efficiency. Whether this deadweight loss is small or big depends on whether the special skills and know-how which affect the productivity of a particular type of corporate assets are concentrated at the level of the corporate management or at the level of the (dominant) individual investors. Presumably it will

usually be the skills of the top-level corporate employees that are decisive. In that case it is important that the business assets within a corporate group are owned and controlled by the right parent company, whereas the identity of the ultimate holders of shares in the parent company will be unimportant, as long as they are equally good at selecting the corporate managers who are most qualified to run a company within the parent's line of business.

This discussion suggests that if the government of a relatively small economy like the UK has the political agenda of promoting individual shareholding among personal investors, it may do so by relieving the double taxation of corporate income at the personal investor level, but if the main goal is to increase the level and productivity of domestic investment, the double tax relief should be granted at the company level.

The Allowance for Corporate Equity (ACE), proposed some years ago by the Capital Taxes Group of the Institute for Fiscal Studies (1991), is a blueprint for double tax relief at the corporate level. Interestingly, an ACE system has recently been introduced in Belgium (see Gérard (2006)) and has previously been tested in Croatia (see Rose and Wisswesser (1998) and Keen and King (2002)) and in Brazil (see Klemm (2006)). Under the ACE system companies are allowed to deduct an imputed normal return on their equity from the corporate income tax base, parallel to the deduction for interest on debt. In this way the ACE seeks to avoid tax distortions to real investment and to ensure neutrality between debt and equity finance.

One attractive feature of the ACE - originally pointed out by Boadway and Bruce (1984) - is that it offsets the investment distortions caused by deviations between true economic depreciation and depreciation for tax purposes. If firms write down their assets at an accelerated pace, the current tax saving from accelerated depreciation will be offset by a fall in future rate-of-return allowances of equal present value, since accelerated depreciation reduces the book value of the assets to which future rates of return are imputed. In fact, regardless of the rate at which firms write down their assets in the tax accounts, the present value of the sum of the capital allowance and the ACE allowance will always equal the initial investment outlay, so the ACE system is equivalent to the immediate expensing of investment allowed under a cash flow tax.

Another attraction of the ACE is that the symmetric treatment of debt and equity eliminates the need for thin capitalisation rules to protect the domestic tax base: since firms get a deduction for an imputed interest on their equity as well as for the interest on their debt, multinationals have no incentive to undercapitalise a subsidiary operating in a country with an ACE system.

The neutrality properties of the ACE system will depend on whether the imputed rate of return on equity is set at the 'right' level. In principle it is not necessary to include a risk premium in the imputed rate of return, provided the tax reduction stemming from the ACE allowance is a 'safe' cash flow from the viewpoint of the firm (see Bond and Devereux (1995)). This requires full loss offsets, including unlimited carry-forward of losses with interest. With limitations on loss offsets, the imputed return should include a risk premium, but in practice the tax authorities would not have the firm-specific information necessary to choose the 'correct' risk premium. Hence some distortion of the pattern of investment and risk taking would be unavoidable under incomplete loss offsets.

The ACE system is intended as a tax on 'pure' profits. Such a tax inevitably imposes a higher average tax rate on highly profitable firms than on less profitable firms (indeed, firms earning only normal returns go free of tax). In an open economy where firms earn mobile rents, this may be a problematic feature of the ACE system if policy makers raise the corporate tax rate to offset the revenue loss caused by the introduction of the equity allowance. In that case the transition to the ACE system will raise the relative and absolute tax burden on the most profitable firms, possibly inducing them to relocate abroad, and leaving the domestic economy with the less profitable (and hence presumably the less dynamic) firms, as pointed out by Bond (2000). Moreover, in so far as transition to an ACE requires a rise in the statutory tax rate, it will increase the country's vulnerability to outward profit-shifting via transfer-pricing.

In a global economy where statutory corporate tax rates are on a downward trend, it would probably be unwise for the UK to increase its statutory corporate tax rate even if this rate were to apply only to profits above the normal return. Hence it would seem desirable to finance the equity allowance through other sources of revenue rather than via a higher corporate tax rate. One obvious way of reducing the present value of the revenue loss from the ACE would be to grant the allowance only for *additions* to the equity base undertaken after the time of reform. This would avoid bestowing a windfall gain on the owners of 'old' capital already installed. Further, in a UK context it would seem natural to compensate for some of the revenue loss by eliminating the dividend tax credit granted under current tax law. This might have some effect on the ownership pattern of shareholding, but as we argued above, the resulting deadweight loss would probably be limited. Moreover, for the owners of small companies without access to the international stock market, for whom dividend taxes may have a significant impact on the cost of capital, the heavier dividend tax burden would almost surely be more than offset by the new tax relief offered at the corporate level.

4.6 A Comprehensive Business Income Tax?

The ACE aims at tax neutrality between equity and debt by allowing a deduction for the (opportunity) cost of equity as well as debt. The so-called Comprehensive Business Income Tax (CBIT) proposed by the U.S. Treasury in 1992 also seeks to end the tax discrimination in favour of debt finance, but it does so by eliminating the deductibility of interest payments. The goal of the CBIT proposal was to secure a single uniform tax on all corporate source income at a rate (roughly) equal to the top marginal personal tax rate on capital income. In this way the CBIT would in principle make personal taxes on corporate source income redundant, given the Treasury's goal of ending the classical double taxation of such income.

A number of arguments can be given in favour of the CBIT.¹⁶ The broadness of the CBIT tax base would allow a relatively low corporate tax rate, for any given amount of revenue collected. The low statutory tax rate would imply a relatively low average effective tax rate on highly profitable companies. If the same amount of business tax revenue had to be collected under an ACE system, a higher statutory tax rate would be needed, so despite the non-deductibility of interest under the CBIT, this tax system might well be more attractive for high-yielding companies than the ACE. Since highly profitable companies are often high-tech multinationals generating significant positive externalities in the host country of investment, a small open economy may prefer the CBIT to the ACE because the former system may generate more inward investment with positive spillovers on the domestic economy. Moreover, in so far as the broader business income tax base under the CBIT allows a lower statutory tax rate, domestic business tax revenue would become less vulnerable to international profit-shifting through transfer-pricing and thin capitalization etc. As emphasized by Haufler and Schjelderup (2000), the growing opportunities for international income-shifting strengthen the case for a policy of tax-cut-cum-base-broadening. Becker and Fuest (2005) also show that if the more internationally mobile firms tend to earn higher rates of return than immobile domestic firms, there is a case for such a policy since it shifts the tax burden from the mobile to the immobile firms.

¹⁶ The Comprehensive Business Income Tax is analysed in detail in the report of the U.S. Treasury (1992). Bond (2000) discusses the pros and cons of the ACE versus the CBIT.

The CBIT and the ACE may be seen as alternative methods of eliminating the classical double taxation of corporate equity income, so if the revenue from the CBIT is required to compensate for the loss of revenue from personal taxes on dividends and capital gains on shares, there is less scope for lowering the statutory corporate tax rate under this tax system. Still, since a substantial part of the shares in domestic companies are held by foreigners and by tax-exempt institutional investors, alleviating double taxation at the corporate level – as is done under the ACE – will involve a greater revenue loss than double tax relief at the domestic personal shareholder level.

The main concern about the CBIT is its likely impact on the cost of capital for debt-financed investment. Because of the practical problems of enforcing residence-based personal taxes on interest income and the prevalence of tax-exempt institutional investors holding debt instruments, it seems realistic to assume that a large part of total interest income currently goes untaxed in most countries. By essentially introducing an interest income tax at source, the CBIT might therefore imply a significant increase in the cost of debt finance. Clearly this could act as a strong deterrent to debt-financed inward investment.

The possibility of a sharp increase in the cost of debt finance means that a switch to a CBIT would be quite a gamble, even if interest deductibility were abolished only for ‘new’ as opposed to ‘old’ debt. Presumably policy makers would therefore want to set a rather low corporate tax rate under a CBIT, which in turn might lead to a revenue loss, just as the introduction of an ACE would tend to erode public revenues, given the need to avoid an increase in the corporate tax rate.

In summary, the CBIT and the ACE both aim to eliminate the double taxation of corporate income and to end the tax discrimination between debt and equity. While the CBIT taxes the full return to capital (the normal return plus rents), the ACE falls only on rents (in so far as the deductible ‘normal return’ is correctly measured). In a closed economy a tax on rents is non-distortionary, suggesting a strong preference for the ACE over the CBIT. But in an open economy a large fraction of total rents may be internationally mobile, in which case the policy choice between the two systems becomes much less clear, especially if the highly profitable companies are also the more innovative and internationally mobile ones. From the viewpoint of the individual country in a global economy, the main concern about the CBIT is that it could significantly raise the cost of debt-financed investment, thereby inducing an unwelcome drop in domestic active business investment.

4.7 A Dual Income Tax?

The high international mobility of capital and the opportunities for international profit-shifting impose a tight constraint on the level of source-based corporate taxes that a small open economy can sustain in a world of non-cooperative tax setting. Hence it will be prudent to keep the corporate tax rate fairly low in a small economy. In a world with limited international information exchange, the practical difficulty of enforcing residence-based capital income taxation also implies a narrow limit on the personal capital income tax rates that an individual government can levy without inducing a capital flight. At the same time many governments need to impose rather high (top) marginal tax rates on labour income to satisfy their ambitions regarding public service provision and income redistribution.

The Nordic countries of Finland, Norway and Sweden have tried to escape from this dilemma by introducing the so-called Dual Income Tax (DIT) which separates the taxation of capital income from the taxation of labour income. The DIT involves a break with the philosophy of the comprehensive personal income tax under which the taxpayer's income from all sources are added up and subjected to a common progressive tax schedule. Instead, the DIT imposes a low flat uniform tax rate on all income from capital (including corporate income) and applies a progressive tax schedule to labour income.¹⁷ In the pure version of the DIT, the tax rate in the lowest bracket of the schedule for labour income is aligned with the capital income tax rate which in turn is aligned with the corporate income tax rate. Thus the DIT may be described as a combination of a proportional tax on all income and a progressive surtax on high labour income.

The flatness and uniformity of the capital income tax is an attempt to achieve the greatest possible degree of tax neutrality in a tax system aimed at taxing the full return to capital. Indeed, at the same time as the Nordic countries lowered the statutory (marginal) tax rate on capital income, they also broadened the capital income tax base, e.g. by eliminating various exemptions and by tightening capital gains taxation. Because of the technical and political difficulties of taxing certain forms of

¹⁷ The rationale for the Nordic Dual Income Tax is explored in Sørensen (1994, 2005b) and Nielsen and Sørensen (1997). Sijbren Cnossen's preferred version of the system is described in Cnossen (2000). Elements of dual income taxation have been introduced in several European countries; see the survey by Eggert and Genser (2005). Variants of a dual income tax for Germany have recently been proposed by Sinn (2003, ch. 6) and by the German Sachverständigenrat (see Spengel and Wiegard (2004)). Keuschnigg and Dietz (2007) propose a 'Swiss Dual Income Tax' which essentially combines the ACE with the new Norwegian shareholder income tax described below.

capital income, the adoption of a low capital income tax rate was seen as a precondition for broadening the tax base to achieve greater neutrality.

The key distinction in a DIT system is that between capital income and other income. Under a pure DIT capital income would include interest, dividends, capital gains, rental income, imputed returns on owner-occupied housing, and an imputed return on capital invested in unincorporated firms. Negative capital income such as interest expenses and capital losses would be deductible only against other income from capital and would thus attract tax relief at the low flat tax rate applying to such income. Since the capital income tax is flat and uniform across all taxpayers, the DIT allows taxes on corporate source income to be collected as withholding taxes at the corporate level. In practice, the Nordic countries reduce withholding taxes on interest and dividends paid to foreign residents in accordance with bilateral double tax treaties. In the domestic sphere the Nordic governments have applied various methods of relieving the double taxation of corporate income, including the so-called shareholder income tax described below.

Since labour income is taxed more heavily than income from capital, a DIT gives the taxpayer an incentive to relabel his labour income as capital income. This option is mainly open to (controlling) owners of small firms who work in their own business. To prevent such income shifting, the Nordic countries have experimented with tax rules requiring that the income of the self-employed and of 'active' owners of corporations be split into a capital income component and a labour income component. Under this system the capital income component is calculated as an imputed return on the value of the business assets in the firm's tax accounts. The residual business profit is then taxed as labour income (up to a certain ceiling beyond which the profit is again categorized as capital income).¹⁸

In Norway this system of mandatory income splitting has worked reasonably well for the self-employed, but not for so-called active owners of small companies. Under the Norwegian tax rules prevailing until the end of 2005, a shareholder was deemed to be 'active' and hence liable to income splitting if he carried out some minimum amount of work in the company and controlled at least two thirds of the shares (alone or together with his closest relatives). However, by inviting 'passive' owners into the company, many Norwegian owner-managers were able to avoid mandatory income

¹⁸ The problems of income splitting under the dual income tax are discussed in more detail in Sørensen (2005b).

splitting and to have all of their income taxed at the low capital income tax rate even when a substantial part of the income was in fact labour income. Indeed, the number of small companies subject to mandatory income splitting was steadily falling since the introduction of the DIT in 1992, so this part of the Norwegian tax system turned out to be its Achilles heel.

Because of these problems with the income splitting system, the Norwegian parliament recently passed a tax reform bill that took effect from 2006, following recommendations from an expert committee. The reform replaced the problematic income splitting system for 'active' shareholders by a so-called shareholder income tax (in Norwegian: 'aksjonærmodellen'). This is a personal residence-based tax levied on that part of the taxpayer's realized income from shares (dividends plus realized capital gains) which exceeds an imputed after-tax rate of interest on the basis of his shares. Shareholder income in excess of the imputed normal return is taxed as ordinary capital income. At the margin, the total corporate and personal tax burden on corporate equity income is roughly equal to the top marginal tax rate on labour income. Hence corporate owner-managers can gain nothing by transforming labour income into dividends and capital gains, and consequently the mandatory income splitting system for active shareholders has been abolished.

To avoid discrimination against investment in foreign shares, the rate-of-return allowance (RRA) under the shareholder income tax is granted to holders of foreign as well as Norwegian shares. Compared to the previous Norwegian imputation system where no double tax relief was offered to holders of foreign shares, the RRA gives Norwegian taxpayers an incentive to report their foreign shareholdings, and the uniform treatment of domestic and foreign shares makes Norwegian tax law consistent with the non-discrimination clauses in the agreement between Norway and the EU.

If the realized income from shares falls short of the imputed rate of return (the RRA) in some year, the unutilized RRA may be deducted from the base of the shareholder income tax in subsequent years and may also be added to the basis of the share. In this way unutilized RRAs are effectively carried forward with interest, ensuring that the present value of the shareholder's deduction remains equal to the initial investment outlay regardless of when he realizes his income from the share. As demonstrated by Sørensen (2005a), this feature implies that the shareholder income tax is equivalent to a neutral cash flow tax. Sørensen (op.cit.) also shows that the shareholder income tax satisfies the properties of the retrospective capital gains tax proposed by Auerbach (1991) and the generalized cash flow tax described by Auerbach and Bradford (2001); i.e. tax designs that are

known to be neutral towards realization decisions even though they do not involve taxation of unrealized gains.

The Norwegian shareholder income tax may be seen as an ACE tax collected at the shareholder level. Note that since the tax is imposed on a residence basis, it can be avoided only if the individual shareholder gives up domestic residence, whereas a source-based ACE tax collected at the company level may be avoided by locating investment abroad, without any need for the company's shareholders to leave the country. Hence the shareholder income tax is likely to be a more effective way of taxing firm-specific rents.

It still remains to be seen whether the new Norwegian shareholder income tax will provide a satisfactory solution to the problem of income shifting under the DIT. However, it should be noted that this problem is not specific to the dual income tax. In most OECD countries the existence of social security taxes implies that the marginal effective tax rate on labour income often exceeds the marginal tax rate on capital income by a considerable margin. In such a setting taxpayers will have an incentive to try to relabel labour income as capital income, at least in the typical case where there is no actuarial link between social security taxes and social security benefits received.

In any case, as capital becomes increasingly mobile across international borders, there is a growing risk that a high domestic capital income tax rate will induce taxpayers to move their wealth abroad to foreign low-tax jurisdictions, making it very hard to bring into the domestic tax net. Separating the capital income tax rate from the labour income tax schedule allows policy makers to reduce the former to minimise the risk of capital flight. Moreover, a sharp reduction in marginal tax rates on labour income would be too costly and may be unacceptable from a distributional viewpoint. Moving from a comprehensive income tax to a dual income tax is a way of escaping from this dilemma. Against this background, it would seem worthwhile for UK policy makers to consider the DIT as an alternative to the present tax system.

4.8 Summary and some final reflections on tax policy in a globalising economy

In recent decades tax economists have debated whether growing international capital mobility will ultimately drive capital income tax rates towards zero, as governments continue to set their tax rates in a non-cooperative manner. On reflection it seems clear that governments will always be able to impose some amount of source-based tax from mobile firms in so far as firms value the local

infrastructure, broadly interpreted to include the quality of public services as well as the legal and political institutions of the host country. To some extent the source-based corporation tax may thus be seen as a benefit tax representing a user fee paid in return for the (public) services offered by the source country. Moreover, location-specific rents and the adjustment costs of relocating business will to varying degrees enable host governments to extract some amount of 'genuine' tax over and above the pure benefit tax without scaring investors away.

From this perspective it is easy to understand why governments and most economists oppose the calls for tax harmonisation that have emanated from the European Commission and from some European politicians over the years. Since the quality of local infrastructure and the size of location-specific rents vary across countries, the optimal levels of business income tax also vary across locations. Governments offering poor infrastructure and unattractive legal and political settings will naturally resist calls for harmonisation of business income taxes, fearing that they will be unable to attract business unless they are allowed to offer lower tax rates than their competitor countries. Indeed, even from a global perspective it would be inefficient to harmonise business taxes in a world where the local business environment differs across jurisdictions. This is a basic insight from the economic 'Tiebout' literature on fiscal competition. In addition, there may of course be persistent differences in national political preferences regarding the level of taxation and public spending.

On the other hand this situation leaves policy makers with some hard dilemmas. Cross-country differences in tax rates invite international income-shifting, and advances in information and communication technologies as well as the growing importance of multinational enterprise tend to facilitate the shifting of paper profits towards low-tax jurisdictions. The existence of many different and uncoordinated national tax systems also increase the transaction costs of doing international business, thereby impeding the international economic integration which has been a powerful source of wealth. The repeated calls for European tax harmonisation from the European Commission must be seen against this background.

Some tax economists such as Giovannini (1989) and Sørensen (2004c) have tried to find a way to reap the potential benefits from EU tax harmonisation without sacrificing national tax autonomy. They start from the observation that the corporation tax is really a withholding tax, serving as a prepayment of the final taxes on the capital income originating in the corporate sector. The final tax burden is determined by the personal taxes levied on interest, dividends and capital gains. If these

taxes remain under the control of EU Member States, and if a more effective system of international information exchange provides Member States with more room for manoeuvre in the setting of residence-based personal capital income taxes, it may be argued that national governments should be willing to allow a complete harmonisation of corporate tax bases and tax rates within the EU to eliminate the distortions and high compliance and administration costs implied by the current uncoordinated corporate tax systems. If a Member State finds that the harmonised corporation tax implies an inappropriately low level of tax on corporate equity income, it can rectify the situation by adding personal taxes on dividends and capital gains at the shareholder level. If it finds that the harmonised corporation tax is too high, it can use part of its corporate tax revenue to finance tax credits to shareholders.

From an economic viewpoint there are at least two problems with such a proposal. First, as long as the value of local infrastructure continues to differ across EU countries, a harmonisation of source-based business income taxes will be inefficient even from the pan-European perspective, as mentioned above. Second, there is a world outside Europe, so even if EU governments were willing and able to strengthen the Savings Tax Directive discussed in section 3.6 to establish effective information sharing within the EU, it would still be hard to enforce high residence-based personal taxes on capital income in the absence of systematic information exchange between the EU and the rest of the world. In any case, EU governments have clearly indicated that are not willing to give up national control of an important policy instrument like the corporation tax, and the obvious loopholes in the current Savings Tax Directive suggests that they are not willing to establish effective information exchange either.

This situation leaves national governments to fend for themselves in an increasingly competitive world economy with non-cooperative tax setting. In this global environment policy makers face some difficult choices between alternative methods of international and domestic double tax relief and between comprehensive income taxation and some form of schedular tax system such as the dual income tax.

The discussion in this chapter suggests that all of these choices involve some unpleasant trade-offs. In practice neither a credit system nor an exemption system of international double tax relief is likely to fully deliver the degree of tax neutrality that it promises in theory, and at any rate it is not clear which type of neutrality (capital export neutrality versus capital import neutrality/ownership

neutrality) should be the overriding policy goal. Nevertheless, we have argued that it might be in the UK's national interest to consider a move towards a territorial system.

As potential methods of domestic double tax relief we considered both the Allowance for Corporate Equity and the Comprehensive Business Income Tax. While both systems have merits, we expressed concern that the CBIT could lead to a sharp rise in the cost of debt finance, with repercussions that would be hard to predict. As for the ACE, it would be difficult to cover the revenue loss from the equity allowance through a rise in the corporate tax rate without making the UK tax base much more vulnerable to international profit shifting.

We finally discussed the Nordic-type dual income tax as an alternative to the conventional comprehensive personal income tax. Like any real-world tax system, the DIT has its problems, but in a world of growing capital mobility it allows an additional degree of flexibility in tax design that may become increasingly valuable over time. We therefore feel that UK policy makers might be well advised to consider the dual income tax as an alternative to the present tax system.

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